

The European Journal of Contraception & Reproductive Health Care

ISSN: 1362-5187 (Print) 1473-0782 (Online) Journal homepage: informahealthcare.com/journals/iejc20

Abstracts of Poster Presentations

To cite this article: (2013) Abstracts of Poster Presentations, The European Journal of Contraception & Reproductive Health Care, 18:sup1, S90-S264, DOI: [10.3109/13625187.2013.793038](https://doi.org/10.3109/13625187.2013.793038)

To link to this article: <https://doi.org/10.3109/13625187.2013.793038>



Published online: 14 May 2013.



Submit your article to this journal [↗](#)



Article views: 10234



View related articles [↗](#)

TOPIC 1: ADOLESCENT SEXUAL REPRODUCTIVE HEALTH CARE

P001

Increasing abortion-related hospitalisation rates among adolescents in Mexico

R. Schiavon¹, E. Troncoso¹, G. Polo²

¹*Ipas, Mexico*, ²*Independent Consultant, Mexico*

Introduction: In Mexico, abortion-related mortality caused 7.2% of all maternal deaths in the last two decades. Incidence of induced abortion is difficult to estimate where this event is legally restricted, as in Mexico. Only in Mexico City, a legal reform in 2007 legalised abortion on women's request, in the rest of the country abortion is only allowed for specific indications (rape, danger for women's life and health, and severe fetal malformations). An important source of all abortion-related events is aggregated hospital discharge data from national health information systems that use the International Classification of Diseases (ICD). Particular attention must be given to specific age groups: in Mexico, adolescents unmet contraceptive needs is one out of four 15 to 19-year-olds, compared with one out of ten 15 to 49-year-old women.

Objective: To identify numbers and rates of hospitalisations due to all abortion-related causes, among Mexican adolescents 10 to 19 years of age, between the years 2000 and 2010 and different age-groups.

Methods: We analysed MoH hospitalisations. The following codes from the International Classification of Diseases were included as abortion-related causes: O00–O08 plus Z303 (legally-induced abortions). We analysed absolute numbers (Abortion-Related Hospitalisations: AH) and rates (Abortion-Related Hospitalisation Rates: AHR) among 10 to 19-year-old adolescents.

Results: In terms of AH, 1,096,269 hospitalisations between 2000 and 2010 were registered due to all-abortion causes. Of those, 11,183 events were among 10 to 14-year-olds and 239,747 were in 15 to 19-year-old adolescents. Hospitalisations among adolescents (10 to 19 y) accounted for 22.8% of all AH: 1% was among the youngest adolescents (10 to 14 y). Absolute numbers of AH increased year by year, and the observed yearly percentage increase was highest among 10 to 14 y adolescents: 7.6% vs. 6.4% in 15 to 19 y teens. In terms of rates, mean AHR was 0.3×1000 girls 10 to

14 y, and 7.4×1000 adolescents 15 to 19 y during the period. Abortion hospitalisation rates showed an increase among all adolescents, from 0.2 to 0.5×1000 girls 10 to 14 y, and from 6.1 to 9.5×1000 teens 15 to 19 y in 2000 and 2010 respectively.

Conclusions: Very young age-groups are not traditionally included in health surveys in most countries, making these adolescents mostly 'invisible'. Disaggregated hospitalisation data analysis allows identifying new tendencies in sexual and reproductive behaviours and needs among these very young teens. These data strongly suggest increasing unmet needs in terms of contraception among young teens in Mexico, and mandate prompt interventions in terms of sexual education and access to contraceptive services.

P002

Elective abortion in Portugal: Reasons for abortion and subsequent emotional adjustment in a sample of female adolescents

J. Pereira, R. Pires, M.C. Canavarro

Research Line Relationships, Development & Health of the R&D Unit Institute of Cognitive Psychology, Vocational and Social Development of the University of Coimbra; Psychological Intervention Unit, Coimbra, Portugal

Objectives: The Portuguese abortion law allowing elective abortion is recent. Consequently, the research on the most important reasons for engaging in elective abortion and the subsequent emotional adjustment is scarce in Portugal, namely regarding specific and vulnerable populations, such as adolescents. Therefore, this study aimed to identify the most important reasons involved in the decision to terminate pregnancy among Portuguese female adolescents, and assess their subsequent emotional adjustment.

Methods: The sample was recruited at healthcare services from different Portuguese regional areas, and consisted of 78 adolescents who engaged in elective abortion between 2011 and 2012. Self-reporting measures were used to assess the most important reasons to terminate pregnancy (Reasons for Abortion List – RAL), the depressive symptoms two to four weeks after abortion (Edinburgh Post-natal Depression Scale – EPDS, cutoff point = 9 points), and the frequency of positive and negative feelings immediately after

abortion (assessed retrospectively) and two to four weeks later (Adjective scales).

Results: The decision to terminate pregnancy involved several reasons. The most important reasons were educational aspirations ($M = 3.36$; $SD = 0.716$), considering themselves too young to have a child ($M = 3.27$; $SD = 0.982$), economic reasons ($M = 3.19$; $SD = 0.944$), not intending to get pregnant at that moment ($M = 3.11$; $SD = 1.13$), considering themselves too immature ($M = 3.09$; $SD = 1.11$, and their living conditions ($M = 2.49$; $SD = 1.21$). The most prevalent emotions immediately after abortion were certainty ($M = 4.40$; $SD = 1.942$), sadness ($M = 4.16$; $SD = 1.95$), acceptance ($M = 4.10$; $SD = 1.89$), relief ($M = 3.83$; $SD = 1.79$), tranquility ($M = 3.75$; $SD = 1.90$) and satisfaction ($M = 3.23$; $SD = 1.86$). Two to four weeks later, there was a significant increase in positive feelings such as relief [$t(73) = -2.00$; $p = 0.049$], satisfaction [$t(72) = -3.47$; $p = 0.001$] and tranquility [$t(71) = -2.69$; $p = 0.009$], and a significant decrease in negative feelings such as repentance [$t(72) = 2.135$; $p = 0.036$], guilt [$t(72) = 3.973$; $p \leq 0.001$], anger [$t(72) = 3.431$; $p = 0.001$] and sadness [$t(72) = 7.916$; $p \leq 0.001$]. However, two to four weeks after abortion, more than half of adolescents reported clinically significant depressive symptoms (56%).

Conclusion: Our findings suggest that it is important to identify the most important reasons involved in the decision to terminate a pregnancy so that health professionals can provide a better support in the decision-making processes. Adolescents showed a significant improvement in emotional adjustment two to four weeks after abortion. However, our findings also support the importance of implementing routine screening protocols to identify depressed adolescents requiring specialised interventions.

P003

New aspects of HPV-infection immunology: On the way to therapeutic vaccination

E. Giannouli, E. Deligeoroglou, A. Vatopoulou, N. Athanasopoulos, V. Karountzos, G. Creatsas

Division of Pediatric – Adolescent Gynecology and Reconstructive Surgery, 2nd Department of Obstetrics and Gynecology, Athens University, Medical School, Aretaieion Hospital, Athens, Greece

Objectives: Given the implication of Human Papillomavirus (HPV) in the pathogenesis of a variety of human cancers, such as cervical neoplasia, the second most common female cancer worldwide, we decided to clarify and summarise the immunological details which are prerequisites not only for the understanding of the HPV infection but also for the development of new therapeutic choices.

Method: We scrutinised the current literature, using Pubmed as our primary search database in order to explore the newest findings regarding specific aspects of HPV infection, including human immune response or immune tolerance and the route to carcinogenesis. Additionally, during our search, consideration has been given to the established results of preventive vaccination and the cutting-edge field of therapeutic vaccination.

Results: HPV infection is the most prevalent sexually transmitted disease worldwide. Persistence of the infection by a high risk type of the virus, combined with other risk factors can lead to carcinogenesis. Immortalisation potential, evasion techniques and changes in the microenvironment of the lesion help the virus sustain a chronic infection and progress to cancer. Inside the lesion, Toll-like receptors expression becomes irregular; Langerhans cells and tumour-associated macrophages aggregate resulting in an unsuccessful immune response by the host. HPV products also downregulate the expression of microenvironment components which are necessary for the Natural-killer cell response and the antigen presentation to Cytotoxic T cells. Additionally, HPV promotes 'Thelper cell 2' (Th2) and 'regulatory T cell' phenotypes and reduces Th1 phenotype leading to suppression of cellular immunity and lesion progression. Furthermore, humoral response after the infection is not adequate and neutralising antibodies are not apparent in many patients. Utilising this knowledge, therapeutic vaccines that are under development, aim to stimulate the cellular immune response and to alter the milieu of the lesion with adjuvants, such as cytokines, TLR ligands and chemokines.

Conclusion: HPV is the first virus, known to serve as the key causative factor to a human cancer. The prevalence of cervical cancer and the high mortality rates, especially in developing countries, require immediate attention. The development of new, cheap, therapeutic vaccines, accessible to the cancer patients of third world countries, needs encouragement. The apprehension of the latest immunological aspects of HPV lesion microenvironment, including the

recruitment of human immunity components and HPV evasion and defence tactics, is a significant stepping stone in this venture.

P004

Intrapersonal factors associated with sexual onset and contraceptive use among adolescents in Managua, Nicaragua

M. Orozco¹, P. Decat², Z. Segura³, M. Ibarra¹, S. De Meyer¹, J. Medina³, L. Jaruseviciene⁴

¹Centro de Investigación y Estudios de la Salud, Managua, Nicaragua, ²International Centre for Reproductive Health, Ghent, Belgium, ³Instituto CentroAmericano de Salud, Managua, Nicaragua, ⁴Lithuanian University of Health Sciences, Kaunas, Lithuania

Objectives: In Nicaragua adolescents initiate sexual activity at increasingly earlier ages and only a minority are protecting themselves against pregnancy. Scientific articles mainly focus on the social determinants of teenage pregnancies. Conversely, this study aims to explore intrapersonal correlates of adolescents' sexual behaviour.

Methods: We assessed possible intrapersonal determinants of sexual onset and contraceptive use among 13 to 18-year-old adolescents using data from a cross-sectional survey undertaken from July to August 2011 in 18 poor neighbourhoods in Managua. The questionnaire contained questions regarding sexual and reproductive health history, self-esteem, gender norms, communication skills, information seeking behaviour and social determinants. The questions related to gender attitudes and self-esteem were based on scientifically validated scales. We used logistic regression to calculate adjusted odds ratios (AOR) and to control for confounding factors (age, sex and social determinants).

Results: Out of the 2803 respondents, 27.6% reported having started sexual activity, from which 33.1% reported a consistent use of modern contraceptives.

The logistic analysis of the data shows that respondents were more likely to report being sexually active if they were regular alcohol users (AOR = 5.84, $p < 0.001$); if they were living separate from their mother (AOR = 1.79, $p < 0.001$) or father (AOR = 1.51, $p = 0.009$); if they were unreligious (AOR = 1.32,

$p = 0.009$); and if they had a lower score on the self-esteem scale. Furthermore, we found that the use of modern contraceptives was related to the ease to communicate about sexuality (AOR = 1.79, $p = 0.023$) and a more progressive attitude towards gender issues.

Conclusions: The results identify intrapersonal factors related to adolescents' sexual behaviour. This study will contribute to the planning of future interventions aiming to promote safe sexual behaviour among adolescents in Nicaragua.

Funding: This document is an output from the project 'Community-embedded reproductive health care for adolescents in Latin America', funded by the European Commission FP7 Programme. The authors declare no competing interests.

Ethics: This study was approved by the Bioethics Committee of Ghent University, Belgium, and the bioethics committee of Nicaragua.

P005

Sexual behaviour, perceptions and maternal communication patterns among Israeli female adolescents

S. Avraham, D. Seidman

Chaim Sheba Medical Center, Tel-Hashomer, Israel

Background: Sexual behaviour and perceptions among adolescents is an important health concern, which is influenced by multiple factors, including maternal communication.

Objectives: To explore the sexual behaviour and communication patterns of Israeli female adolescents and their mothers, and to assess their awareness and perceptions in regard to sexually transmitted diseases (STDs) and cervical cancer.

Design and methods: The study enrolled 300 pairs of adolescent girls aged 13 to 18 years and their mothers, identified from a representative national sample. The data was obtained from questionnaires completed discretely by the mothers and their daughters. The statistical error margin of each subsample was $\pm 5.5\%$.

Results: Forty percent of the daughters reported that they had experienced sexual intercourse by the age of 18. Their mothers acknowledged a similar rate. On the contrary, 90% of the mothers reported that their daughters were using pills as contraceptives,

while only 42% of the daughters reported pill use. Fifty nine percent of the mothers reported that they had a mother-daughter conversation on sex-related issues, while merely 17% of the adolescents said they had consulted with their mothers before the first time that they engaged in sexual activity. The mothers presented higher awareness of STDs, and most of them knew, when they were asked directly, that the human papillomavirus (HPV) was sexually transmitted and could cause cervical cancer. The daughters had low awareness of most STDs, besides AIDS, and only half of them were familiar with HPV sexual transmission and risks, even when asked directly. The mothers reported a rate of HPV vaccination given to their daughters (13%) that was twice as high as the actual vaccination rate reported by the adolescent girls (7%). Awareness of the association between STDs and cancer risk was higher among secular girls compared to religious adolescents, with higher HPV vaccination rates among secular girls.

Conclusions: This study revealed that in spite of agreement between mothers and their daughters in regard to the adolescents' age at first intercourse, the mothers seemed to over report having talked with their daughters regarding sexual matters, including contraception. More effort should be focused on disseminating knowledge on contraception and STDs in accessible platforms, and improving communication between mothers and their daughters concerning these important issues.

P006

An educational intervention among youth: Contributing to improving sexual and reproductive health among adolescents

M.C. Morales Rojas¹, M.C. Domínguez García²,
G. Domínguez Luna³, G. Quiroz Mendoza³,
A.L. Flores Romero³

¹*Departamento de Salud sexual y reproductiva de la Secretaría de Salud de Puebla, Puebla, Mexico,*

²*Departamento de Salud sexual y reproductiva de la Secretaría de salud del estado de Puebla, Puebla, Mexico,*

³*IPAS MEXICO A.C, DF, Mexico*

Objective: Youth-friendly service programmes started in May 2012 in the Chignahuapan Health Department jurisdiction in the State of Puebla. Youth

participate in these programmes as health promoters in activities targeting the adolescent population. As part of the programme, Ipas Mexico trained 16 of these youth groups in order to improve their leadership skills as youth promoters for sexual and reproductive health issues that have a greater impact on the prevention of unwanted pregnancy and sexually transmitted infections.

Material and methods: The educational intervention carried out by Ipas Mexico was a training workshop on sexual and reproductive health targeting 101 young people ranging from 9 to 17 years of age with basic, mid and upper level education. Topics developed: sexual and reproductive health and rights of adolescents, safe-and-protected sex with a participative methodology through simultaneous practical-theoretical workshops due to the number of participants. Ludic dynamics were performed to teach them about the importance of teamwork, to help them express their opinions and feelings in front of others and to show respect for others and self-confidence in a healthy environment. The final result was their commitments to improving their activities as health promoters.

Results: To assess the intervention's impact, seven focal groups were formed with the youth promoters in their communities. Topics with the greatest impact and interest: safe and protected sex, sexual and reproductive rights, violence in dating relationships, sexually transmitted infections, female condom use, emergency contraception and the discovery that there are no contraceptive contraindications for adolescents. New insight and didactical creative tools were acquired, some already implemented at a community level. Further, communication and educational strategies were strengthened to convey their message to other youth groups. Strategies achieved: making a short film, a parody and songs about topics including abortion, adolescent pregnancy, sexual and reproductive rights of the adolescents. It is worth mentioning these projects are carried out with limited resources and with families, directing and teaching staff.

Conclusions: The successful educational intervention helped to improve the training process, continuously enhanced by the healthcare staff. This reflects in their self-confidence and the identification of their role and commitment as youth promoters in a clearer manner, contributing in the medium and long term to the strengthening of a youth promoter leader network which will give them a sense of identity as social change agents.

P007

Prenatal factors affecting the age at menarche

A. Yermachenko, V. Dvornyk

The University of Hong Kong, Hong Kong, Hong Kong

Objectives: Age at menarche (AAM) is one of the most significant indicators of female sexual maturation. Early AAM may be associated with cancers of the reproductive organs, obesity, diabetes type 2, cardiovascular diseases, infertility and psychological disorders in later life. There are data that some prenatal conditions may contribute to AAM, however, no consensus view on this problem exists. We have systematically reviewed the available literature in order to identify these factors and their relative significance for AAM.

Method: Using various combinations of keywords, we searched MEDLINE and Google Scholar databases for the data published from 1980 till December 2012. In total 134 articles were retrieved, and 65 of them contained information relevant to our study.

Results: The following prenatal factors have been reported as associated with AAM: mother's AAM, weight gain during pregnancy, preeclampsia, birth size, prematurity, environmental hazards exposure during pregnancy. Birth weight and exposure to estrogen-like endocrine disruptors seem to have the most significant effect on AAM. Low birth weight, especially due to intrauterine growth restriction, can lower AAM by 0.5 to 0.8 year through development of insulin resistance and further childhood obesity. Intrauterine exposure to endocrine disruptors can lead to premature puberty and, as a result, early AAM up to one year before the expected age. The data about the effect of maternal smoking on the daughter's AAM are still inconsistent. Smoking during pregnancy normally leads to in utero growth retardation but the recent studies reported a delay in menarcheal onset despite expected acceleration. Association between AAM and pregnancy complications, alcohol and caffeine prenatal exposure seems are controversial and need further studying.

Conclusions: Better understanding of the association between some prenatal events and early AAM might help to minimise their influence on female pubertal growth.

P008

Age at first sexual intercourse and the ineffectiveness of adolescents' contraceptive behaviours in avoiding unintended pregnancies

R. Pires, J. Pereira, A. Araújo-Pedrosa, M.C. Canavarro

Faculty of Psychology and Educational Sciences of the University of Coimbra; Psychological Intervention Unit of the Maternity Doctor Daniel de Matos, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal

Objectives: Adolescent pregnancy remains a public health concern in many developed countries. Younger age at first sexual intercourse (AFSI) has been consensually identified as the chronologically first factor related to adolescents' sexual life that increases the risk of adolescent pregnancy. Although several associations have been found between earlier AFSI and several risk factors for adolescent pregnancy (e.g., higher number of sexual partners, older partners, and lower females' educational attainment), it remains unclear if these variables operate as explicative mechanisms of the association between earlier AFSI and the occurrence of adolescent pregnancy. As about 70% of adolescent pregnancies are not intended and can be actively avoided through effective contraceptive behaviours, i.e., correctly using an appropriate birth control method, the aim of the current study was to explore the indirect effect of AFSI (through number of sexual partners, current partners' age and females' education) on the ineffectiveness of adolescents' contraceptive behaviours in avoiding an unintended pregnancy.

Method: A sample of 353 female adolescents that had been ineffective in avoiding pregnancy and 419 nulligestas with effective contraceptive behaviours was recruited at health and educational services. Data was collected through self-report questionnaires. A multiple mediation model was built using a SPSS Macro (PROCESS, Model 4). Bootstrapping ($N = 5000$ samples) with bias-corrected and accelerated confidence intervals was used to test the significance of the proposed indirect effects. Age, socioeconomic status, ethnicity, and place of residence were included as covariates.

Results: Significant indirect effects of AFSI on the ineffectiveness of adolescents' contraceptive behaviours through age of the current partner (point

estimate = -0.09 , CI = -0.19 to -0.03) and females' education (point estimate = -0.17 , CI = -0.34 to -0.05) were found. Specifically, earlier AFSI predicted ineffectiveness in avoiding unintended pregnancy by increasing females' likelihood of choosing partners older than themselves, and of having lower education. There was no indirect effect through the number of sexual partners.

Conclusions: According to our findings, adolescents engaging in first sexual intercourse earlier should be particularly encouraged to engage in effective contraceptive behaviours. Moreover, it is important to improve their personal and communication skills, in order to allow them to effectively negotiate contraceptive use with partners older than themselves. Preventing school dropout and/or improving educational success among these adolescents may also be of substantial importance, as adolescents may be more prone to perceive lower costs associated with becoming pregnant during adolescence when they lack alternative educational or professional projects.

P009

How to reach young people in need; Non-face-to-face technology in health service for family planning and sexual health

M. Hvalstad, B. Christian Østberg, L. Sandvik,
B. Stray Pedersen

Stiftelsen SUSS-telefonen, Oslo, Norway

Objectives: Traditionally young people do not disclose their intimate self when seeking help, which is hindering them in protecting themselves from unwanted medical consequences. Eight criteria have been reported to be crucial for the success of a youth-friendly service: availability, accessibility, acceptability, equity, confidentiality, trustworthy, high quality and youth-friendly staff. Calls, e-mails and text messages are all non-face-to-face services that promote anonymity and confidentiality in the provision of health care. Phone calls are time-synchronous and require real-time communication, while e-mails and texts are non-synchronous and give full flexibility for both writing the message and reading the response. Non-face-to-face technologies are now commonly used by young people for communication. The aim of the

study was to find trends in use of e-mails, text messages and calls by young people seeking help from sexual and reproductive health services.

Method: At a Norwegian free-of-charge helpline, open questions were received and answered by trained medical and psychology students. Altogether 96,297 contacts from young people up to 24 years old made from 2003 to 2007 inclusive were analysed.

Results: Overall 5% of the teenage girls in Norway used the helpline. E-mails were the most popular channel, especially among girls (male vs female: OR = 0.67, 95% CI = 0.65–0.69; $p < 0.001$). Phone calls were the second most popular, used more often by boys (OR = 1.49, 95% CI = 1.44–1.54; $p < 0.001$), and by the youngest (OR = 5.38, 95% CI = 4.89–5.93; $p < 0.001$) and oldest (OR = 2.44, 95% CI = 2.31–2.57; $p < 0.001$). Text messages were markedly more popular among boys (OR = 1.87, 95% CI = 1.80–1.94; $p < 0.001$). The topics asked, were grouped into five main categories; Most frequent topics were about family planning (28.7% of total, 34.2% of the girls and 14.7% of the boys). In decreasing frequency; puberty/anatomy (21.2% of total, 30.4 % among boys and 17.5% among girls), sexuality (19.5% of total, 26.2% among boys and 16.9% among girls), sexual health/STI (18.6% of total, 18.8% among girls and 18.0% among boys), others (12% of total, 12.6 % among girls and 10.6% among boys).

Conclusions: Our findings suggest young people are to be reached by low threshold health services and are heavy users of non-face-to-face communication when to seek help; girls more often about family planning, boys more often about puberty/anatomy and sexuality. Anticipating equal availability to the three modes of communication investigated in this study, factors like gender and age seem to influence the channel to use.

P010

A tiered approach to relationships and sexual education and sexual health promotion

J. Price¹, N. Mullin²

¹NHS Wirral, Wirral, Merseyside, UK, ²Countess of Chester NHS Foundation Trust, Chester, Cheshire, UK

Objectives: Good relationship and sexual (RSE) education has been shown to have an impact on

behaviour by delaying initiation of sex, reducing the number of partners and increasing contraceptive use. High quality RSE relies on confident and well trained teachers and educators. Teachers particularly lack knowledge and confidence to teach the subject and feel they do not have adequate resources. It is common for teachers to change the material or content of set RSE programmes and leave out sections they think are unsuitable or that they do not feel confident to teach.

A review found that the Wirral Children and Young Peoples (CYP) workforce had unequal access to a range of trainings of variable quality. School staff could not access training in the day time. The result was an inconsistent approach to the issue and a poor use of resources.

Method: A progressive tiered approach to training has been developed which is appropriate and relevant for those with a variety of roles. This progresses from a 'Universal' level for the general CYP workforce, to a 'Targeted' level for those working directly with young people, and finally to 'Specialist' level, for those delivering informal and formal RSE sessions or lessons. The first two levels are half days with the 'Universal' being divided into two streams – one for those working with younger children and the other for staff working with teenagers. The 'Targeted' level is also needed for staff to offer free condoms within the condom distribution scheme.

Results: The programme has been offered to all staff working with children and young people in health services and in social care and educational settings. Some sessions were delivered with a particular focus on vulnerable groups such as foster carers and for professionals working with young people who have special educational needs (learning disabilities). The tiered training package has been offered as a package of support to all secondary school teams. After undertaking 'Universal' training certain staff chose to develop their skills at the 'Targeted' level and others decided to complete a portfolio of evidence to gain the 'Specialist' accreditation.

Conclusion: NHS Wirral's Research and Development team is carrying out an evaluation of the programme delivered to a local secondary school. The interim report suggests that staff feel more confident and have the resources to talk to pupils about relationships and sex both formally and informally. The continued support helped the school to embed good quality RSE and answer pupils' questions.

P011

A multilevel analysis of factors affecting maternal care utilisation among adolescent mothers in urban India, 2007–2008

A. Singh

University of Portsmouth, Portsmouth, Hampshire, UK

Objective: This paper examines the correlates of the utilisation of maternity care [full antenatal care (ANC), safe delivery, and postnatal care (PNC)] among married adolescent women (aged 13 to 19 years) in urban India.

Methods: We used data from the nationally representative district level household and facility survey (2007–2008) which collected maternity care-related information on 3315 urban adolescent mothers. Bi-variate analyses including chi-square test were used to determine the difference in proportion, and three-level binary logistic regression models (Markov Chain Monte Carlo (MCMC) method) to understand the net effect of predictor variables on selected outcomes were applied.

Results: About 23% of adolescent mothers in urban India availed full ANC, 70% a safe delivery and 64% postnatal care. We found that the women, who are richer, older, more highly educated, and exposed to mass media were more likely to utilise prenatal and natal care. Younger mothers (below 16 years) although much less in number are significantly at the risk of not using maternity care compared to those between 16 to 19 years. Muslim women are 33% and 9% less likely to receive full ANC and safe delivery compared to Hindu mothers. However, interestingly, they were 37% more likely to use postnatal care. Husband's education was found effective only when he had more than 11 years of education. However, almost none of the above mentioned variables were found significant in terms of PNC. Mothers who availed full ANC were about three times more likely to have skilled birth attendance. Mass media exposure and interpersonal communication with health professionals increased the likelihood of using full ANC and delivery care by about twice compared to those with no any such exposure or communication. The use of PNC was highly affected by mother's prenatal and natal care utilisation experience. Women with full ANC were 71% more likely to use PNC while women using

skilled delivery care were about 14 times more likely to use PNC. Urban adolescent mothers from southern and western states in India were more likely to use maternity care compared to northern states.

Conclusions: Younger, Muslim, poor, illiterate adolescent mothers are more at risk of not using maternity services in urban India. Although these groups make up only a small proportion of the population, they contribute significantly to maternal and child mortality, therefore, it is imperative to focus on such vulnerable groups in the policy. Increasing mass media exposure and mobilising health professionals could help increase maternity care utilisation.

P012

Traditions of alcohol use in Russia and specifics of reproductive behaviour of adolescent girls

L. Erofeeva

Russian Association for Population and Development, Moscow, Russia

Background: The level of alcohol use in Russia is very high (15 litres per person per year), and the main concern is for adolescent girls: alcohol disturbs their normal build-up, leads to an early sexual life, risky sexual behaviour, accidental pregnancy, may be the reason for congenital malformations. Young people make up 13.2% of the Russian population and demographic problems are defined by their reproductive behaviour.

Aim: To study the alcohol intake among adolescent girls with various types of reproductive behaviour.

Methods: A total of 350 14 to 19-year-old (16.0 ± 1.1) girls were studied. Awareness, knowledge, sexual behaviour and reproductive choices were studied. Adolescents were divided into groups with not risky and risky sexual behaviour (the number of sexual partners was a criterion).

Results and discussion: A total of 73% of urban girls regularly use alcohol with the motives: family holidays (43.1%), leisure (40.3%): its structure: beer – 23.8%, wine – 28.4%, champagne – 36.1%; the introduction age of 11 to 12 y – 20.8%, 13 to 14 y – 40.8%, 15 to 16 y – 18.5%.

The girls' median age for sexual debut is 17.0 ± 1.7 y, 29.0% had risky sexual behaviour with higher risk of

STIs, unwanted pregnancy; 5% said, their sexual debut happened when they were drunk.

During the sexual debut 78.8% of girls used condoms, 65% further irregular condom use, rare use of EC (0.7%), 'Double Dutch' – 13.4%, 18.7% regular COC use. A total of 6.2% of the girls (19.2 ± 2.0 y) had been pregnant, mostly unwanted. They ended with abortions, 89% of the abortions were before 12 weeks, 11% in later terms, and 28.4% gave birth.

We discovered dissatisfaction of adolescents in the SRHR information and services they receive. The topics of interest: reproductive health (44%), 'pregnancy prevention' (42%), they least liked the questions about STIs (36%) and alcohol consumption. Adolescents are very reluctant to approach medical institutions seeking assistance. There is a need for the introduction of education and modernisation of medical institutions in accordance with their needs.

Conclusions: (1) The early start of sexual life (17.0 ± 1.7 y), risky forms of sexual behaviour (29%), and insufficient use of COCs (18%). (2) A high risk of unplanned pregnancy among girls (44%), terminated via induced abortions in the majority of cases (64.9%). (3) A high alcohol use among girls – up to 32%, and higher in the group with risky sexual behaviour. (4) The level of SRHR knowledge is not sufficient, education programmes and health care modernisation should be introduced.

P013

Determinants of age at first sexual intercourse among secondary-school students

L. Verdenik, B. Pinter

Department of Obstetrics and Gynecology, University Medical Centre, Ljubljana, Slovenia

Objective: To find the factors that influence adolescents' age at their first sexual intercourse.

Design and methods: The study was done on a representative sample of randomly selected secondary schools across Slovenia in the spring of 2012. Participants were 3rd-grade students of both genders. The survey was conducted using a self-administered questionnaire. The survey comprised 969 students from 43 schools in 22 cities. For the analysis we used the Cox

proportional hazard model where the dependent variable was age-at-first-sexual-intercourse (AFSI).

Results: The mean age of respondents was 17.5 years (SD 0.7; range 16–23 years). Distribution by gender was very balanced (50.7% boys, 49.3% girls). Sexually active were 527 (54%) students, with AFSI ranging from 13 to 19 years. Gender was not significantly associated to AFSI, and neither was the place of living (urban, suburban). Both vocational and technical high school students had statistically significantly lower AFSI compared to the students attending grammar schools (hazard ratio 1.48 (95%CI 1.14–1.92) and 1.27 (95%CI 1.06–1.54), respectively). Students living in single-parent households as well as those living on campus had a statistically significant lower AFSI (HR 1.36 (95%CI 1.09–1.70) and 1.39 (95%CI 1.05–1.84)) compared to those living with both parents. We also found a statistically significant relation of low school grades, smoking, use of alcohol, marijuana and absenteeism to early onset of sexual activity. On the other hand, frequency of tweb use played no significant role in AFSI. The multivariate Cox model involving all significant factors plus gender revealed similar results with the exception of gender where we found that girls started their sexual life statistically significantly earlier (HR 1.32; 95%CI 1.10–1.60).

Conclusions: Both uni- and multivariate analysis showed that early onset of sex life is in line with risky behaviour and/or social deprivation (single parents, less prominent schools, smoking, alcohol, absenteeism). However, only after adjustment for these factors in multivariate analysis the gender becomes significant (not surprisingly, given earlier maturity in girls).

P014

Community embedded reproductive health interventions for adolescents in Latin America: Development of a complex intervention

P. Decat¹, S. De Meyer¹, L. Jaruseviciene², M. Ibarra³, J. Medina⁴, N. Auquilla⁵, A. Hagens⁶

¹International Centre for Reproductive Health, Ghent, Belgium, ²Lithuanian University of Health Sciences, Kaunas, Lithuania, ³Centro de Investigación y Estudios de la Salud, Managua, Nicaragua, ⁴Instituto Centroamericano de Salud, Managua, Nicaragua, ⁵University of Cuenca, Cuenca, Ecuador, ⁶South Group, Cochabamba, Bolivia

Objectives: Adolescents in Latin America are at risk for unplanned pregnancies and sexually transmitted infections. To date, many adolescent health programmes have targeted a single determinant of sexual and reproductive health (SRH). However, recent evidence suggests that the complexity of SRH issues demands an equally multi-layered and comprehensive approach. Information is lacking on how to develop such complex interventions. In response to these needs we are currently implementing the intervention research CERCA (the community-embedded reproductive health care for adolescents) in three Latin American cities: Cochabamba (Bolivia), Cuenca (Ecuador) and Managua (Nicaragua). This presentation will focus on the design process of the interventions.

Methods: The research methodology builds on existing methodological frameworks, namely: action research, community-based participatory research and intervention-mapping. The intervention design is theory-driven and based on the Theory of Planned Behaviour and the Social Cognitive Theory. The impact assessment of complex intervention strategies poses an additional challenge. We developed a specific controlled impact study making use of contextualised measurable behaviour outcomes. In Managua, we implement a randomised controlled study, and in Cochabamba and Cuenca we adopted a non-randomised controlled study.

Results: These methodological tools allow us to conduct, on the one hand, intervention research that accounts for the complexity of adolescents SRH determinants; and on the other, to carry out a comprehensive impact assessment and process evaluation. The interventions in each country address distinct target groups (adolescents, parents, local authorities and health providers) and seek improvement of the following SRH behaviours: communication about sexuality, SRH information-seeking, access to SRH care and safe sexual relationships. The core principle of the interventions is 'community-embeddedness', which means developing and implementing project objectives in close collaboration with stakeholders. Project CERCA also seeks to develop intervention activities in line with existing health system structures and government policies. Gender is a transversal topic throughout the intervention process as there is evidence that the more gender considerations are integrated and explicitly addressed within programmes, the greater is the likelihood of improved SRH outcomes for both young men and women. Project CERCA is drawing on multiple disciplines, including western medicine,

epidemiology, sociology, anthropology, demography and political sciences, in the design and development of each city-specific intervention strategy.

Conclusions: The CERCA project shows how to design effective health interventions targeted to adolescents SRH needs. The study will help to better understand how existing public health systems can be more responsive to the changing needs and demands.

P015

Unmet reproductive health needs among poor youths in the slums of Mandalay city, Myanmar

P.P. Thin Zaw

Department of Medical Research (Upper Myanmar), Mandalay, Myanmar

Objectives: All youths have their own rights to access available reproductive health (RH) services and achieve a healthy reproductive life. However, various socio-economic disparities deter youths from seeking RH information and fulfilling their RH needs. This study aimed to assess the levels of unmet need for sexual RH (SRH) information and family planning (FP) and their associated factors among poor youths in the slums of Mandalay City, Myanmar.

Methods: A community-based, cross-sectional study was conducted in all 10 poor communities located in the slums of Mandalay City. A total of 444 randomly selected youths (aged 15–24 years) were interviewed to assess their unmet needs for SRH information and FP. Factors associated with these outcomes were determined using multivariate logistic regression.

Results: Of 444 youths, 215 were males and 229 were females. Among them, 232 (52%) were adolescents and 213 (48%) were young adults. Most (88%) were out of school. The unemployment rate was considerably high (21%). More than half (53%) of the youths had ever been exposed to sexual encounters and less than half (44%) were unmarried. The levels of unmet need for SRH information and FP were 67% and 32%, respectively. A lower unmet need for SRH information was found among young adults (AOR 0.55, 95% CI 0.34–0.91), youths with a high accessibility to RH services (AOR 0.61, 95% CI 0.39–0.94) and a high knowledge of RH services and providers

(AOR 0.78, 95% CI 0.68–0.90), while out-of-school youths were more likely to have a high unmet need for SRH information (AOR 4.47, 95% CI 2.30–8.68). Three significantly preventive factors of unmet need of FP were being married (AOR 0.09, 95% CI 0.01–0.97), exposure to mass media (AOR 0.21, 95% CI 0.05–0.83) and a high knowledge of RH services and providers (AOR 0.61, 95% CI 0.41–0.89).

Conclusions: Unmet needs for SRH information and FP among youths in the slums of Mandalay City were alarmingly high. Common associated factors of those unmet needs were marital status, exposure to mass media and knowledge about the services and providers. Improvement of youth's awareness about the existence of RH services via mass media is essential. Recent RH services should be tailored to the special needs of adolescents, out-of-school and unmarried youths.

P016

A comparison of condom use behaviour among three types of unmarried youth in China

X.Y. Zheng, H. Chen

Peking university, Beijing, China

Objective: To analyse condom use behaviour and its influencing factors among three types of unmarried youth groups in China, i.e., youth who are students (school youth), youth who are outside school but not migrants (youth outside school), and youth who are outside school and migrants (migrant youth), which will help better design appropriate interventions for different youth groups.

Methods: The study framework was set up according to the AIDS Risk Reduction Model (ARRM). We used multivariate logistic model to analyse the first nationally representative survey data on sexual and reproductive health of unmarried Chinese youth (2009).

Results: Among sexually active youth, around 70% had used a condom during last sex, and the migrant youth had the lowest prevalence (65.7%). In the ARRM, at labeling stage, HIV/AIDS knowledge was associated with higher probability of condom use among youth outside school (OR = 1.68, $p < 0.01$), but not among other youth groups; contraception needs also increased condom use among school

(OR = 1.68, $p < 0.01$) and migrant (OR = 1.51, $p < 0.05$) youth; both contraceptive knowledge and HIV/AIDS consciousness had no impact on condom use. At commitment stage, although belief about condom's double effects on preventing pregnancy and STIs exhibited nonsignificant influence among school youth, it promoted condom use among both youth outside school (OR = 1.56, $p < 0.05$) and migrant youth (OR = 1.91, $p < 0.01$); the positive influence of condom use at first sex on condom use during last sex was noteworthy, i.e., the odds of using condom among youth who used condom at first sex were 5.02 ($p < 0.001$), 2.85 ($p < 0.001$) and 2.78 ($p < 0.001$) times as high as their counterparts. At enactment stage, condom availability promoted condom use among school youth (OR = 1.97, $p < 0.001$), but not among other groups; the casual relationship with sexual partner reduced the odds of using condom by 40% ($p < 0.05$) among youth outside school; finally, the communication about contraception between sexual partners played a key role on using condom, which largely increased the odds of using condom among school youth (OR = 6.20, $p < 0.001$), youth outside school (OR = 4.27, $p < 0.001$) and migrant youth (OR = 2.48, $p < 0.001$).

Conclusions: Only providing knowledge concerning contraception or HIV/AIDS will not change youth's condom use behaviour. The skill-building training, especially on sexual communication and negotiation skills, should gain more attention in interventions. In addition, comprehensive HIV/AIDS knowledge seems to exhibit more impact among youth outside school. To strengthen the belief of condom's double effects on preventing pregnancy and STIs are also expected to promote safe sex among youth outside school and migrant youth.

P017

Birth preparedness and complication readiness: Perception practices and its linkages with maternal health in India

P. Kumar, S.K. Singh

International Institute for Population science, Mumbai, Maharashtra, India

Objective: Birth of a baby is a major reason for celebration for thousands of women each day around

the world. Birth-preparedness and complication readiness (BP/CR) is a comprehensive strategy aimed at promoting the timely utilisation of skilled maternal and neonatal health care. The key elements include: knowledge of danger signs; plan for where to give birth, plan for a birth attendant, for transportation, for saving money, for potential blood donor and plan for a decision maker as well. This paper analyses the individual, familial and contextual factors affecting the BP/CR in India.

Methods: The study is based on the data and evidence available from existing literature on Birth preparedness and complication readiness in some selected Indian cities and at global level using BP Index. The findings from different studies carried out in India and abroad has been utilise in order to bring out the perception and practices for BP/CR in India.

Results: Several important findings emerged from these studies. Primary Findings of a study in indoor city reveals that nearly 70% of the mothers identified a trained birth attendants (TBA) for delivery, the rest of the mothers who did not identify their most predominant reason reported were economic scarcity and lack of perceived need. Nearly 64% of mothers identified a health facility for obstetric emergency and these are private hospitals and thus government health facilities were not the preferred choice for obstetric emergency. A large proportion (78%) of families saved money for delivery and 23% who did not save money reported household purchases and husbands who spend money on liquor. Preparedness for transport was low (30%) due to easy availability of local transport in the community but again lack of maintained roads is a matter of concern. Only a few families identified a potential blood donor for an emergency.

The results of another study conducted in Riwa district reveals that all the seven indicators of birth preparedness and complication readiness which is adopted in this study shows that Index does not differ significantly between pregnant women and recently delivered mothers. As for the year of schooling increasing from illiterates to more than 10th standard, the BP/CR index shows a significant difference and is comparatively higher in women than their counterparts.

Conclusion: Birth preparedness can be an important predictor to reduce the MMR in India and in the world. It not only reduces the complications that occur during delivery but also reduces the IMR in the region.

P018

Life skill education – an experience of sensitising out of school adolescents about their sexual and reproductive health

A.K. Singh Parihar

CARE India, Raipur, Chhattisgarh, India

Objective: The main objective of this two-year action research project was to provide life skill education to out of school adolescents.

Method: To understand the efficacy of the Life Skill Education and its impact on changing knowledge and attitudes amongst adolescents, Focused Group Discussions (FGD) and In-Depth Interviews were conducted across four project areas. Participant Observation was used as one of the key techniques by the researcher in understanding the type and style of interaction between the peer educators and the adolescent groups. The mentioned tool helped gain a holistic understanding of the impact of the aforementioned programme on the views, perceptions, knowledge and behaviour of the target group.

Results: The basic lack of knowledge regarding even menstruation, pubertal-related changes and general feminine health and hygiene were addressed through the Life Skill Education programme. For example: my daughter tells me how to wash my things.... keep them in a hygienic place for further use etc.

A great many myths related to personal health and sexual beliefs that were pervasive among these groups were to a large extent addressed and overcome. For instance, one of the participants admitted 'Earlier I used to think that education, condoms, or abstinence from sex, is all it takes to stop spread HIV/AIDS or other Sexually Transmitted Diseases. But now I know the reality'.

It was reported by the local clinical helps available that youths exposed to life skill education show confidence in using condoms effectively which has led to the actual increase in its usage.

The doctors in the local clinics admitted 'The number of young adolescent girls seeking help in matters related to their sexual and reproductive health have considerably increased over time. The girls seem to be more aware of the bodily changes that occur during puberty and are more conscious than before regarding health and hygiene'.

Conclusions: The programme not only improved the knowledge of the adolescent girls regarding SRH issues but also has broken the silence and stereotype on so-called sensitive topics. The programme provided authentic knowledge that helps them understand the process of growing up with particular reference to their reproductive and sexual health needs.

P019

Teenage pregnancies – a health problem still 'unsolved' after 22 years on from the Romanian Revolution

M. Nour- Ciuhodaru¹, Fl. Dumitrache¹, R. Socolov¹, M. Stavarache²¹UMF Gr T Popa, Iassy, Romania, ²Hospital Elena Doamna, Iassy, Romania

Objectives: According to Public Health interests – concerning the important risks and demanding costs – referred to teenage pregnancies, the purpose of this study was to identify the real necessities of family planning to this age specific group.

Methods: A meta-analysis following case reports referring to 1079 pregnancies (births: natural or C-section, abortions: spontaneous or on demand), from 2007 to November 2012 at the Hospital 'Elena Doamna', Iassy, Romania – divided into two groups (based on age): group A consisted of 11 to 15-year-olds, and group B consisted of 15 to 18-year-olds, followed by a specific enquiry about their knowledge about contraception.

Results: A total of 51% of teenage pregnancies ended up with births (43.3% by C-section) – concerning the risks involving the mother and the foetuses; 39.2% of teenage pregnancies ended up in abortion (on demand) – requiring the presence of the legal guardian – mother, father or any other adult person legally responsible for the mother; and 19.5% had emergency aspiration and curettage (for spontaneous abortions).

More pregnancies resulted in births within group B, the 'older' teenagers. Regarding knowledge about contraception – although the right to access family planning is guaranteed for free by a law introduced by the Romanian Government in 2012, their information is of a very poor standard for both groups: the only

methods they know about are the pill (35%) and the condom (20%), with only 14% really using them correctly.

Conclusions: Considering the enormous risks and social costs attributed to pregnancies in teenagers and Romania's specific background referring to CONTRACEPTION – a right 'won' after the Romanian December Revolution – the first law decreed by the Democratic Government in December 1989 – we tend to think there is still a lot to be done at the present time – and this is only possible by starting up adequate National Family Planning Programmes.

P020

Accessibility to and utilisation of reproductive health services among vulnerable youths in poor communities of Mandalay city, Myanmar

P.P. Thin Zaw

Department of Medical Research (Upper Myanmar), Mandalay, Myanmar

Objective: Although the availability of reproductive health (RH) services has been promoted globally, the disparities of access to RH care still remain among youths, especially those living in resource-limited areas. Our aim was to assess baseline information on accessibility to and utilisation of RH services among vulnerable youths living in poor communities of Mandalay City, Myanmar.

Methods: From May 2011 to September 2011, a total of 444 randomly selected youths (aged 15 to 24 years) from all 10 poor communities in Mandalay City took part in our survey. The outcome variables were accessibility to and utilisation of four types of RH services, namely sexual RH information, family planning, maternal care and STI/HIV testing. The associations between independent variables and the outcomes were assessed by multivariate logistic regression analysis. All analysis was done using R.

Results: Most youths (79%) had a high geographical accessibility to any of the four RH services; however, very few (17%) had high financial accessibility. The percentage of youths who had high overall accessibility to RH services was 34%. Two-thirds of youths used some kind of RH services at least once in the past. Youths living in the south or south-western

suburbs, having a deceased parent, never being married and never exposed to mass media were less likely to have a high accessibility to RH services. Being a young adult, current student, working as a waste recycler or in other employment, having ever experienced a sexual relationship, ever being married, ever exposed to mass media, having a high knowledge of RH services and providers or a high level of accessibility to RH services significantly increased the likelihood of having a high utilisation of those services.

Conclusion: Even though the geographical accessibility to RH services was high, youth's overall accessibility to and utilisation of those services were unsatisfactory. Low access to RH services among poor youths due to financial constraints is an urgent issue for national policy makers and all stakeholders.

P021

Effects of being overweight or obese on pregnancy outcomes: Evidence from urban India

J. Gouda

International Institute for Population Sciences, Mumbai/ Maharashtra, India

Objectives: To study the covariates and pregnancy outcomes of being overweight or obese among women in urban India.

Methods: The analysis was carried out on 18,182 married women in the reproductive age group 15 to 49 years, incorporated in the National Family Health Survey (NFHS) third round survey conducted in 2005–2006 in India. Body mass index (BMI) will be used to estimate the nutritional status of women in the study. As per the WHO (1998) guidelines, women with $25 \leq \text{BMI} < 30 \text{ kg/m}^2$ and $\text{BMI} \geq 30.0 \text{ kg/m}^2$ are considered as overweight and obese respectively in the study. Adverse pregnancy outcomes are defined as stillbirth or terminated pregnancy, caesarean delivery, low or high birth weight and size of the child at birth in the study. Other background characteristics such as age, education of woman, wealth index, media exposure and work status are included in the analysis. Multinomial and ordinal logistic regression will be used to estimate the effects of selected characteristics on overweight and obesity and the effect of overweight and obesity on pregnancy outcomes in the study.

Results: With the initial assessment it was found in the study that women (71.6%) are more overweight or obese than men (48.9%) in urban India. Covariates like higher education, age, media exposure and higher economic status are positively associated with the prevalence of overweight or obesity among women in urban India. Beside this, the study also established that overweight or obese women were more likely to experience stillbirth or terminated pregnancy, caesarean delivery and to have very large or overweight children at birth. Overweight or obese women are 2.3 (CI: 2.09–2.53) and 1.29 (CI: 1.16–1.45) times more likely to have a terminated pregnancy and caesarean delivery respectively than their counterpart normal women.

Conclusion: The study identifies a critical association between women being overweight or obese and its adverse effects on pregnancy outcomes. It certainly implicates the urgent need to address this growing urban epidemic more noticeably among women in India.

P022

Socio-economic differentials in awareness about sex, pregnancy and contraceptive-related matters among adolescent married women in rural India

P. Kumar

*International Institute for Population Sciences,
Mumbai (Maharashtra), India*

Objectives: (1) To examine the level of knowledge about sex, pregnancy and contraceptive-related matters among adolescent married women in different socio-economic groups in rural India. (2) To examine the factors affecting knowledge about sex, pregnancy and contraceptive-related matters among adolescent married women in rural India.

Methods: This study used the data of the 'Youth in India: Situations and Needs' study conducted in 2006–2007 in six states of India, namely Rajasthan, Bihar, Jharkhand, Maharashtra, Andhra Pradesh, and Tamil Nadu. It covered a total of 174,037 households and a total of 50,848 young people (8052 married young men, 11,522 unmarried men, 13,912 married young women, and 17,362 unmarried young women), (IIPS and Population Council 2006–2007). Bivariate analyses show the differentials about reproductive

health knowledge across the states of India. We have also calculated Pearson's correlation between different social groups of women concerning sex, pregnancy and contraceptive-related matters. Multinomial logistic regression showed the significant relationship between knowledge and various reproductive health matters.

Result: These studies explored the fact that awareness about sex- and pregnancy-related matters is limited. In rural areas, 32.8% of married women in the age group 15 to 24 years, gave the response 'true' that the chances of pregnancy during first intercourse is true compared to 61.6% of urban married women in the same age group. However my studies focussed on the adolescent married women aged 15 to 19 years in rural India. Among married adolescents, knowledge about reproductive health matters is very low.

Conclusion: In India young people's knowledge about sex and pregnancy is not satisfactory. The Youth Study asked the adolescents whether they agreed or disagreed with four statements: (a) a woman can get pregnant after kissing or hugging; (b) a woman is most likely to get pregnant if she has sex half-way between her periods; (c) a woman has to bleed at first intercourse; and (d) a woman can get pregnant at first sex. In the context of knowledge about contraceptive methods (both modern and traditional) this is also low and varies among different socio-economic groups. Those adolescent married women belonging to a higher social group have greater awareness about sex, pregnancy and contraceptive compared to the lower social economic group women. Instead of education, work participation and mass media also contribute a major role to awareness about reproductive health matters.

P023

Advocating for adolescent reproductive health in Cameroon: Addressing cultural sensitivities

A.P. Yotchou Tzudjom, N.E. Gersainde Margaret,
S. Njoumegne

Cefap-Ladies Circle, Yaounde Centre, Cameroon

Objectives: This presentation aims to explain how cultural sensitivities are important to address reproductive

health for adolescents in Cameroon and a key to preventing HIV AIDS amongst youth.

Methods: Field work that was carried out by a group of five NGOs in Cameroon in 2011 in a big programme on advocacy for Adolescent Reproductive Health.

Results: Efficient sexuality education is effective in improving key youth reproductive health (YRH) behaviours. In a wide range of settings in both developed and developing nations, comprehensive school-based sexuality education has influenced important behaviours such as delaying sexual initiation, reducing the number of sexual partners, and increasing use of condoms among youth who are sexually active. This finding bodes well for Cameroon, a country with considerable linguistic and cultural diversity.

Virtually everywhere, sexuality education is controversial and difficult to carry out. Advocates for sexuality education in Cameroon must plan accordingly for such long-term engagement and not expect overnight success. It is also important to involve young people themselves in the advocacy effort in as many ways as possible and to give parents better skills for transmitting information on sexuality and reproductive health to their children.

The challenges to implementation vary from country to country and even within countries. Local adaptation – to culture, language, religion, and so forth – is often necessary. In a country as diverse as Cameroon, such adaptation will be critical to success at the level of the school and the individual student.

Faith-based organisations in particular can play a central role in developing and promoting culturally appropriate materials for sexuality education.

Of the one billion young people worldwide, most still lack adequate reproductive health care. Programs to give youth the information and means to protect themselves against unwanted pregnancy and sexually transmitted infections often face resistance because they challenge deeply held cultural beliefs about sex, parenting, and the roles that men and women play.

- What are the roots of the controversy?
- Beliefs about sexuality
- Beliefs about the role of the family.
- Restrictive laws and policies.
- Informal barriers.
- Differential treatment for boys and girls.
- Community opposition.

Conclusion: What strategies can overcome these obstacles?

- Inform the debate
- Mobilise the community
- Communicate openly
- Involve youth
- Involve traditional and religious leaders
- Involve caring adults
- Establish national guidelines
- Train health workers
- Be inclusive
- Agree to disagree

P024

Comparative survey of youth's sexual and reproductive health educational needs in two stages before and after marriage, Tehran 2011

D. Pourmarzi¹, S. Rimaz²,
E. Al-Sadat Merghati Khoii³

¹Deputy of health, Guilan University of Medical Sciences (GUMS), Rasht, Iran, ²Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences (TUMS), Tehran, Iran, ³Department of health promotion, School of Public Health, Tehran University of Medical Sciences (TUMS), Tehran, Iran

Objectives: Marriage is a phenomenon that changes the nature of sexual and reproductive health needs. Ignoring the different nature of sexual and reproductive health needs in different situations reduces the effectiveness of training programmes in this area. This research aimed to compare sexual and reproductive health educational needs in two stages, before and after marriage in youth.

Methods: In a cohort study in 2011, by random stratified sampling in males and females, 450 engaged youth who had participated in pre-marital counselling in Tehran were selected. The level of sexual and reproductive health educational needs was measured by a self designed questionnaire which was a 5-point Likert-scale in two stages before and after marriage. Data were analysed by SPSS16. Descriptive statistics, the t-test and paired t-test were used.

Results: After marriage, the level of sexual and reproductive health educational needs had increased

but this wasn't significant. In total, the need for education was more than moderate level (grade 3) both before and after marriage. Women in both stages reported more need for education than men but this difference wasn't significant. 'Healthy sexual relationships' in the before marriage group and 'best physical condition, mental and social sex for pregnancy' in the after marriage group were the most important educational topics.

Conclusions: The findings suggest that the design and implementation of sexual and reproductive health educational content should be based on the needs of young people with regard to their cultural and social situations.

P025

Improving maternal health through sexual and reproductive health rights awareness and life skill based training: Experience in Bangladesh

F. Rahman

UCEP Bangladesh, Dhaka, Bangladesh

Background: Studies conducted in Bangladesh reported a high maternal mortality ratio for the past few decades. The country has one of the world's highest rates of adolescent motherhood based on the proportion of women younger than 20 giving birth. Approximately 80% of girls become mothers before they reach the age of 18. Lack of knowledge on SRHR among adolescents and lack of skills for empowerment are two major factors responsible for this low performance in the maternal health sector. Underprivileged children are admitted to UCEP schools for technical education and lack of SRH education often leads them into taking risky sexual behaviours.

Objectives: To improve reproductive and maternal health of UCEP students by providing SRHR education and life skills-based training to delay marriage and subsequent childbearing.

Methods: Providing SRHR education to 53 UCEP school students by organising court yard meetings (*Uthan Boithak*) to make community members aware about their sexual and reproductive health rights and ensuring safe motherhood.

Results: The study was conducted by using the SRHR manual with students with a pre- and post-test

survey. The findings suggest that knowledge and attitude of adolescent have changed significantly and those who received the education of SRHR are more knowledgeable on safe motherhood compared to those who have not. Both bivariate and multivariate analyses identified several key factors which have influenced their behaviour.

Conclusion: Considering the importance of SRHR education for adolescents, the Government of Bangladesh has shown their interest in incorporating this education in the national curriculum. UCEP-Bangladesh engaged their target group in life skill vocational trainings and would like to bar the early marriage trend and reduce economic dependency. The findings will help the government to make policies regarding reproductive and maternal health education for ensuring safe motherhood.

P026

Are overweight or obese mothers safe to deliver children?: An assessment on urban women in India

J. Gouda

International Institute for Population Sciences, Mumbai, Maharashtra, India

Objective: To estimate the effects of being overweight and obesity during pregnancy and adverse outcomes of pregnancy among urban women in India.

Methods: The paper estimates the effects of being overweight and obesity based on 18,182 urban women in the reproductive age group 15 to 49 years incorporated in the National Family Health Survey (NFHS) third round, 2005-06 in India. For the estimation of nutritional status of women, BMI as per the guidelines given by WHO (1998) is used. Woman of $25 \leq \text{BMI} < 30 \text{ kg/m}^2$ and $\geq 30.0 \text{ kg/m}^2$ BMI are referred as overweight and obese respectively in the study. Adverse pregnancy outcomes are defined as caesarean delivery, still birth or terminated pregnancy, size and weight of the child at birth. Body or face swelling, excessive fatigue and vaginal bleeding during gestation period are the other variables incorporated for the analysis of effects of being overweight and obesity on pregnancy among urban women. The analysis is carried out for various background characteristics such as age, education and economic stratum of the urban women in

India. Multinomial and ordinal logistic regressions are used to estimate the covariates of overweight or obesity and its effects during pregnancy and on the adverse pregnancy outcomes.

Results: The initial findings of the paper evidently show that, women are more overweight or obese than men, prominently in urban than in rural India. Overweight or obese women are more likely to experience leg body and face swelling, excessive fatigue and vaginal bleeding during the gestation period than their counterpart women of normal BMI. More than 40% of women experience leg, body or face swelling during pregnancy because of their overweight or obese condition whereas, only 26% of women have this problem with normal BMI. Seven percent of women experience vaginal bleeding due to their overweight or obese condition however, 5% of women from the normal BMI category have this problem during pregnancy in urban India. As an adverse pregnancy outcome, nearly half (46%) of overweight or obese women experience caesarean delivery as compared to 13% of normal BMI women giving births of this kind in urban India.

Conclusion: Considering the larger effects of overweight or obese women on their reproduction the paper asks for more perspective studies in this line to understand the issue and adopt measures to mitigate effectively.

P027

Experiences with and attitudes towards contraception amongst females aged 16 to 25 years in the Oslo Area

T. Aarvold¹, M. Bratlie¹, M. Bratlie³, V. Skjærvø², O. Strand², B.I. Nesheim⁰

¹Sex og Samfunn, Oslo, Norway, ²University of Oslo, Oslo, Norway, ³RemovAid, Oslo, Norway

Background: National recommendations and international research strongly promote the use of long acting reversible contraception (LARC). Despite being safer, more effective and more cost-effective compared with shorter-acting contraceptive options, the LARC methods are infrequently prescribed. The reasons for their infrequent use are multifaceted. One important aspect includes adolescents' limited knowledge of and experience with the LARC methods,

and their reliance on informal sources for family planning advice.

Objectives: The primary objective of our ongoing study is to determine whether thorough and objective family planning advice significantly increases selection of LARC methods amongst women age 16 to 25 in the greater Oslo area.

Secondly, we are further investigating the determinants for selection and non-selection of the LARC methods within this group.

Methods: An initial cross-sectional questionnaire is distributed to all eligible women attending a family planning clinic over a three month period, with an invitation to participate in a prospective interventional cohort study. We will include a total of 175 patients in the cohort study. The intervention consists of written and oral family planning advice, and a follow-up telephone interview is conducted within 14 days of inclusion to measure outcome. The outcome is defined as the primary selection of contraceptive method following the intervention.

Results: Not yet completed. Study completion is expected within March 2013.

Conclusions: Not yet concluded.

P028

Trends in sexual behaviour of secondary-school students in Slovenia, 1996–2012

C. Pinter¹, F. Ceh², T. Srnovršnik¹, M. Grebenc³, I. Verdenik¹

¹Division of Obstetrics and Gynecology, University Medical Centre Ljubljana, Ljubljana, Slovenia, ²The National Educational Institute, Ljubljana, Slovenia, ³Community Health Center, Ljubljana, Slovenia

Objective: To present trends in sexual behaviour of secondary-school students in Slovenia.

Design and methods: The data were obtained by self-administered questionnaire on a representative sample of secondary-school students of both genders in Slovenia. In analysis a descriptive statistic was used. The trends are presented for the 3rd grade students (1294 students in year 1996, 1104 in 2004, 969 in 2012).

Results: The students had experiences in being in love (94%, 92%, 87%), dating (80%, 82%, 72%), kissing

(70%, 87%, 82%), caressing (59%, 78%, 71%) and petting (43%, 61%, 56%). Sexual intercourse had ever had 44%, 53% and 54% of students (average age of 3rd grade students was 18, 17.4, 17.5 years). The median age at first sexual intercourse was 18.5, 17.4 and 17.5 years. The main reasons for the first sexual intercourse were love (45%, 44%, 37%), incident (22%, 27%, 35%) and curiosity (15%, 12%, 15%). Homosexual contacts had ever had 2.1% of boys and 2.5% of girls in 1996, 2.2% of boys and 10.8% of girls in 2004 and 1.9% of boys and 12.4% of girls in 2012. Contraceptive methods currently used were condom (60%, 50%, 54%), pills (14%, 32%, 27%), pills and condom combined (0%, 4%, 4%), withdrawal (4%, 4%, 4%), other methods (3%, 4%, 4%) and no method (19%, 7%, 7%). The most appropriate sources of information on sexuality were professionals (15%, 37%, 44%), friends (26%, 11%, 27%), parents (19%, 11%, 29%), books and magazines (9%, 6%, 22%) and the internet (0%, 2%, 30%).

Conclusions: Intimate communication has changed over the years; most students had experienced being in love but there were (in 2004 and 2012, comparing to 1996) more students experiencing kissing than dating. The main reason for sexual intercourse remained love, but was decreasing. The median age at first sexual intercourse remained stable in the last few years, it was 17.5 years in 2012. The number of homosexual contacts had risen among girls and was more than six times higher than in boys in 2012. The condom remained the most popular contraception but also the popularity of pills has risen. The number of students using no contraception has declined. The students are willing to talk more about sexuality with professionals, parents and friends as well the significance of books and magazines raised again. The most evident was the influence of the internet, which has become one of the most important sources of information on sexuality.

P029

A comparison of efficacy of combined oral contraceptives containing 20 µg ethinylestradiol with either gestodene or drospirenone on premenstrual symptoms in adolescence

P. Tsikouras¹, P. Pinidis¹, N. Vracnis¹, A. Dafopoulos¹, N. Tsagias¹, R. Csorba², S. Zervoudis¹,

G. Friedrich Von Tempelhoff², A.T. Teichmann², V. Liberis¹, G. Galazios¹

¹Democritus University of Thrace, Alexandroupolis, Thrace, Greece, ²Clinicum Aschaffenburg, Teaching Hospital of University Wuerzburg, Aschaffenburg, Bayern, Germany

Objective: Premenstrual syndrome (PMS) is a frequent problem in young people with more than 20% suffering very mild symptoms, but up to 8% of them present with severe disease. The purpose of this study was to compare the efficacy of two OC (oral contraceptive) treatment regimens in moderate to severe PMS.

Methods: The study groups were formed of 62 teenagers that were seen over a period of two years (1 June 2008–1 June 2010). The 62 healthy selected teenagers, aged 14 to 19 years, were assessed for 2 months before and 8 months after the initiation of the following regimens:

1. Group A: In 25 participants we administered combined OC which contained the progestin 0.075 mg gestodene (GSD) and 20 µg ethinylestradiol (EE).
2. Group B: In 37 teenagers we administered combined OC which contained the progestin 3 mg drospirenone (DRSP) and 20 µg ethinylestradiol (EE).

All teenagers who participated in the study completed the questionnaires (PRISM calendar). The OC were administered according to conventional 21/7 regimen. The PRISM calendar takes into account the following criteria weight gain, mastodynia (mostly premenstrual breast oedema), physical and mental symptoms and lifestyle impact. Differences between groups were tested using the t-test or χ^2 test /Fisher test for qualitative data.

Results: All women completed the observed 8 cycles. In both groups the typical premenstrual symptoms (investigated study parameters) were significantly lower in the treated time compared to the time before the OC administration ($p < 0.01$).

A total of 17 premenstrual symptoms were found in group A while these symptoms declined to 12 in group B, depending on drospirenone diuretic activity ($p < 0.01$).

Conclusion: After a complete clinical evaluation, teenagers need contraception and the prescription of OC may be a good option for PMS treatment. According to our results, although the sampling is small, drospirenone containing OC seemed to be the

most efficient treatment regimen for PMS in adolescence.

P030

Use of etonogestrel implants in post-partum adolescents: A safe and effective contraceptive method

F. Queiroz, T. Tapis, M. Barbieri, M. Torloni, C. Guazzelli

Universidade Federal Sao Paulo, São Paulo, Brazil

Introduction: The increasing rate of teenage pregnancies is a challenge to health professionals working with family planning. New contraceptive methods have been developed to try to improve the adherence of these patients. The etonogestrel implant could be a good option for teenagers but there have been few studies on this topic.

Objective: To evaluate the discontinuity rate, effectiveness and rate of side effects of etonogestrel implants (68 mg) in adolescents.

Methods: The study population comprised adolescents (13 to 19 years) managed at the Family Planning Sector of São Paulo Federal University – UNIFESP. The implant was inserted on average 102 days after delivery. Patients were followed prospectively for three years.

Results: A total of 44 patients completed the 12 months follow-up, with a discontinuity rate of 0. At the end of three years, 63.6% of the adolescents ($n = 28$) were still using the implant and returned for its removal. There were no pregnancies during the study period. After one year of use, frequent and prolonged bleeding were reported by less than 5% and amenorrhea by 39% of the users. At the end of the third year, 67.8% had acceptable bleeding patterns, 17.8% had frequent or prolonged bleeding and only one user (0.03%) was in amenorrhea. At the end of their third year, 21.4% of the users reported side effects such as breast or abdominal tenderness, vaginal discharge or headaches. At the end of the study period, the implant was removed from the 28 adolescents at the end of its time of use.

Conclusion: These findings suggest that the etonogestrel implant is a safe and effective contraceptive method that is well accepted by adolescents in the post-partum period.

P031

Gender attitudes and sexual behaviour in Bolivian and Ecuadorian adolescents

L. Jaruseviciene¹, S. de Meyer², P. Decat², A. Zaborskis¹, N. Auquilla³, A. Hagens⁴, J. Lazarus⁵

¹Lithuanian University of Health Sciences, Kaunas, Lithuania, ²International Centre for Reproductive Health, Ghent University, Ghent, Belgium, ³University of Cuenca, Cuenca, Ecuador, ⁴South Group, Cochabamba, Bolivia, ⁵Copenhagen University, Denmark, Copenhagen, Denmark

Objectives: CERCA, Community Embedded Reproductive health Care for Adolescents in Latin America, is an on-going interventional research project financed by the FP7 program of the European commission. The project seeks to contribute to global knowledge about how primary health care can be more responsive to adolescents' sexual and reproductive health needs. The current study was performed within the CERCA project and aimed to study correlates of gender attitudes and sexual behaviour among adolescents in Bolivia and Ecuador.

Method: A cross-sectional interview survey was performed among secondary school students in two Latin American cities – Cochabamba (Bolivia) and Cuenca (Ecuador) between September and November 2011. Globally, 3519 and 3263 adolescents, aged 12 to 18 years, completed a questionnaire in Cochabamba and Cuenca respectively. The Women Scale for adolescents (AWSA, Galambos and Petersen, 1985) consisting of 12 items was used as an indicator for the gender attitude. This study was approved by the Bioethics Committee of Ghent University (Belgium), and the bioethics committees of the involved countries.

Results: A factorial analysis of AWSA was performed resulting in three factors, explaining 44.8% of total variance. The factors reflected different aspects of gender attitudes and were named as Power dimension (PD), Equality dimension (ED), Behavioural dimension (BD). The greatest inter-item correlation coefficients were obtained for five items of the PD factor, the Cronbach α was 0.71, indicating a good level of internal consistency of the subscale. There were four items related to the ED factor; the Cronbach α was 0.48, the equal-length Spearman-Brown gave a reliability coefficient of 0.73 which is an acceptable level of internal consistency. A small number of items (3) consisted BD factor, the Cronbach's α for this

subscale was 0.24; however, Spearman-Brown predictive formula estimated a reliability coefficient of 0.60. The factor of ED showed highest correlates with adolescent sexual behaviour. Higher scores of this dimension was associated to a more positive experience of sexual relationships (OR 1.52 among boys and 1.81 among girls), a higher current use of modern contraception (OR 1.44 among boys and 1.82 among girls) and higher girls' sexual activity (OR 1.26).

Conclusion: Our study suggests that gender attitudes of adolescents are associated with their sexual behaviour.

Acknowledgement: This document is an output from the project 'Community-embedded reproductive health care for adolescents in Latin America', funded by the European Commission FP7 Programme. The authors declare no competing interests.

P032

Contraceptive use in three different adolescent populations

P. Tsikouras¹, P. Pinidis¹, AV Dafopoulos¹, N. Tsagias¹, R. Csorba¹, S. Zervoudis¹, G. Friedrich Von Tempelhoff², A.T. Teichmann², V. Liberis², G. Galazios²

¹Democritus University of Thrace, Alexandroupolis, Thrace, Greece, ²Clinicum Aschaffenburg, Teaching Hospital of University Wuerzburg, Aschaffenburg, Bayern, Germany

Introduction: The aim of the present study was to explore contraceptive behaviour of adolescents belonging to three different ethnic and/or religious populations. The knowledge of the current opinions and attitudes regarding contraception among the three adolescent subgroups could help us to draw conclusions on the social and economic parameters influencing female attitudes towards contraception as well as to evaluate the main sources of information concerning contraception in each population.

Material and methods: The study included representatives from three female subgroups: 40 Christian Orthodox living in Thrace (group C), 38 Muslims living in Thrace (group B), and 55 Muslims living in Germany (group A). Participants from each group were asked to answer a detailed questionnaire extensively, concerning data, socio-economic status, sexual activity and contraceptive practices. Statistical analysis

was performed using one way analysis of variance (ANOVA), followed by Turkeys test, chi-square test and multiple logistic regression analysis.

Results: The three groups were compared in terms of age ($p=0.814$) and residence place ($p=0.567$), but not in terms of social status ($p<0.001$), standing partner ($p=0.01$) and occupation ($p<0.001$). The Contraceptive pill (45.67%), the condom (32.23%), periodic abstinence (18.4%) and interrupted coitus (3.7%) were the most common methods of contraception, with the contraceptive pill being the most prevalent method among Muslims from Germany (59.5%), Christians from Greece (51.2%) and the periodic abstinence among Muslims from Greece (43.2%). The gynaecologist (44.4%), the family consultant (19.0%) and the partner (8.2%) were the most usual sources of information.

The use of the contraceptive pill was more frequent among Muslims from Germany and Christians from Greece ($p<0.001$), while the use of the condom was more frequent among Christians from Greece ($p=0.019$) and women living in rural areas ($p=0.038$). Muslims from Thrace were more likely to practice periodic abstinence and interrupted coitus (both $p<0.001$). Interrupted coitus was also frequent among unemployed women ($p=0.009$). Spermicides were more frequent among Muslims from Germany or Greece ($p=0.039$) and students ($p=0.012$). Finally, the use of the diaphragm was more common among Christians from Greece ($p=0.002$), and students ($p=0.001$).

Conclusions: Our study results reveal that there are behavioural differences between race/ethnicity and minority groups regarding contraceptive practices, that the gynaecologist is a major participant in the choice of the women's contraception. Finally, the need for sexual education and easy access to counselling services is apparent in order to promote optimal contraception decision-making.

P033

Reproductive Health Service utilization and relevant determinants of migrant youth in China

X.M. Yu¹, Y.Y. Sun¹, B. Wang², H.C. Hou², S.P. Zhang², X.M. Zhou³, L. Wang¹

¹School of Public Health, Peking University, Beijing, China, ²Jinan municipal Maternal Care Hospital,

Shandong Province, China,³Shenzhen Futian District Maternal Care Hospital, Guangdong Province, China

Objective: Since the 1980s, the migrant population in China has increased continuously with the course of urbanization. Youth aged 15 to 24 years accounted for 26.72% among the total 260 million migrants as reported in the 6th China National Census in 2010. Young migrants are often margined in the urban life and health care system, and vulnerable for issues of sexual and reproductive health (RH). Our study aim was to understand their status of RH service utilisation and determinants to improve relevant strategy's orientation.

Methods: Four cities in China where a large number of rural-to-urban immigrants had assembled were selected as study sites. The subjects at 15 to 24 years were recruited in different workplaces such as restaurants, barber shops, factories. Finally, 6230 migrants (2467 males and 3763 females) were investigated with an anonymous self-administered questionnaire, the average age at 20.3 ± 2.15 years. The majority (89.2%) were unmarried, and 44.5% had worked for more than two years in the city after moving from their rural hometown.

Results: Of the young migrants surveyed, 36.2% 2256/6230 reported having or had some SRH problems (menstrual symptoms, vulvitis, or urethral pain, foreskin problem etc.). However, only 524 of them sought medical help in the past year before the survey, accounting for 23.2% (25.3% of males and 22.8% of females, $p > 0.05$).

The top three causes for seeking medical help were problems related to menses, pregnancy including contraception or abortion and growth and development during adolescence. Of those who had experience of service utilisation, 42.6% reflected that they were not satisfied with the service provided, the reasons ranked 'expensive cost', 'unfriendly providers', 'long time for waiting', 'difficult in communicating with provider', and 'not confidential due to clinic mixed with adults'. Further investigating those who did not go to hospital when having RH problems, 28.5% of migrants said 'they didn't know where to seek help', 24.9% said 'they cannot afford charge'.

The factor analysis found that migrants' age, marriage, education level, monthly wages, and employed time were correlating determinants for service utilisation. While the cognisation for SRH

and some psychological ability, such as self-esteem, coping style, associated with their intention for seeking help.

Conclusion: The RH health service utilisation among young migrants in China's big cities was not optimistic. Unmet accessibility, acceptability and affordability of services were obstacles besides migrants' characteristics. It suggested that the RH service should be improved both to increase migrants' awareness, and to advocate for friendlier service as well as necessary social and economic support.

P034

A survey on youth sexual behaviour in the Republic of Korea in 2011

I.-S. Lee, E.S. Lee, G.Y. Choi, J.J. Lee

Soon Chun Hyang University Hospital, Seoul, Republic of Korea

Objectives: The survey aims to understand the sexual behaviours of Korean adolescents, to improve their sexual health and to adequately prepare sexuality education programmes.

Method: Internet surveillance was conducted with 75,643 students aged 13 to 18 years at 400 middle schools and 400 high schools in the republic of Korea in 2011. The data was compared with a previous survey in 2005.

Results: The average age of experiencing first sex for Korean adolescents was 13.8 years old in 2011. The average was 14.3 years for female adolescents and 13.6 years old for male adolescents. The average age was 13.6 years old (13.4 for male and 14 for female) in 2005.

A total of 74.2% of the middle school students and 58.1% of the high school students had taken a sexuality education class at least once at school in 2011, whereas 77.9% of middle school students and 68.4% of high school students had taken a sexuality education class at least once at school in 2005. The pregnancy rate of the female students who had sexual experience was 11.6% in 2011 and 8.6% in 2005. The artificial abortion rate of pregnant female students was 83.4% in 2011, which shows a significant increase compared to 51.1% in 2005. The proportion of experience of STIs was 10.1% in 2011 and 9.0% in 2005. The rate of using contraceptive methods was 45.7%

in 2011. It had increased significantly from the rate of 28.3% in 2005.

Conclusion: The average age of experiencing first sex for Korean adolescents did not show much change over the 6 years. Also, sexuality education classes took place at middle schools and high schools. However, the artificial abortion rate of female adolescents was increased from 51.1% in 2005 to 83.4% in 2011, although the rate of using contraceptive methods was increased from 28.3% to 45.7%. Therefore, sexuality education need to be more practical and effective to prevent unprotected sex, abortion, and STI.

P035

Online sexual health consultations: Examining young people's privacy and security concerns

C.C. Garrett¹, J. Hocking¹, M.Y. Chen²,
C.K. Fairley¹, M. Kirkman³

¹Melbourne School of Population Health, University of Melbourne, Melbourne, Australia, ²Melbourne Sexual Health Centre, Alfred Hospital, Carlton, Australia, ³School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia

Background: Little is known about the use of telemedicine consultations for sexual health. Our aim was to reflect on and theorise about privacy and security concerns raised by young people about online consultation in a national Australian questionnaire about telemedicine consultations for sexual health. If benefits are expected from using telemedicine, it is crucial that these concerns are managed because of their influence on the acceptability and adoption rate of such services.

Methods: In this reflective analysis, we discuss reasons for and implications of the privacy and security concerns raised about online medical consultations, drawing on theories of electronic media and social behaviour, networked publics, and contextual integrity.

Results: The attributes of digital data need to be considered when implementing an online service because altering the medium can violate the context-relative norms of a sexual health consultation. Steps can be taken to improve security and to allay patient concerns about privacy.

Conclusion: The reasons for resistance to online consultations highlight the complexity of digitalising services. A better understanding of the factors influencing people's views on telemedicine consultations provides insight into steps healthcare professionals can take to increase the acceptability of such services. If telemedicine consultations for sexual health are to succeed, investment needs to be directed towards security and to identifying and addressing the risks and trade-offs of using this technology for medical consultations.

P036

How demographic and social factors can influence the use of contraceptive methods among adolescents. A retrospective study

I. Boutas, C. Sofoudis, T. Kalampokas,
E. Kalampokas, N. Salakos

2nd Department of Obstetrics and Gynecology University of Athens Aretaieion Hospital, Family Planning Unit, Athens, Greece

Introduction: During the last decade, large changes have occurred in Greek society regarding sexuality and gender relations. This can be interpreted as an increased risk of unwanted pregnancies in all ages, especially in adolescence.

Material and methods: The only inclusion criterion for participating in the study was student status and, particularly, attendance in a high school in Attica. The number of high school students during the year 2004–2005 was 338,189 of whom 15,456 were foreign students.

Fifteen school units were selected with clustered sampling and 1852 students were included in the sample during the year 2008–2009. Ten per cent of the participants were foreign students. A questionnaire was given to the participants and consisted of 67 questions similar to other studies and according to the guidelines of the WHO. The variables which were taken into consideration were: the knowledge about contraception issues, the beliefs about gender relations, abortion, sexual behaviour, religious beliefs, social factors and demographic characteristics.

Results: The questionnaire has been answered from 639 participants (34.5%) but not everyone responded to all the questions, so in some categories the sum is not 639. One hundred ten participants were over 21 years old and were excluded from the study. The mean age of the remaining 529 participants was 16.65 y, 57.7% of whom were females and 42.3% males. Moreover, 81.3% were Greek and 18.7% from another country. Only 2% of the students were born from an adolescent mother. A total of 453 students lived with both parents, while 82 of them lived only with the mother, and 27 students lived with a stepfather/mother. Most students knew the condom and pill use as contraceptive methods and 1/3 of them also knew about the IUD, while 10% mentioned emergency contraception and a few students mentioned other methods, such as withdrawal, spermicide and the vaginal ring.

Regarding the source of information, 20.3% declared that they had been informed about contraception issues from the media, 20.1% from school, 18.5% from friends, and 18.1% from the family. Over half (56.8%) of the students were sexually active and half of them (49.85%) used condoms as a contraceptive method regularly.

Conclusions: More and more often adolescents start to have an active sexual life earlier than in the past. The foundations about contraception issues exist, but it is crucial to better educate young people about how to protect themselves.

P037

Adolescent sexual reproductive health care

I. Daniela-Giorgiana

Emergency County Hospital, Calarasi, Romania

Protecting the reproductive health of adolescents, as one of the medical and social problems of major importance is increasingly present considering the impact on the overall health of the population and its influence on demographic developments. Because the socio-economic situation of excessive migration abroad of the reproductive age population is reducing the total number of middle-aged people, leading to an increase in the proportion of young people.

Simultaneously there is an increase in the frequency of various reproductive health problems among adolescents, driven primarily by risk behaviour, such as unwanted pregnancy, sexual diseases transmission, drugs, AIDS, violence, etc.

Poor knowledge among adults, including among health workers on physiological and psychological peculiarities of the age of adolescence has led to a low credibility of youth. As a result, adolescents prefer to discuss many problems, including reproductive health, not with health workers or parents, but with other people or some people in authority, but without medical experience. For many young people they experience limited accessibility to health information and quality health services. The need to develop and implement curriculum course 'Healthy Lifestyles' falls into issues of education reform in Romania and concentrates on current trends of professionalisation of vocational medical education. This goal involves developing the professional skills of future nurses in schools, tailored to company requirements and needs of educational institutions. The need to develop and implement Curricula nominlizat derives from the fact that in modern medicine the prominent role of school nurses in promoting healthy lifestyles is revealed.

In this context, the curriculum course 'Healthy Lifestyles' is anchored in reality and in the range of values of education institutions, comprising a combination of theoretical and practical concerns, which are based on training needs, making use of the potential school nurses through active involvement in their own professional development. Studying this module is designed to help provide training to school nurses to promote healthy lifestyles. The curriculum is adapted to the training process of school nurses to work in educational institutions in Romania and focuses on some contemporary approaches.

The design of our study was based on learner-centred education that takes centre stage with adult features, needs and interests. This approach involves three interrelated processes: design, implementation, evaluation and consisted of:

- The dominance of active and interactive teaching strategies;
- The dominance of cooperative forms of training and learning;
- Training and development of both personal and professional qualities.

TOPIC 2: CONTRACEPTION AND BLEEDING

P038

The impact of age on vaginal bleeding patterns in women receiving norgestrel acetate/17beta-estradiol compared with drospirenone/ethinylestradiol

I. Sundström-Poromaa¹, D. Mansour², A. Kaunitz³, C. Westhoff⁴, T. Korver⁵, W. Sommer⁵

¹Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden, ²Sexual Health Services, Newcastle Hospitals Community Health, Newcastle upon Tyne, UK, ³University of Florida College of Medicine, Jacksonville, Florida, USA, ⁴Columbia University, New York, NY, USA, ⁵Merck, Oss, The Netherlands

Objective: To investigate the impact of age on vaginal bleeding patterns in a pooled analysis of two trials comparing the combined monophasic oral contraceptive norgestrel acetate/17beta-estradiol (NOMAC/E2) and drospirenone/ethinylestradiol (DRSP/EE).

Design and methods: Results from two randomised (3:1), open-label, multi-centre trials comparing NOMAC/E2 (2.5 mg/1.5 mg; 24/4-day regimen) vs DRSP/EE (3 mg/30 µg; 21/7-day regimen) over 13 menstrual cycles were pooled for analysis. Women recorded daily vaginal bleeding episodes using electronic diaries. Vaginal bleeding was defined as either bleeding (> 1 pad/tampon per day) or spotting (≤ 1 pad/tampon per day). A cycle analysis of vaginal bleeding patterns by age category (18 to 24 years, 25 to 35 years, 36 to 50 years) was conducted.

Results: In this pooled analysis, the intent-to-treat population included 3233 women in the NOMAC/E2 group and 1084 women in the DRSP/EE group. The age categories differed mainly in baseline body weight and BMI. In the NOMAC/E2 group, the incidence of absence of (scheduled) withdrawal bleeding was somewhat lower for women aged 18 to 24 years compared with the other age categories, i.e., 13.5% at cycle 2 and 22.1% at cycle 12, compared with 18.6% and 36.1% for women aged 25 to 35 years and 23.6% and 35.2% for the ≥ 36 year category. In the DRSP/EE group, this age effect was not observed (18 to 24 years, 5.1% and 5.5%; 25 to 35 years, 3.6% and 6.2%; 36 to 50 years, 4.2% and 3.4%). The duration

of withdrawal bleeding/spotting episodes in the NOMAC/E2 group decreased from cycles 2 to 12 in all three age categories, from 4 to 3 days in the ≥ 25 years age categories and from 4 to 3.5 days in the 18 to 24 years subgroup (medians), respectively. In the DRSP/EE group, this trend was not observed, with the duration of withdrawal bleeding/spotting episodes remaining the same (a median of 5 days from cycles 2 to 12 in all three age categories).

No relevant differences were found for the three age categories with respect to the incidence and duration of (unscheduled) breakthrough bleeding/spotting for either the NOMAC/E2 or the DRSP/EE group.

Conclusions: In this pooled analysis, absence of withdrawing bleeding occurred less frequently in women aged 18 to 24 years compared with women aged ≥ 25 years in the NOMAC/E2 group; this age effect was not observed in the DRSP/EE group. There were no relevant differences between the three age categories with regard to the duration of withdrawal bleeding/spotting and the incidence and duration of breakthrough bleeding/spotting, for either the NOMAC/E2 or the DRSP/EE group.

P039

Review of bleeding problems with progestogen-only implant

S. Namratha

Staffordshire & Stoke-on-Trent Partnership NHS Trust, Stoke-on-Trent, UK

Background: NICE clinical guidelines encourage the use of long-acting reversible contraception (LARC) by all women wishing to use contraception. Currently the progestogen implant licensed for use as a LARC is the etonogestrel (68 mg) implant which comprises a single subdermal rod and is licensed for three years use. In the women using the implant, altered vaginal bleeding patterns are a common side effect leading to discontinuation of the method. Pre-insertion counselling will help women understand and persevere with side-effects for longer.

Objectives: This project was undertaken to look at (1) The number of women presenting to our service with bleeding problems on contraceptive implants. (2) The number of women discontinuing implants due to bleeding problems. (3) The best treatment option

to regulate irregular bleeding in these cases to encourage more number to continue LARCs to comply with NICE guidance.

Methods: A retrospective random stratified sample of 300 patients was identified for inclusion in the audit over one year. This sample was approved based on a confidence level of 95% ($\pm 5\%$) from the 1284 implant insertions during this period.

Results: Problems were encountered in 29% of patients of which 67% was irregular vaginal bleeding. Counselling pre-insertion was documented in 78% of notes. Women presented with problems on average at four months and mean removal time was seven months. Of those with bleeding, 42% were offered Chlamydia screening. Treatment was given to 29% with bleeding problems during their first visit; this acceptance dropped with each repeat visit. Of those who had problems, 21% had implant removal and of them 52% was due to irregular bleeding. Of the treatment options used, combined pills with 30 mcg ethinylestradiol were better than desogestrel only pill and mefenamic acid in regulating the bleeding.

Conclusions: A high proportion of women presented with the side-effect of bleeding problems on implants. Counselling and documenting about side-effects and offering chlamydia screening for those with bleeding problems needs to improve. More than half of those who had problems had their implant removal due to problems with bleeding, showing this to be the main single reason for discontinuing the method. There is a need for determining the best treatment option to reduce this common problem with implants to help the women persevere with the method and reduce unplanned pregnancies, especially teenage pregnancies.

P040

A three year comparative study of continuation rates, bleeding patterns and satisfaction in Australian women using a progestogen-only implant or hormonal intrauterine system

E. Weisberg, D. Bateson, K. McGeehan,
L. Mohapatra

FPNSW, Sydney, NSW, Australia

Objectives: In Australia the etonogestrel-implant and the levonorgestrel-intrauterine system (IUS) are

government subsidised under the Pharmaceutical Benefits Scheme (PBS) providing affordable long-term methods of contraception. Uptake of these methods remains relatively low. Furthermore, there are few data, and no comparative longitudinal studies, on women's experience of these methods in Australia. The study aims were to determine the characteristics of users and factors which influenced women to choose either the implant or the IUS and to compare continuation rates and experiences with their chosen method. The two cohorts were followed for three years to document their experiences.

Methods: Women 18 years and older presenting to Family Planning NSW clinics for insertion of either an etonogestrel-implant or an IUS completed the study-entry questionnaire after giving informed consent. Women completed follow up forms at 6 weeks then 6, 12, 24 and 36 months over the telephone or online to assess satisfaction, side-effects, bleeding patterns, method failure or discontinuation and reasons for discontinuation. The clinical records of women were accessed to obtain information from any contraceptive-related clinic visits during the three-year follow-up period. The de-identified data were analysed using IBM SPSS 19.0.

Results: Women choosing an IUS ($n = 200$) were older, more likely to be tertiary educated, be married or in de facto relationships and have children than women choosing an Implanon implant ($n = 149$). Fifty-two percent of women using an implant had it removed within three years compared to 30% of women using an IUS ($p = 0.001$). More women (55%) had their implant removed because of the bleeding pattern than women using an IUS (21%). Detailed analysis of bleeding patterns to two years of use indicated the percentage of women reporting amenorrhoea was greater for the IUS than for the implant, infrequent spotting/bleeding was experienced more by IUS users and prolonged bleeding was more frequent in the first year of implant use.

Satisfaction levels for the IUS were higher in the first six months of use (77% vs 65%) but by 12 months had increased to over 80% for both methods. There were no unintended pregnancies.

Conclusions: Both the implant and IUS are highly effective and acceptable methods of contraception but changes in bleeding patterns particularly in the first six months caused more discontinuations of the implant than the IUS. Satisfaction for both methods was high at 12 months of use. These Australian-based data will

support practitioners in discussing LARC options during the contraceptive consultation.

P041

Perspective of Brazilian gynaecologist on menstrual bleeding and use of hormonal contraceptive methods

M.Y. Makuch¹, M.J.D. Osis¹, K.S. de Padua¹, L. Bahamondes²

¹Center for Research in Reproductive Health of Campinas (Cemicamp), Campinas, SP, Brazil, ²Department of Obstetrics and Gynecology, School of Medical Sciences, University of Campinas (UNICAMP), Campinas, SP, Brazil

Objectives: To assess the perspectives of Brazilian gynaecologists on the use of hormonal contraceptive methods for bleeding control and to induce amenorrhoea, as a medical indication or on demand.

Methods: A nationwide cross-sectional study based on a probabilistic sample. Gynaecologists were selected randomly (1:2) from a list of 18,000 to receive a questionnaire that collected data on socio-demographic characteristics, the proportion of women consulting for menstrual-related issues, hormonal methods prescribed, and perspectives related to the use of hormonal contraception for bleeding control and to induce amenorrhoea (medical indication/women's demand).

Results: From the 8989 questionnaires sent out, 2137 were returned filled in (23.8%). Among respondents, 50.4% were 25 to 49 years old and 51.7% were women. Almost 50% reported that 20 to 40% of their patients consulted due to menstrual problems and 50% that between 20% and 60% of women needed or wanted to reduce the bleeding frequency, the amount/volume of bleeding and the days of bleeding. A total of 40.7% of the gynaecologists reported that more than 50% of their patients wished to bleed every month; however, 53.8% reported that between 26% to 100% of their patients wished to be in amenorrhoea and 33% reported that more than 50% of their patients wished to reduce the number of bleeding episodes. Almost all of the gynaecologists (93%) reported that the use of hormonal contraceptive method with the intention to be in amenorrhoea or to delay menstrual bleeding poses no risk for women.

Additionally, 67% of the respondents reported that they prescribed hormonal contraceptives with the intention to provoke a delay in menstrual bleeding, 30% prescribed to anticipate and 82.5% and 86.6% prescribed to reduce the menstrual episodes or to provoke amenorrhoea, respectively due to medical indication or women's preference. However, female gynaecologists and gynaecologists under 60 years old were more prone to prescribe hormonal methods to induce amenorrhoea. The most reported contraceptive methods prescribed to induce bleeding changes were continuous combined oral contraceptives (COC) (79.4%) and COC with less free interval (72.7%). In the perspective of the gynaecologists the main complaints the women using hormonal contraception had were spotting (78.8%), use of hygienic pads (55.6%), afraid to forget the pill or to be pregnant (54.9%), afraid that use of hormones may affect their health (84.0%), and future infertility (80.2%).

Conclusions: Many Brazilian gynaecologists were aware of and prescribed hormonal contraceptive methods to interfere with menstrual bleeding patterns or to provoke amenorrhoea even at women's request.

P042

The contraceptive implant and vaginal bleeding: How willing are women to accept treatment, undergo cervical screening or chlamydia and gonorrhoea testing?

H. Smart

Sandyford Initiative, Glasgow, UK

Objectives: To find out whether any treatments work for irregular bleeding on the implant and whether other causes are effectively excluded.

Methods: This descriptive retrospective case series examined the electronic record of 300 patients attending a sexual and reproductive health service between 1 January and 31 March 2011 to have their etonogestrel contraceptive implant removed due to irregular bleeding. Over the same time period 1014 implants were inserted, a total of 979 were removed and 444 were changed. Their notes were reviewed to see whether they were offered treatment for the bleeding, and whether it worked. If they opted for alternative contraception continuation rates were

noted as well as any unwanted pregnancies occurring in the 18 months after the removal of the implant. Electronic patient records were checked to see if these women were offered screening for sexually transmitted infections, and to find out what the rate of infection was.

Of those eligible for cervical cytology, records were checked to ascertain if they were up to date with smears, whether they were on non routine follow-up, and whether a smear done within 6 months of implant removal was abnormal.

Results: Of the 300 notes examined, 298 were used in this analysis. The average age of women attending for implant removal was 22.5. These women kept their implant in for an average of 15.1 months. Forty two percent of the women offered treatment declined and had the implant removed. Fifty-nine percent of women accepted chlamydia and gonorrhoea testing; 15.4% were found to have chlamydia. Sixty four percent of the women eligible for cervical screening accepted testing. Seventy four percent of women offered alternative contraception accepted. Sixteen pregnancies occurred in those returning to the service, 43% of whom requested termination.

Conclusions: Managing bleeding difficulties proactively to improve acceptability of the implant may result in lower rates of early removal and unwanted pregnancy.

P043

Retrospective review of IUS/IUD insertions in a large integrated sexual health service: Complication, side effect and removal rates

J. Simpson

Sandyford, Glasgow, UK

Objectives: This study was undertaken to assess the rates of side-effects, complications and removals of IUS and IUDs inserted at a large multi-site integrated sexual health service, for 18 months after the three months from March to May 2011.

Methods: From March to May 2011, 1020 Cu-IUD and LNG-IUS devices were inserted. The first 500 case notes were included in the retrospective electronic patient record review. Data for Cu-IUD (banded* and unbanded*2) and LNG-IUS were

compared. Z test for 2 proportions was used to calculate statistical significance.

Results: Most of the devices inserted were LNG-IUS (64%), followed by banded Cu-IUD (21%), and unbanded (15%). Most devices were inserted in women aged 21 to 40 years (73%) with 10% under 20 years of age. Parity did not have an effect on side-effects, complication or removal rates, and 53% of women returned for follow up. Side-effects were reported by 36% (some patients reported more than one side-effect). The commonest side-effects were:

- Bleeding pattern changes: LNG-IUS (11%), unbanded Cu-IUD (20%), banded Cu-IUS (32%)
- Pain: LNG-IUS (8%), unbanded Cu-IUD (12%), banded Cu-IUD (19%)
- Hormonal side effects (weight gain, mood changes, acne, bloating) 10% LNG-IUS.

Overall side-effects were more likely with the banded Cu-IUD (68%) than LNG-IUS (38%)*3 or unbanded Cu-IUD (47%)*3. Difference in side-effect rates between the IUS and unbanded Cu-IUD were not statistically significant ($p > 0.05$). Side-effects were commonest in women under 20 years (70%). However, removal rates were the same in the age groups 16 to 20 and 21 to 30 (30%) and lower in the other age groups. No perforations were reported in this cohort. Other complications were rare:

- Pelvic infection: LNG-IUS (0%), unbanded Cu-IUD (4%), banded Cu-IUD (1%)
- Expulsion: LNG-IUS (3%), unbanded Cu-IUD (4%), banded Cu-IUD (1%)
- Pregnancy: LNG-IUS (1%), unbanded Cu-IUD (0%), banded Cu-IUD (1%)

Overall 22% of IUD/IUS were removed during the 18 month period. Banded Cu-IUD devices were more likely to be removed (33%) versus LNG-IUS (19%)*3 and unbanded Cu-IUD (15%)*3. Commonest reasons for removal were bleeding (49%), pain (14%) and hormonal side effects (10%).

Conclusions: Intrauterine methods of contraception are well tolerated even in young women in this setting, with high self-reported rates of side effects but low chance of serious complications and low removal rates. These very long acting reversible methods should continue to be widely promoted.

*mini TT380, TT380 *2 nova T 380 *3 p value < 0.05 .

P044

A study on the prevalence of and factors in irregular menstruation in university students

S. Timur Tashan¹, Y. Aksoy Derya¹, T. Ucar¹,
D. Ozden², G. Tuz³, Y. Yilmaz⁴

¹Inonu University School of Health, Malatya, Turkey,
²Harpur State Hospital, Elazig, Turkey, ³Inönü University
Turgut Ozal Medical Center, Malatya, Turkey, ⁴Izzet
Pasha Family Health Center, Elazig, Turkey

Objective: The purpose of this study was to identify the prevalence of and factors in irregular menstruation in university students.

Methods: The present descriptive study was conducted at the Health College of a public university between 15 November and 1 December 2012. The population was comprised of a total of 678 female students who studied Midwifery ($n = 212$) and Nursing ($n = 466$). No specific sample was chosen; therefore, all the participants were included within the scope of the study. However, the sample was comprised of a total of 365 students who volunteered to participate in the study. The data were obtained through the 'Personal Information Form' and analysed via such statistics as mean value, standard deviation, the test on the significance of the difference between two mean values (t), Pearson's Chi-Squared test and Backward Stepwise logistic regression analysis.

Results: The mean age of the participants was 20.28 ± 1.99 . While 46% of them studied Midwifery, the remaining 54% studied Nursing. The mean menarche age was 13.45 ± 1.55 whereas the mean menstruation length was 5.61 ± 1.88 . The prevalence of irregular menstruation in the students was 23.8%. The students with irregular menstruation experienced oligomenorrhea, polymenorrhea and polycystic ovary by 14.5%, 9.6% and 11.5% respectively. The study could not yield a correlation between irregular menstruation and income level, suffering from a chronic disorder, sleep, or mothers/sisters with irregular menstruation ($p > 0.05$). Those students who had higher Body-Mass Indices (BMI), smoked, did exercises and had psychiatric disorders were more likely to suffer from irregular menstruation ($p < 0.05$). A logistic regression analysis was conducted on these correlated factors. The analysis reported that those who did exercises were two and a half times more likely to have irregular menstruation.

In addition, each unit of gain in the BMI made them 1.1 times more likely to suffer from the disorder.

Conclusions: The study concluded that nearly one-quarter of the students had irregular menstruation with oligomenorrhea being the most common form. A correlation was discovered between irregular menstruation and obesity, smoking, exercising and already having a psychiatric disorder. The finding is promising in that all these risk factors are avoidable with changes in behaviours, for which healthcare professionals are significantly responsible.

P045

A study on the ways students with and without irregular menstruation cope with stress

Y. Aksoy Derya, T. Ucar, S. Timur Tashan

Inonu University School of Health, Malatya, Turkey

Objective: The purpose of this study was to identify the ways students with and without irregular menstruation cope with stress.

Methods: The present descriptive study was conducted at the Health College of a public university between 15 November and 1 December 2012. The population was comprised of 678 single female students who studied Midwifery and Nursing. No specific sample was chosen; therefore, all the participants were included within the scope of the study. However, the sample was comprised of a total of 365 students who volunteered to participate in the study. The data were collected through the 'Personal Information Form' and the 'Ways of Coping with Stress Inventory'. They were analysed via such statistics as mean value, percentage and t-test.

Results: Nearly 40% of the students (39.7%) reported experiencing irregular menstruation at one point in the past. On the other hand, 23.8% of the participants were suffering from irregular menstruation at the time. While 37.9% of these students were diagnosed with polycystic ovary, 31.8% of them suffered from ovarian cysts. The participants had the following mean scores in the sub-dimensions of the 'Ways of Coping With Stress Inventory (WCSI)': 12.9 ± 3.7 in the 'Self-Reliance Approach (SRA)', 9.1 ± 2.5 in the 'Optimistic Approach (OA)', 11.7 ± 3.9 in the 'Self-Hopelessness Approach (DA)', 7.1 ± 2.8 in the

'Surrendering Approach (SA)' and 6.9 ± 2.0 in the 'Social Support Seeking (SSS)'. The study could not find a significant correlation between irregular menstruation and the mean scores in the sub-dimensions SRA, OA, DA and SSS ($p > 0.05$). While the students with irregular menstruation had a mean score of 6.5 ± 3.1 in the sub-dimension SA, those who did not suffer from irregular menstruation had a mean score of 7.3 ± 2.8 in this sub-dimension ($p < 0.05$). No significant correlation was found between the types of irregular menstruation and all the sub-dimensions of the WCSI.

Conclusions: The study concluded that students with irregular menstruation make more efforts to cope with stress. Healthcare professionals are mainly responsible for improving the ways students cope with stress and thus reducing the adverse effects of stress on the menstrual cycle.

TOPIC 3: CONTRACEPTION AND CANCER

P046

Estetrol – an active estradiol metabolite for use in hormone therapy or contraception with lower breast cancer risk?

X. Ruan¹, H. Neubauer², H. Seeger², T. Fehm², G. Merki-Feld³, A. Mueck²

¹Department of Gynecology, Endocrinology, Beijing Ob/Gyn Hospital; Capital Medical University, Beijing, China, ²University Women's Hospital, Tübingen, Germany, ³Clinic of Endocrinology, Department of Gynecology and Obstetrics, University Hospital, Zürich, Switzerland

Objectives: Estetrol (15-alpha-hydroxyestriol, E4) is an endogenous estradiol metabolite mainly produced at high concentrations in the fetal liver. In earlier studies E4 was investigated for its use as surrogate marker pregnancies at risk, especially with vascular problems. Some current investigations suggest the use of E4 in hormone therapy or contraception with probable advantages in terms of breast cancer risk as compared to other estrogens.

Method: Proliferation of two estrogen receptor-positive breast cancer cell lines (ZR 75-1 and HCC 1500) was investigated after incubation with estrone

(E1), estradiol (E2), estriol (E3) and Estetrol (E4). Receptor expression of ER-alpha and ER-beta was determined by Western-Blot.

Results: All four estrogens elicited a significant proliferative stimulation at concentrations of 10^{-10} and 10^{-9} M as compared to controls. Estrone displayed a significant weaker effect than E2. Estetrol was significantly less effective than E2 at the lower concentration. Expression of ER-alpha and ER-beta was significantly upregulated by all estrogens tested without differences within the various estrogens.

Conclusion: Our results indicate a slightly lower proliferative effect of E4, but only at low concentrations. However, no difference was found regarding receptor expression. Breast cancer risk of estetrol should be tested in clinical trials.

P047

Oral contraceptive use and risk of breast cancer: A meta-analysis of prospective cohort studies

H. Zhu, X. Lei, J. Feng, Y. Wang

Chongqing Medical University, Chongqing, China

Background and objectives: It has been suggested that taking oral contraceptives (OCs) may increase breast cancer incidence. However, data in this regard are inconsistent. We performed this meta-analysis to estimate the association between OC use and breast cancer risk.

Methods: Prospective cohort studies on OC use and breast cancer risk were identified by searching databases from the period 1960 to 2012. Results from individual studies were synthetically combined using STATA 11 software.

Results: A total of 13 prospective cohort studies were included in our meta-analysis, involving 11,722 cases and 859,894 participants. The combined relative risk (RR) of breast cancer for ever- compared with never-OC users was 1.08 (95% confidence interval [CI]: 0.99–1.17). Dose-response analysis based on five eligible studies showed that every ten-year increment of OC use was associated with a significant 14% (95% CI: 1.05–1.23) rise in breast cancer risk. Little evidence of publication bias was found.

Conclusions: This meta-analysis provides evidence of a non-significant increase in breast cancer

risk associated with ever OC use, but the risk for long-term OC users is significantly greater. However, the latter finding is based on only a limited number of studies.

TOPIC 4: CONTRACEPTION AND HIV

P048

Assessing contraceptive needs of women attending for HIV Care in routine practice: Using EPR to augment performance

Y.P. Malhotra, J. McSorley, G. Brook, R. Varma

Departments of GUM/HIV, Central Middlesex and Northwick Park Hospitals, London, UK

Background: Globally women constitute the majority of individuals living with HIV. This population is primarily of reproductive age. As effective HIV therapy and survival in relatively good health has become the norm, contraceptive needs and sexually transmitted infection (STI) risk should be regularly assessed. Services providing care to HIV positive women need to ensure ongoing and recurring assessment of contraceptive need and STI risk is part of systematic practice.

Aims: The aims of this study were:

To assess whether contraceptive practice and condom use is recorded, and STI testing performed, in Doctor led routine HIV medical care.

To assess the impact of introducing an electronic patient record (EPR) prompt to facilitate Nurse Led Sexual Health Assessment of women attending HIV outpatient services

Methods: A retrospective electronic case note review was undertaken on 50 consecutive HIV positive women under the age of 52 years attending an HIV clinic in a District General Hospital serving an ethnically diverse area of North London in 2012. Demographic, HIV & Antiretroviral, Smoking, Contraception practice, sexual history, STI testing and outcome data were collected and will be presented.

Conclusions: A total of 33% had no contraceptive assessment recorded during the assessment period in 2012. We altered the nurse EPR to include a specific prompt and reassessed the effect of this change. Updated data will be presented.

P049

The rate of complications in copper intrauterine device use among HIV-positive women with postpartum inserting

S. Posokhova, R. Popova, S. Shevchenko, S. Rudenko

Odessa Oblast Perinatal Center, Odessa, Ukraine

Background: The HIV/AIDS epidemic in Ukraine continues increasing. The problem of prevention of unintended pregnancies among women infected with HIV is important. The new data show, that the intra-uterine device (IUD) can be safely used by women living with HIV/AIDS, who are clinically healthy or receive antiretroviral therapy (ART).

Objectives: Our case-control study had the aim to determine whether IUD-related complications after postpartum insertion are more common among HIV-positive than among HIV-negative women.

Methods: We selected purposively 88 postpartum HIV-positive women with median counts of CD4+ > 350 cells and 45 HIV-negative women. Our examination included: the general blood count, screening of STI. IUDs were inserted in women irrespective of number of deliveries, which proceeded without complications. We inserted the Co-IUDs to all women in the first 48 hours after vaginal delivery. The rate of IUD-related complications was evaluated at 1, 6 and 12 months of use after vaginal delivery.

Results: Among HIV-infected women the median age was 25.2 years, with 17% having a history of IDU use. HIV-infected women in 52.2% cases had sexually transmitted infection (STI) which was 3.4 times more compared to the HIV-negative women. STI were treated according to reports. One of the most common complications after postpartum insertion of IUDs is expulsion. The rate of expulsion was similar in both groups and increased after a second or third delivery. At six months after delivery, 83 HIV-infected and 43 HIV-negative women continued to be observed, as four (3%) of them had expulsion of IUD and three (2.25 %) had not attended for follow-up. A total of 16 (19.3%) HIV-positive women with IUD had complaints of heavy menstrual bleeding within last two months. The frequency of heavy menstrual bleeding was 1.7 times less (11.6 %) in HIV-negative women. Two HIV-positive women with heavy anemia have removed of IUD. The control examination nine months after delivery showed

about 80% of women with IUDs were continuing to use this contraceptive. The first episode of pelvic infection appeared in an HIV-infected women after 9 months using an IUD. After 12 months using an IUD the rate of pelvic infection was 5.68% in HIV-positive women and 4.4% in uninfected women.

Conclusions: Thus, the rates of complications in HIV-positive women were not higher than in uninfected women. The postpartum insertion of IUDs appears to be a safe and acceptable method of contraception for HIV-positive women.

TOPIC 5: CONTRACEPTION AND MEDICAL CONDITIONS

P050

The influence of modern methods of hormonal contraception on vaginal biocenosis in women of reproductive age

E. Mezhevitinova, A. Letunovskaya, E. Ivanova, R. Sasunova, V. Prilepskaya

Research Center for Obstetrics, Gynecology and Perinatology, Ministry of Healthcare and Social Development of the Russian Federation, Moscow, Russia

Aims: To evaluate the frequency and characteristics of a breach of the biocenosis in the appointment of various methods of hormonal contraception in the observed patients, as well as a comparative study of the species structure of the urogenital tract, using PCR in real time.

Methods: We studied 120 patients of reproductive age who wished to use hormonal contraception. In all the patients studied vaginal biocenosis was performed using the polymerase chain reaction using the real time reagent 'Femoflor'. Prior to the appointment for hormonal contraception bacterial vaginosis and sexually transmitted infections were excluded in all patients. A total of 90 women were included in the study and the method of random numbers was used to divide the women into three groups of 30 women in each group. In group 1 the vaginal ring (7.11 mg of etonogestrel + 2.7 mg of ethinylestradiol) was prescribed, in the 2nd group OC (3 mg of drospirenone + 20 mkg of ethinylestradiol) was prescribed, and in the 3rd group the IUD Mirena® (52 mg of levonorgestrel) was inserted. The study was conducted prior to 6 months of contraceptive and against the background of its use.

Results and discussion: Three main types of vaginal biocenosis were found: type 1 (normocenoz) in 48 women (53.3%); type 2 (moderate disbiosis) in 22 women (24.3%); and type 3 (dotted disbiosis) in 20 women (22.4%). Normal biocenosis imbalance was less frequently identified among women taking OC. Among the women in group 1, 33.3% had dysbiosis moderate, and 20% showed changes in the species composition of vaginal microflora disturbances, characterised by reduction in the number of lactobacilli. In the second group, 26.7% had disbiosis moderate, and 63.6% had pronounced normocenoz. In the third group normocenoz was found in 76.6%, moderate disbiosis in 16.7%, and identified disbiosis was found in 6.7%. Symptoms experienced were apparent discomfort, burning sensation in the area of external genital organs, increased secretions from the reproductive tract with an unpleasant smell, hyperemia of the vulva and vagina. All women with any of these symptoms were assigned to treatment. Cancellation of contraceptives was not required. Pregnancy did not occur in any women in any group.

Conclusions: The intake of hormonal contraceptives, regardless of its method of administration can lead to abnormalities in vaginal microbiocenosis, which requires appropriate correction and further study of this aspect. However, the final conclusion should be more long-term observation of patients in the process of using modern methods of hormonal contraception and increase the number of women in each group.

P051

Medicaid spending for users of contraceptives and pregnancy-related care

F. Laliberté¹, P. Lefebvre¹, A. Law², M. Sheng Duh³, R. Lynen², P. Darney⁴

¹Groupe d'analyse, Ltée, Montréal, QC, Canada, ²Bayer HealthCare Pharmaceuticals Inc., Wayne, NJ, USA,

³Analysis Group, Inc., Boston, MA, USA, ⁴Bixby Center for Global Reproductive Health, University of California, San Francisco, CA, USA

Objective: Contraception coverage and healthcare costs associated with unintended pregnancy are current highly debated and important topics for public and women's health. The current study aims to evaluate Medicaid spending on contraception and pregnancy care.

Methods: We analysed Medicaid health claims data from five states (FL, IA, KS, MS, and NJ) from 2004 to 2010. Women 14 to 49 years of age initiating short-acting reversible contraception (SARC: oral contraceptive [OC], transdermal, vaginal, or injectable) or long-acting reversible contraception (LARC: intrauterine device [IUD] or implant) methods and pregnant women were included as separate cohorts. Each woman was followed from the first contraceptive claim (contraceptive cohort) or from the first pregnancy or pregnancy-related diagnosis (pregnancy cohort), until the earliest of 12 months of follow-up, health plan disenrollment, or end of data availability. Medicaid spending for each cohort was summarised using mean all-cause and contraceptive/pregnancy healthcare payments per patient per month (PPPM).

Results: Contraceptive cohorts of SARC (OC: 115,873; transdermal: 11,577; vaginal ring: 7,970; injectable: 29,817) and LARC (IUD: 37,767; implant: 6,526) users were identified. Mean (median) age was 22.7 (21) years for SARC users and 24.5 (23) for LARC users. All-cause and contraceptive healthcare payments PPPM were respectively \$365 and \$18.3 for OC users, \$308 and \$19.9 for transdermal users, \$215 and \$21.6 for vaginal ring users, \$410 and \$8.8 for injectable users, \$194 and \$36.8 for IUD, and \$237 and \$29.9 for implant users. For the pregnancy cohort, 97,972 pregnant women were identified; mean (median) age was 23.3 (21) years. All-cause mean healthcare payments PPPM for the pregnancy cohort was \$610, including \$391 (64% of all-cause payments) for claims directly related to pregnancy care.

Conclusion: This large study of Medicaid beneficiaries demonstrated that Medicaid payments for pregnancy care are higher than for contraception coverage, the most effective methods being associated with the lowest costs. Unrestricted access to effective contraception can reduce the costs associated with unintended pregnancies.

P052

Efficacy and acceptability of hormonal contraception in a comparative perspective with special attention to the function of the liver

E. Mezhevitinova, E. Ivanova, R. Sasunova,
A. Letunovskaya

Research Center for Obstetrics, Gynecology and Perinatology; Ministry of Healthcare and Social Development of the Russian Federation, Moscow, Russia

Aim: The aim of the study was to examine the efficiency, safety and acceptability of various contraceptive methods in a comparative perspective with special emphasis on liver function.

Methods: We observed 217 patients of reproductive age with normal liver function, who wished to use a reliable method of contraception. We used general clinical, clinical-laboratory and instrumental methods of examination. A total of 145 women were included in the study and the method of random numbers was used to divide them into four groups. Women in the first group ($n = 40$) were given a hormonal OC (3 mg drospirenone + 20 mcg of ethinylestradiol)-24 + 4 scheme, group 2 ($n = 34$) were given a skin patch (6 mg norelgestromin + 600 mg of ethinylestradiol)-scheme 1 times week 3 weeks, group 3 ($n = 31$) a vaginal ring (11.7 mg etonogestrel + 2.7 mg of ethinylestradiol)-scheme 1 time per month from 7 day break, and group 4 (control group, $n = 40$) were given barrier methods of contraception. The average age of the women studied was 30.05 ± 1.8 years. Observation time amounted to 12 months. The effect of the drugs on liver function was assessed by biochemical blood analysis (total bilirubin, direct, enzymes). Studies were conducted prior to the appointment of contraception, after 3, 6, 9 and 12 months against the backdrop of its use.

Results: The study confirmed the high efficiency (100%) of hormonal contraception. There were no pregnancies in any of the observed women. Of the 40 patients of group 1, 13.3% were found to have a non-significant trend to an increase in transaminase levels, and 3.3% of bilirubin in the blood chemistry, ultrasonography of the liver changes were observed. However, in one patient, these changes were significant and clinically meaningful, the patient complained of nausea, pain in the right hypochondrium and intermenstrual spotting, so hormonal contraception in this patient was abolished. The woman, advised by hepatologists, chose an alternative method of contraception. In the 2nd and 3rd groups blood biochemical changes were smaller and were observed in 10% of women. In 3.3% of patients in group 2 a local allergic reaction was seen and he was given antihistamine.

Conclusions: Low-dose COC containing a progestogen component such as spironolactone and skin patches showed no significant changes in liver function and are highly effective contraceptives. The least impact on the biochemical profile of blood (liver enzymes)

was shown by hormone releasing systems (the vaginal ring and skin patch) in the absence of the phenomenon of primary passage through the liver and gastrointestinal tract.

P053

Probability of ectopic pregnancy after tubal sterilisation

E. Malacova, A. Kemp, D. Preen, K. Jama Alol

The University of Western Australia, Perth, WA, Australia

Objective: To determine the cumulative probability of ectopic pregnancy after tubal sterilisation in a cohort of women followed up from 1990 to 2010 in Western Australia (WA).

Design and methods: All women who had a hospital admission for an incident tubal sterilisation from 1 January 1990 to 30 June 2010 were selected from the WA Hospital Morbidity data collection and linked with State Midwives Notification System data. A rubric of tubal sterilisation ICD codes was used to extract the cohort. As we were interested in a probability of ectopic pregnancy, the analysis was restricted to women who were sterilised up to the age of 50 years. A 10-year lookback period (to 1980) was used to ensure only first-time tubal sterilisation procedures were included. Cumulative life-table probabilities of ectopic pregnancy were calculated.

Results: Overall, 66 (0.2%) out of 32,918 women (≤ 50 years) who underwent tubal sterilisation in WA from 1990 to 2010 experienced a subsequent ectopic pregnancy. The 10-year cumulative probability of ectopic pregnancy for all 10 tubal sterilisation procedures investigated was 2.1 per 1000 procedures (and the 15-year cumulative probability was 2.3 per 1000 procedures). The cumulative probability varied according to the method and the age at the time of sterilisation.

Laparoscopic procedures and partial salpingectomy had a higher cumulative probability of ectopic pregnancy than laparotomy and total salpingectomy throughout the follow-up time. Laparoscopic partial salpingectomy (26.1 per 1000 procedures) followed by partial salpingectomy (23.5 per 1000 procedures) had the highest 10-year cumulative probability of ectopic pregnancy compared to all other methods. No ectopic pregnancy was observed for women undergoing

sterilisation procedures with a vaginal approach (Essure procedure), open abdominal approach with Filshie clips, or total salpingectomy.

Women sterilised before the age of 30 years had a higher 15-year cumulative probability of ectopic pregnancy (5.3 per 1000 procedures) than those sterilised after the age of 30 years (1.5 per 1000 procedures). Laparoscopic procedures had a higher probability of ectopic pregnancy compared with laparotomy, irrespective of the age at the time of sterilisation.

Conclusions: While ectopic pregnancy is rare, the higher cumulative probability of ectopic pregnancy among younger women suggests a need for counselling about alternative contraception to surgical sterilisation.

P054

Actuarial analysis of Medicaid spending for contraception and pregnancy care

F. Laliberté¹, P. Lefebvre¹, A. Law²,
M. Sheng Duh³, R. Lynen², Ph. Darney⁴

¹Groupe d'analyse, Ltée, Montréal, QC, Canada, ²Bayer HealthCare Pharmaceuticals Inc., Wayne, NJ, USA, ³Analysis Group, Inc., Boston, MA, USA, ⁴Bixby Center for Global Reproductive Health, University of California, San Francisco, CA, USA

Objective: Up to 50% of pregnancies are unintended in the United States and the consequent healthcare costs for hospitalisation associated with pregnancy and newborn infants are among the most expensive. The current study aims to evaluate Medicaid payments for contraception and pregnancy care through an actuarial analysis.

Methods: Medicaid health claims data from five states (Florida, Iowa, Kansas, Missouri, and New Jersey) were analysed. Medicaid beneficiaries enrolled at any time during the year 2008 were included. To adjust for the various lengths of enrolment of each Medicaid beneficiary, the per-member-per-month (PMPM) approach (aggregated costs [US \$2011] divided by aggregated months of enrollment, with both values summed across all members) was used. Medicaid payments per female of childbearing age (14 to 49 years) per month (PFCEM) and PMPM were calculated for short-acting reversible contraception

(SARC: oral contraceptive, transdermal, vaginal, or injectable), long-acting reversible contraception (LARC: intrauterine device or implant) and pregnancy care. Proportion of unintended pregnancy payments were also estimated using the rate of unintended pregnancy reported in the literature for each state.

Results: A total of 7,031,223 Medicaid members and 2,712,765 women of childbearing age were identified. Medicaid payments PFCPM for SARC, LARC and pregnancy care were \$0.91, \$0.53, and \$39.91, respectively. Corresponding payments PMPM for SARC, LARC and pregnancy care were \$0.35, \$0.20, and \$14.81, respectively. Payments for unintended pregnancy PFCPM and PMPM were estimated at \$21.95 and \$8.15, respectively. Payments PFCPM and PMPM for contraception and pregnancy care stratified by states showed similar trends.

Conclusion: This actuarial analysis of over 2.5 million Medicaid women of childbearing age showed that contraception payments represented only a small fraction of the estimated payments for unintended pregnancy in 2008. Unrestricted access to contraception can reduce the costs associated with unintended pregnancies with more effective contraceptive methods resulting in lower costs.

P055

The additional administration of the indol-3-carbinol does not influence on the effects of LNG-releasing system in women with uterine myoma and menorrhagia

L. Suturina, I. Kovalenko

Scientific Center of Family Health and Human Reproduction Problems, Irkutsk, Russia

Objectives: To compare the effects of the LNG-releasing system usage and LNG-releasing system with oral intake of indol-3-carbinol in women of reproductive age with uterine myoma and menorrhagia.

Method: A prospective, controlled, non-randomised 3-month study was performed in 34 women of reproductive age with uterine myoma and menorrhagia (more than 80 ml per episode); 10 of them were in the 1st group (with the intrauterine LNG-releasing system usage), 11 were in the 2nd group (LNG-releasing system with oral intake of indol-3-carbinol, 300 mg daily) and 13 were in the control group

without any treatment. All patients were similar in age and clinical characteristics. The exclusion criteria were the following: the diameter of the myoma nodule more than 4 to 5 cm, the presence of submucous nodules, and endometrium hyperplasia. The monitoring of women in all the groups included gynaecological and ultrasound examination at the baseline and after 3 months of treatment. Statistical analysis was performed by non-parametric Wilcoxon test, McNemar test and by the calculation of relative risk (RR) of menorrhagia occurrence after treatment.

Results: It was shown that the average sizes of dominant myoma nodules decreased after three months of symptomatic treatment in the 1st (with LNG-releasing system) and in the 2nd (with LNG-releasing system and oral intake of indol-3-carbinol, 300 mg daily) groups of patients without any significant difference between groups. There were no any changes in myoma characteristics in the control group. The relative risk of presence of menorrhagia associated with myoma after 3 months of usage was less than 1 both in the 1st and in the 2nd group (in controls RR was = 1).

Conclusions: The study results allow us to conclude that the additional oral intake of indol-3-carbinol does not influence on the effects of the intrauterine LNG-releasing system in symptomatic treatment of women with myoma-associated menorrhagia.

P056

The effect of the hormonal contraception containing Estradiol valerate on the state of some parameters of hemostasis

K. Nabieva, E. Mezhevitinova, V. Burlev

Federal State Budget Institution "Research Center for Obstetrics, Gynecology and Perinatology" Ministry of Healthcare and Social Development of the Russian Federation, Moscow, Russia

Background: Hormonal contraception is a reliable and modern method of pregnancy planning. Numerous attempts to develop drugs containing estrogen identical to the natural one were made in order to increase the safety and tolerance to oral contraceptives. Currently pills containing Estradiol valerate and Dienogest appear on the market.

Aim: To assess the effect of the combined oral contraceptive (COC) containing Estradiol valerate and Dienogest on some parameters of hemostasis.

Materials and methods: A total of 50 women of childbearing age receiving COC (Clira) according to contraceptive scheme were studied. Eligibility criterion was the absence of contraindication to prescription of hormonal contraceptives. Haemostasis control was carried out before the start of COC use on the 21st to 24th day of the menstrual cycle and after 6 and 9 cycles of COC use on the 21st to 24th tablet. Assessment of the parameters of the haemostasis system included determination of fibrinogen level, activated recalcification time (ART), activated partial thromboplastin time (APTT), prothrombin index (PI), chronometric and structural parameters of thromboelastogram, assessment of aggregation platelet activity, determination of solubility of fibrin monomer complexes, determination of D-dimers of fibrin and fibrinogen degradation products.

Results: We found that activation of the general coagulant blood activity was observed in 10% of women from the 6th cycle of use that was expressed in the laboratory shortening of the activated partial thromboplastin time (APTT) and preserved up to the 9th cycle of use. Clinical signs of tension in the haemostasis system were not observed. No statistically significant changes of activated recalcification time, international normalised ratio, platelet aggregation time, plasma fibrinogen level were observed in any patient during 9 cycles of COC use. The most frequent side effects were intermenstrual spotting during the first three months of use that was not the cause of refusal in the case of meticulous consultation of woman. Pregnancy did not occur in any patient during 9 months.

Conclusions: The combined oral contraceptive Clira is a highly effective and acceptable drug which has no significant effect on the investigated parameters of haemostasis.

P057

Magnesium deficiency in female high school students planning to start oral contraception

L. Suturina, A. Labygina, L. Grebenkina, M. Darenskaya, L. Lazareva

Scientific Center of Family Health and Human Reproduction Problems, Irkutsk, Russia

Background: Previously it was shown that magnesium levels in subjects using combined oral contraceptives were significantly lower than in controls and was demonstrated that some side effects of oral contraception may be prevented by dietary magnesium supplementation.

Objectives: To study the prevalence of magnesium insufficiency in women of young reproductive age, at the beginning of oral contraception.

Method: Serum and 24-hour urine magnesium was assessed in the group of 78 female students (mean age 19.1 ± 1.1 years) who desired to use oral contraception and were counselled at the out-patient gynaecological clinic. Magnesium was detected spectrophotometrically, the results were compared to the referent levels (magnesium in serum: 0.78–1 mmol/l, in 24-hour urine: 50–150 mcg/l).

Results: It was found that the average serum magnesium level in the examined students was decreased (magnesium mean = 0.63 ± 0.03 mmol/l) due to 20% of them with magnesium levels less than 0.78 mmol/l. The prevalence of low urine magnesium (less than 50 mcg/l of 24-hour urine) was higher (about 40%). It was associated with palpitation, irritation, anxiety, fatigue and other symptoms.

Conclusions: The study results show significant prevalence of magnesium insufficiency in female high school students, planning to start oral contraception. It could be important in the prognosis of contraception side effects, possibly associated with the deficiency of magnesium.

P058

Contraception among Russian women with gynaecological pathology

G. Dikke

Russian People's Friendship University of Moscow, Moscow, Russia

Background: Reproduction of a population is defined by the state of reproductive health, attitude to child birth and peculiarities of contraceptive behaviour of the women of fertile age.

Aims: To study the frequency of usage of modern contraceptive methods among women with different gynaecological diseases.

Material and methods: A total of 740 women between the ages of 19 and 49 years were examined

(34.0 ± 0.15 years old); all of them visited their GYN Doctor about the matter of their reproductive health.

Results and discussion: Age structure and group design randomisation: group I 19 to 29 years (middle age 24.5 ± 2.6 years) – 53%; group II 30 to 39 years (33.7 ± 2.2) – 27%; group III 40 to 49 years (43.8 ± 2.4) – 20%. The structure of diseases: inflammatory diseases – 27% (85% of them are women under 29 y), menstrual irregularities – 31% (65% under 29 y), dyshormonal diseases (uterus leiomyoma and endometriosis) – 16% (equally in groups II and III, total 82%), menopausal disorders – 4% (group III), infertility – 13.5% (70% of them were women aged 30 to 39 y). Childbirth, abortions and miscarriages were stated accordingly: In group I – 0.15, 0.18 and 0.08; in group II – 0.4, 0.45 and 0.15; and in group III – 1.3, 1.8 and 0.17, respectively. Correlation of childbirth to abortions (with no miscarriages) is 1:1.3.

Totals of 41%, 65% and 73% of women of the corresponding groups did not use contraception. Among those who did not use contraception and still planned their pregnancy were 75% women in group I, 19% and 11% in groups I and II respectively. Only 5.4% of all women used hormonal contraception, and 1.4% used Intra-Uterine Device (IUD). The structures of the used contraceptive methods: condom – 62%, withdrawal – 32% (only in group I), rhythmic method – 25% (only in group III), modern contraceptive methods – 28% (in group II) and 9% were using it mostly for the therapeutic purpose (in I); IUD – 14% (in group II). Women aged 40+ did not use modern contraceptives.

Conclusions: (1) According to the prevalence nature of the women of fertile age, menstrual irregularities were stated by 31% and inflammatory diseases by 27% which both have dominant prevailing features. (2) Modern contraceptive methods among women visiting GYN due to gynaecological complaints were rarely used (7%).

P059

The efficiency and acceptability of COC with drospirenone in the treatment of PMDD

E. Mezhevitanova, R. Sasunova, A. Letunovskaya, E. Ivanova

Research Center for Obstetrics, Gynecology and Perinatology, Ministry of Healthcare and Social Development of the Russian Federation, Moscow, Russia

Aim: To evaluate the therapeutic efficacy and acceptability of mikrodozirovannogo COCs (drospirenone).

Materials and methods: Of the 768 respondents, according to a scale adapted for use in the study, 88.2% women identified PMS to some degree. The diagnosis of premenstrual dysphoric disorder (PMDD), installed in accordance with generally accepted standards (DSM-IV). Thus, all the criteria of diagnosis of PMDD match 53 women (6.9%). In the study 39 women with PMDD were included. Everyone was assigned a COC (20 mcg ethinylestradiol + 3 mg drospirenone)-24 + 4. The effectiveness of therapeutic effects of contraceptives on the course of the ICP was measured using questionnaires and diaries of PMS symptoms, psychological scales on anxiety, depression and types of psychological defence.

Results and discussion: The average age of the patients was 29.95 ± 1.66 years. Of psycho-emotional symptoms most frequently mentioned were: irritability (97.4%), eating disorders (89.7%), depression (84.6%), tearfulness (71.83%), and aggressiveness (66.7%). Of somatic symptoms: mammalgia (94.9%), flatulence (92.3%), abdominal pain (82.1%), edema (74.4%), and headache (64.1%).

In the course of contraception in women with PMDD, COCs have a high therapeutic efficacy. All the symptoms in the dynamics are much rarer. Irritability was found after 3 months in 30 women (76.9%), and after six months only in 24 women (61.5%). Mammalgia after 6 months of use was found only in 28.2% of patients, whereas, pre-treatment, it was observed in almost all women included in the study (94.9%). In the survey of the dynamics using a point rating scale, there is a clear reduction in symptoms. Before starting therapy the average score was 51.6, after 3 months it was 38.6, but after six months of treatment it was only 29.1.

Though the use of COCs have improved the well-being of patients, which is reflected on the psychological scales, side effects were observed in the first month of use of COCs: two patients (5.1%) had dyspepsia, three patients (7.7%) had headache, and two had intermenstrual bleeding (5.1%). All symptoms were independently assessed and did not require supplemental care or withdrawal of the drug. One patient was eliminated from the study after three months for the planning of pregnancy, which, in turn, occurred two months after drug withdrawal. Contraceptive efficacy was 100%.

Conclusions: (1) PMDD – the most severe form of PMS, often occurring in women of reproductive age (6.9%), shows the most common symptoms as irritability, mammalgia, bloating, eating disorders,

depression. (2) COC (drospirenone 3 mg+ ethinyl estradiol 20 mkg) has high contraceptive efficacy and no significant side effects. (3) The drug has a positive effect on the symptoms of PMDD, reducing their severity by an average of 40%. (4) Drospirenone-containing COCs is a highly effective and acceptable method of treatment of PMDD.

P060

The effect of hormonal contraception on the haemodynamics of the vessels of the uterus

K. Nabieva, E. Mezhevitinova, A. Gus

Federal State Budget Institution 'Research Center for Obstetrics, Gynecology and Perinatology', Ministry of Healthcare and Social Development of the Russian Federation, Moscow, Russia

Background: A literature review showed that Doppler velocimetry of the vessels of the uterus gives additional information about woman's reproductive system state. Although the number of the works devoted to the study of uterine haemodynamics on the background of combined oral contraceptives (COC) use, and available works are controversial and discrepant.

Aim: To determine differences in vascular resistance of uterine arcuate arteries in the spontaneous ovulatory cycle and on the background of combined hormonal contraceptive containing Estradiol valerate and Dienogest.

Materials and methods: Women of childbearing age were included in the study, mean age was 19 to 38 years old; 14 of them received COC (Clira) according to contraceptive scheme and 24 women with a spontaneous ovulatory cycle were included in the control group. Eligibility criterion was the absence of contraindication to prescription of hormonal contraceptives. Doppler velocimetry of the vessels of the uterus was carried out before start of COC use on the 21st to 24th day of the menstrual cycle and after 6 and 9 cycles of COC use on the 21st to 24th tablet. Investigation of the haemodynamic parameters of the vessels of the uterus was conducted by multi-frequency vaginal probe in the device of the expert level Siemens-Acuson Antares (Germany). Angle-independent parameters of blood flow: pulsation index (PI), resistance

index (RI), systolic-diastolic ratio (S/D) in uterine, arcuate, radial, basal, and spiral uterine arteries.

Results: Pulsation index was lower in the second group with spontaneous ovulatory cycles than in the group of women using COC, and was (0.86 ± 0.266 and 2.36 ± 0.125), correspondingly ($p = 0.0037$). Resistance index was also lower in the second group with spontaneous ovulatory cycle than in the group of women using COC, and was (0.58 ± 0.055 and 0.789 ± 0.006), correspondingly ($p = 0.000145$) as well as S/D ratio (2.57 ± 0.239 and 4.8 ± 0.13), correspondingly ($p = 0.000182$). Vascular resistance of uterine arcuate arteries was higher in patients using oral contraceptives than in patients with spontaneous ovulatory cycle.

Conclusions: Thus the results of our study showed that resistance in the vessels of the uterus is higher with the use of the contraceptive containing Estradiol valerate and Dienogest than in the spontaneous ovulatory cycle. Potentially positive curative treatment in agiogen-dependent conditions of the reproductive system is explained by this fact; the study is being continued.

P061

Long-term effects of combined oral contraceptive use on the clinical course of relapsing-remitting onset Multiple Sclerosis

G. Gava¹, F. Salvi², I. Bartolomei², M. Berra¹, S. Venturoli¹, M.C. Meriggiola¹

¹Interdepartmental Center for Sexual Health Protection, S. Orsola-Malpighi Hospital University of Bologna, Bologna, Italy, ²Center for Rare and Neuroimmunological Diseases, Department of Neurological Science, Bellaria Hospital, Bologna, Italy

Objectives: Multiple sclerosis (MS) is a chronic demyelinating disease of the central nervous system. Gender-related differences in brain damage, clinical evolution and several *in vitro* studies indicate a potential role of sex hormones in the modulation of disease activity. Oral contraceptives (OC) are a source of exogenous sex hormones widely used by women during their reproductive years. Whether their use is safe in women with MS and their possible beneficial effect on disability progression is still unclear. There is little information in literature about the long-term effects

of OC on the clinical course of MS. The present retrospective cross-sectional study was designed to assess the long term effects of combined OC (COC) on the clinical course of relapsing-remitting onset MS (RR-MS), especially in terms of disability progression and evolution in Secondary Progressive-MS (SP-MS).

Methods: A total of 174 women with clinically and MRI-confirmed RR-SM lasting more than one year were recruited. The following data were collected: clinical neurological data, age at onset of MS, disease duration, annualised relapse rate, disease-modifying therapies (DMT), evaluation of disability with Expanded Disability Status Scale (EDSS) and evolution in SP-MS, gynaecological and obstetric history including age, duration and type of COC intake.

Results: Length of follow up of MS was 14 ± 10 years. COC-users ($n = 111$) had lower EDSS scores ($p = 0.004$) and reduced tendency to evolve to SP-MS ($p = 0.008$) compared to non-users ($n = 63$). After correcting for confounding variables, such as duration of disease, DMT, age of menarche and parity, the use of COC remained associated with lower EDSS scores ($p = 0.011$ with eta-squared 0.038). Using multivariate survival analysis with Cox's regression model, non-use of COC was a predictor of evolution in SP-MS ($p = 0.001$ and OR = 3.499 95% CI = 1.673–7.321). Use of COC after the onset of MS ($n = 78$) was associated with significantly lower EDSS scores ($p = 0.005$) and with a reduced tendency of progression to SP-MS ($p = 0.001$). The annualised relapse rate was not influenced by COC use. No differences in EDSS scores and evolution to SP-MS depending upon OC formulation were detected.

Conclusions: Our study presents the largest series with the longest follow-up so far published in assessing the impact of COC use on the clinical course of RR-MS. Our results suggest that COC use is associated with a less severe disease and less severe evolution.

P062

Clinical course and treatment of uterine perforation caused by intrauterine devices

J. Kaislasuo¹, S. Suhonen², M. Gissler³,
P. Lahteenmaki¹, O. Heikinheimo¹

¹Department of Obstetrics and Gynaecology, University of Helsinki and Helsinki University Central Hospital,

Helsinki, Finland, ²City of Helsinki Health Centre, Helsinki, Finland, ³National Institute for Health and Welfare, Helsinki, Finland

Objectives: Uterine perforation by intrauterine devices is a rare, but feared complication. Case reports describing serious, mainly bowel-involved complications, have been published. Larger newly published studies, however, indicate that perforation by modern non-irritating devices may cause mild symptoms of abnormal bleeding or lower abdominal pain or no symptoms at all. This retrospective population-based study aimed to examine the symptoms of uterine perforation caused by modern copper IUDs (Cu-IUDs) and the levonorgestrel-releasing intrauterine system (LNG-IUS), how perforation is detected, how patients are treated and what the findings in abdominal surgery are.

Method: Altogether 75 women (54 LNG-IUS and 21 Cu-IUD) treated surgically for uterine perforation by an IUD/IUS between 1 January 1996 and 31 December 2009 at clinics of the Helsinki and Uusimaa hospital district were identified using the National Care Register for Finnish Health Institutions. The clinical data were collected from individual patient records.

Results: The majority of the patients ($n = 53$, 71%), experienced mild symptoms of abnormal bleeding or abdominal pain or both, often in combination with missing IUD/IUS threads. Missing threads or pregnancy ($n = 11$, 15%) was the reason for examination of asymptomatic women ($n = 22$, 29%). Failure to remove the IUD/IUS by pulling visible threads led to referral in seven cases (9%). Patients were examined with a combination of vaginal ultrasonography and x-ray or hysteroscopy or curettage. Only after this was laparoscopy performed. The majority ($n = 44$, 65%) of the 68 intra-abdominal devices were loosely attached to the omentum, the remaining ($n = 24$, 35%) were located near the uterus. Partial perforation or myometrial embedding was diagnosed in seven cases (9%). Adhesions in laparoscopy, mostly filmy, were found in 21 patients (30%). Pregnancy (33% vs. 7%, $p = 0.004$) and intra-abdominal adhesions (58% vs. 20%, $p = 0.002$) were significantly more common among Cu-IUD patients.

Conclusions: A majority of women with IUD/IUS perforation experience mild symptoms of abnormal bleeding or mild lower abdominal pain or both. The diagnosis is easily made with vaginal US and/or abdominal x-ray and the method of treatment is laparoscopy.

We found no visceral complications and possible adhesions were mainly filmy and local. However, adhesions as well as pregnancies occurred more often with Cu-IUDs, which might be explained by the different mechanisms of action of Cu-IUDs vs. the LNG-IUS. Asymptomatic women not planning a pregnancy may need no treatment at all, but an alternate form of contraception is important as unplanned pregnancies occur, especially with misplaced Cu-IUDs.

P063

Contraception in women with sickle cell disease

N. Carvalho, J. Pellegrini, M. Figueiredo, F. Barreiros, M. Torloni, C. Guazzelli

Universidade Federal Sao Paulo, São Paulo, Brazil

Introduction: Sickle cell disease is a monogenic disease that leads to the formation of hemoglobin S, causing a wide range of complications including death. Its prevalence varies according to the proportion of afro-descendants in the study population. Due to earlier diagnosis, new treatments and the improved management of complications, the lifespan of patients with sickle cell disease has increased. Treatment with hydroxyurea has led to decreased morbimortality. However because of the risk profile of this drug, which includes increased risk of developing leukemia and birth defects, it is only used in severe forms of the disease. With the increased survival of patients, questions related to the quality of life, including safe sex, pregnancy and contraception have been increasingly investigated.

Objective: Assess the use of contraceptive methods by women with sickle cell disease treated with hydroxyurea.

Methods: Retrospective cohort of the charts of women with sickle cell disease being treated at a single tertiary center (São Paulo Federal University-UNIFESP).

Results: A total of 42 women were included. Their mean age was 34.2 years, over 95% of them were Black and they had been taking hydroxyurea for an average of 4.2 years. Many reported complications related to their disease: pulmonary hypertension (31%), retinopathy (29%), thrombosis episodes (24%), renal damage (24%), hypertension (14%) and

cardiopathy (20%). Mean age at menarche was 15.2 years, and age at first intercourse and first pregnancy was at 20.5 and 24.8 years, respectively. These women had started to use a contraceptive method at 23.2 years of age, on average. Among sexually active women, 19.4% had a history of sexually transmitted diseases and 73.8% were currently using some form of contraception: 45.8% used progestagen-only contraceptives (33.5% injectable), 29.2% used combined hormonal contraceptives, 12.5% had a tubal ligation, 8.3% used condoms and 4.2% were using IUDs. A total of 42.9% reported having used E + P pills at one period of their lives.

Conclusions: Most women with sickle cell disease being treated with hydroxyurea report various complications and the use of a contraceptive method. However, a large proportion (43%) of these patients reported the use of combined hormonal contraceptives, a method that would be contra-indicated due to their clinical complications.

P064

Efficiency of the prolonged mode of the oral contraceptive with Drospirenon by the premenstrual syndrome

U. Tabuica, L. Stavinskaya

State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Background: The modern hypothesis of the premenstrual syndrome (PMS) etiology assumes that the disease arises because of the normal function of ovaries, rather than because of a hormonal imbalance, and that this syndrome can be a result of the series of psychoendocrine events which trigger ovulation. This feature of COC allows the use of them not only as contraceptive, but also with the medical purpose, in particular, for women with PMS symptomatology. It is noted, what even at improvement of health of sick PMS by application of COC during 7-day intervals the pathological symptomatology renews. Application of the so-called prolonged (prolonged) schemes providing reception the COC within 63, 126 days and more, allows reducing the frequency of periods and the related complaints.

Objective: The purpose of our research was comparison of the efficiency of the standard and

prolonged modes of reception of Midiana® by the PMS treatment.

Design and methods: A total of 32 women aged 23 to 37 years were surveyed. Research was conducted in two groups of patients. Patients were informed about the advantages and possible side effects of the prolonged and standard modes of COC reception. The desire of a woman to accept a preparation in the prolonged or standard mode determined which group they were put into, with 16 patients in each group. 'Calendar of premenstrual supervision' (COPS) was used for a quantitative assessment of PMS symptoms. For all patients for therapy of PMS Midiana® containing 30 mcg ethinylestradiol and 3 mg drospirenone was used. Women in the 1st group received Midiana® in a standard mode of 21-day reception with a 7-day break; course – 6 cycles. Patients of the 2nd group accepted a preparation in the prolonged mode of 63 days with a 7-day break; course – 2 cycles.

Results: The initial characteristics of symptoms of the premenstrual syndrome were: abdominal distension 71.4%, puffiness 38.1%, mastalgia 91.3%, perspiration, heat inflow 45.3%, headache 42.1%, uneasiness, concern 58.6%, depression 62.1%, irritability 81.3%, and emotional lability 76.4%. The most significant changes were connected with mood improvement, reduction of a delay of liquid and decrease in appetite.

Conclusion: Thus, the preparation Midiana® containing drospirenone is not only a contraceptive method, but also effective PMS treatment. The prolonged mode achieved the best results in the short term.

P065

Effect of two low-dose desogestrel containing monophasic oral contraceptives on haemostasis in Bulgarian women

E. Uchikova, M. Malinova

Medical University, Plovdiv, Bulgaria

Objectives: To compare the effects of two monophasic oral contraceptives upon coagulation, fibrinolysis and the system of natural inhibitors (anticoagulant pathways) in Bulgarian women.

Method: This prospective, open clinical study lasted for 12 months and included 70 women, divided into two equal groups of 35 each. The women from group A received a contraceptive containing 20 microg ethinylestradiol/150 microg desogestrel. The women

from group B received a contraceptive containing 30 microg ethinylestradiol/150 microg desogestrel. At the beginning and again at the end of the study, the following values were determined: fibrinogen (F), Factor VII (FVII), Factor X (FX), plasminogen, alpha 2-antiplasmin, tissue-type plasminogen activator (t-PA), D-dimers, protein C (Pr C), total Protein S (TPr S), antithrombin III (AT III) and heparin Cofactor II (HC II).

Results: At the end of the study there was an increase in the levels of FVII and decrease of t-PA, D-dimers and plasminogen only in group B. The increase of the dose of ethinylestradiol combined with desogestrel did not affect significantly the system of natural inhibitors of coagulation. Although certain alterations in haemostasis parameters were observed, all of them were within the reference range. We did not observe or suspect any cases of vascular, thrombotic or other incidence in the observed groups of 840 cycles of hormonal contraception over the 12-month period.

Conclusions: There is an increase in both procoagulant and decrease of fibrinolytic activity when using 30 microg ethinylestradiol/150 microg desogestrel containing monophasic oral contraceptives. There is no need for screening for thrombophilia in healthy, non-obese, non-smoking Bulgarian females, aged between 18 to 35 years, without a personal or family history of thrombotic diseases, before starting on a third generation oral contraceptive with desogestrel.

P066

Hormone contraception effects on carbohydrate metabolism

V. Gheorman, L.M. Gheorman, R.C. Pana

University of Medicine & Pharmacy, Craiova, Romania

Objectives: Is well known that combined estrogen/progesterone preparations or progesterone as monotherapy used for contraception influences carbohydrate metabolism. These preparations determine the decrease of glucose tolerance as result of the grown periferic insulin resistance.

This study proposes to point out the advantages of contraception so as to pass the alteration determined on carbohydrate metabolism to persons who haven't diabetes mellitus, but who have a high risk for diabetes.

Design and methods: A total of 51 of women aged between 20 and 35 years entered the study.

These women had in their medical past only one factor of risk for diabetes mellitus: macrosomic fetus. Altogether, 31 (60.78%) patients started to take a combined hormone contraceptive which contained a gonanic progestative or estranic progestative. Another group of 20 (39.22%) women took a hormonal combined contraceptive which contained a progestative pregnanic type (or drospirenone).

In both groups we followed the effects of glucose metabolism using the oral glucose tolerance test (OGTT) made after three months from the start of contraception.

Results: In the first group the oral glucose tolerance test was positive in 10 (32.25%) patients. In the second group the test OGTT was positive in one (5%) woman. We stopped the contraceptive method in the women with the positive test (OGTT).

Conclusions: Oral hormone contraceptives which contain progestative pregnanic type or drospirenone may be used by women with macrosomic foetus in their medical past.

P067

Application of hormonal contraceptive preparations for patients with liver pathology

L. Stavinskaya

Obstetrics and Gynecology Department, State Medical and Pharmaceutical University, Nicolae Testemitanu, Chisinau, Republic of Moldova

Background: The choice of hormonal contraceptive for patients with chronic pathology of the liver represents a complex challenge, owing to metabolic effects of their components and considerable number of the side effects which are seen against the changed metabolism in the damaged body. At the same time, in connection with the considerable frequency of liver pathology in the patients of reproductive age needing contraception, the problem of safety of application of hormonal preparations is vital.

Objective: The comparative analysis of contraceptive and metabolic effects of preparations of E2V/DNG and EE/DNG in patients with chronic pathology of the liver.

Methods: Patients were divided by random selection into two groups, with 18 women in each. Criteria

of inclusion were: age from 18 to 40 years, chronic liver pathology, absence of accompanying pathology, the informed consent of the patient. Patients of the 1st group received E2V/DNG (Clara®), whilst patients of the 2nd group received EE/DNG (Janine®) throughout seven cycles. For an assessment of metabolic effects definition of biochemical indicators, a lipid profile, hepatic enzymes, haemostasis indicators was carried out.

Results: In comparative research in the E2V/DNG group there were no pregnancies and only one pregnancy in the EE/DNG group, owing to non-compliance with a mode of reception of a preparation. We noted shorter and less plentiful bleedings of cancellation against E2V/DNG in comparison with EE/DNG, 17% of women in the 1st group counting on one cycle had no cancellation bleeding, while against EE/DNG only 5% did. The quantity of breakthrough bleedings against E2V/DNG was similar to that at EE/DNG. Comparative studies of influences of the preparations on metabolic, rheological parameters showed a positive influence in both groups for markers of a lipid profile with statistically doubtful difference was shown. Probably, owing to E2B application instead of EE it wasn't revealed clinically significant effects concerning the majority of biochemical and haemostatic parameters which remained within normal range. Data from clinical studies show that the majority of women (79.4%), using the preparation E2V/DNG, were 'happy' with associated improvement of emotional and physical health. Refusal of further reception was low (5.5% in the 1st group and 11.2% in the 2nd group) because of the emergence of side effects: discomfort in mammary glands, menorrhagia, headache, acne.

Conclusions: We concluded that E2V/DNG combination in comparison with EE/DNG offers the best choice, and possesses a good profile of safety and the minimum influence on metabolism and haemostasis indicators in patients with chronic pathology of the liver.

P068

The comparative analysis of efficiency of a levonorgestrel-releasing intrauterine device Mirena® and oral progestine in the treatment of myoma

L. Stavinskaya, U. Tabuica

Obstetrics and Gynecology Department, State Medical and Pharmaceutical University, Nicolae Testemitanu, Chisinau, Republic of Moldova

Background: Numerous studies over the last few years have been directed at studying the efficiency of various conservative and organ-preserving methods for treatment of myoma. One possible solution is therapy with a preparation of the prolonged action which provides a stabilisation effect.

Objective: The comparative analysis of efficiency of application of the Levonor-releasing-system (LRS) – Mirena® and oral progestin for knotty myoma of the uterus.

Methods: A total of 90 patients having from 1 to 5 myomatosis knots of interstitial and subseros-interstitial localisation were included in prospective research. The criteria for inclusion were: the uterus size at 7 to 8 weeks, the myomatosis knots measuring 2.5 cm, moderate manifestation of symptoms, absence of contraindications to applied preparations, lack of rapid growth of knots and deformation of the uterine cavity. These patients were divided into two groups, depending on desire of the woman to accept each treatment. The 1st group included 36 patients receiving a course of the progestagen Norkolut® 5 mg/day from the 5th to the 25th day during 12 months. The 2nd group had 54 patients for whom Mirena® was entered with duration of treatment from 12 months to 3 to 4 years. The efficiency of treatment was estimated on reduction of the sizes of the uterus and knots that was defined at the dynamic ultrasonic research at 3 monthly intervals.

Results: The age of the patients ranged from 28 to 55 years. The plentiful and long menses, being accompanied by weakness and an indisposition, were revealed in 49 (54%) patients. In the first group 10 (28%) from 36 patients had a combination of myoma of the uterus and pathology of endometrium, causing change in the menstrual cycle for 42% of women. In the 2nd group consisting of 54 women, this change of the menstrual cycle was seen in 53% of patients. Thus 48% of women of this group suffered from menorrhagia, at inspection along with myoma pathology an endometrium (a fer-ruterous and ferruterous-cystous hyperplasia). During three years' research in the 2nd group we received the results consisting of permanent stabilisation or reduction of the sizes of myoma and myomatosis knots in 39 (72.3%) patients. In all patients with menorrhagia after 6 to 12 months of application of Mirena® we observed oligomenorrhea or amenorrhea. Side effects weren't statistically significant.

Conclusions: Introduction of Mirena® in an arsenal of modern methods of treatment of myoma of a uterus is an alternative to surgery and convenient for patients with a small amount of side effects.

P069

Paget-Schroetter syndrome: When the danger comes from the top

M.A. Obiol

CSSR Fuente de San Luis, Valencia, Spain

Aim: The aim of this poster is to describe the Paget-Schroetter syndrome (PSS) and its possible implications in contraceptive counselling.

Methods: PSS is defined as the thrombosis of the axillar subclavia venous trunk. It results from secondary or repetitive movements of the upper extremities associated with some anatomical anomalies. It represents about 3% of deep venous thromboses.

Results: Cases of PSS diagnosed in our institution were revised. The medical history of patients before the thrombotic episode was studied. We registered data concerning weight evolution, smoking, sedentarism, occupation, and sporting practices. Thrombophilia studies and different imaging techniques employed in the diagnosis and follow-up were evaluated. Finally, contraceptive counselling was defined following the *Medical Eligibility Criteria for Contraceptive Use* fourth edition (WHO, 2009).

Conclusion: Venous thromboembolism is a multifactorial and dynamic event. It is necessary to incorporate new data in the thrombosis risk assessment. Data should be taken about occupations with repeated movements involving the upper extremities, some sports such as bodybuilding or weightlifting, and certain anatomical characteristics must be considered in order to achieve individual contraceptive counselling for a method which is safer, healthier and more acceptable for each patient.

TOPIC 6: CONTRACEPTION AND STI INCLUDING DOUBLE PROTECTION

P070

Does intimate partner violence compromise the sexual health of Indian women?

S. Shabnam, S. Reza, B. Jena

Jawaharlal Nehru University, New Delhi, India

Objectives: Sexually transmitted infections (STIs) which is a co-factor for HIV transmission, poses a significant public health threat particularly to women. Due to unequal power in sexual relationships, women exposed to violence are less able to use condoms and protect themselves from STIs. In India, the reported prevalence of STIs is very low among men and women but still one might be interested to know if partner violence has any relationship with the prevalence of STIs among Indian women.

In this paper, therefore, an attempt has been made to examine the existing relationship between physical and sexual violence by the current husband and women's experience of STIs.

Methods: For this study we have used unit level data from couples files from the third National Family Health Survey (NFHS-3). The data was collected in 2005 and 2006 and covered 29 states of India. The sample consisted of 29,961 currently-married women aged 15 to 49. A set of risks affecting the STI status of women and other background characteristics of women have been incorporated in our analysis. Cross tabulations and Pearson's Chi-square test were used to obtain a preliminary idea of the association between women's STI status and various covariates. To identify the net impact of spousal violence on the STI status of women, multivariate logistic regression analysis was applied and the results are depicted as adjusted odds ratio (OR) with 95% Confidence Intervals (CI).

Results: For those women who experienced only physical violence and only sexual violence, both were more likely to report experience of STI/STI symptoms in the last 12 months than women who were not abused (OR 1.95, $p < 0.001$ and OR 1.73, $p < 0.001$ respectively). The chances of experiencing a STI or a symptom of STI is highest among the women who were both physically and sexually assaulted by their husband in the last 12 months (OR 3.13, $p < 0.001$).

Conclusions: The present study contributes to the evidence that experience of spousal violence is significantly associated with increased risk of sexually transmitted infections among women. However, further probing is required to understand the causal relation between the two. Nevertheless prevention of domestic violence should be included in the programmes aimed at combating sexually transmitted infections.

P071

Contextual determinates of condom use in reducing STI/HIV among hidden high risk groups. A study of beer bar girls in Mumbai city

A. Das

CARE-India, Patna, Bihar, India

Objective: One of the important assumptions of the STI/HIV prevention model for the beer bars girls in Mumbai is modifying the risky sexual behaviour through education and mobilising the community to provide sexual health services. It is observed that even after five years of intervention the consistent condom use is only 28% resulting in high STI prevalence (77%) in spite of high level of knowledge and awareness (> 95%).

Aim: The objective of the present paper is to identify the contextual determinants of protective behaviour in reducing STI/HIV vulnerability.

Methods: A total number of 379 randomly selected bar girls were interviewed (79% response rate) using a two-stage sampling design. Four logistic regression models were run adjusting for demographic, socio-economic, business volume and knowledge related factors to identify the key factors associated with condom use among the bar girls.

Results: The final exhaustive model suggests that the girls that have no loans (17 times), get more customers for alcohol (4.9 times), entertain fewer customers for sexual transaction (4.4 times), have not changed bars as a strategy to earn more income (4 times) and staying in the current place for longer duration (6.6) are more likely to use condoms with their client consistently. Knowledge was found to be a negative effect on consistent condom use indicating that knowledge does not play a significant role in their protective behaviour.

Conclusions: The risk taking behaviour of the girls cannot be perceived as their lack of knowledge. The knowledge has not been translated into protective behaviour because of their economic needs. The girls will be able to adopt protective behaviours in terms of condom use if the working conditions of the girls are improved.

P072

Contraception and prevention of sexually transmitted infections by a novel deviceA. Shihata*Scripps Institution of Medicine and Science, Del Mar, California, USA*

Objectives: (1) To provide women with an alternative to the condom that is covert, female-controlled and coitally-independent. (B) To kill sperm and STI/HIV organisms upon deposition into the vagina before they enter the cervix. (C) To shield the cervix from sperm penetration and STI/HIV invasion.

Background: Women suffer disproportionately from the consequences of unwanted pregnancy and sexually transmitted infections. They represent the fastest growing demographic of STI/HIV infections worldwide. Ulcerative and non-ulcerative STIs enhance the transmission of HIV. Though the condom offers the best prevention against STI/ HIV, the condom is not an option for many women. Thus far, the condom has failed to make a significant impact on the spread of these infections. We strongly believe that STI/HIV prevention must be approached from a different angle. Therefore, we urgently need an alternative to the condom that is covert, woman-controlled, and delivers microbicide on the vaginal side.

Design and methods: The FemCap is a new cervical barrier contraceptive device that is available in all European countries and USA. The FemCap is designed to shield the cervix (the site of CCR-5 and CXCR-4 receptors) from STI/HIV invasion and sperm penetration. The FemCap can deliver the microbicide on the device's vaginal and cervical sides to counteract sperm and STI/HIV organisms upon deposition into the vagina and before they enter the cervix. Thirty women applied a microbicide mixed with Gentian violet dye onto the vaginal and the cervical sides of the FemCap and inserted it vaginally. The cervix and vagina were photographed before, during, and 12 hours after removal of the FemCap.

Results: The stained gel was retained over the cervix and the vagina 12 hours after removal of the FemCap.

Conclusions: The dual strategy of combining the FemCap with microbicide can prevent pregnancy and potentially prevent STI/HIV infections. It will promote safer sex without decreasing its pleasurable sensations. The FemCap/microbicide combination may provide women with an alternative to the

condom that is covert, woman-controlled and coitally-independent. The FemCap/microbicide combination warrants further comparative head-to-head research with the condom to prove this concept.

P073

Synthesis and evaluation of fused Tricyclic Quinolinium Salts as potent non-detergent type microbicidal spermicides with no toxicity to LactobacillusM. Banerjee¹, S. Kumar², S. Ghosh³, Durbadal¹

¹Indian Institute of Chemical Biology, Kolkata, India, ²Jadavpur University, Kolkata, India, ³Virus Unit, I.D. and B.G. Hospital, Indian Council of Medical Research, Kolkata, India

Objectives: Synthesis of fused tricyclic oxazaquinolinium salts using IRA(402) basic resin in water and assessed for their sperm-immobilising efficacy *in vitro* by modified the Sander-Cramer test followed by double fluoroprobe staining of rat sperm.

Methods: The mode of spermicidal action was assessed by (1) Hypoosmotic swelling tests, (2) Lipid peroxidation studies, and (3) Scanning electron microscopy. Antimicrobial efficacies of the potent derivatives, assessed by disc diffusion as well as by agar and broth dilution methods using human isolates of bacteria and fungi.

Results: Out of 11 derivatives three showed potent spermicidal effect as well as revealing their moderate antimicrobial potential.

Conclusion: The compounds, found to be non-toxic to rabbit erythrocytes by hemolytic assay, may be exploited as microbicidal spermicides.

TOPIC 7: CONTRACEPTION IN DIFFERENT PHASES OF REPRODUCTIVE LIFE

P074

University students' knowledge about contraception and sexual healthT. Bombas¹, M. do Céu Almeida¹, D. Vilar², A. Alves³

¹Portuguese Society of Contraception, Coimbra, Portugal,

²Portuguese Family Planning Association, Lisboa, Portugal,

³Marketing Research Institute, Lisboa, Portugal

Objectives: To assess the knowledge and attitudes of Portuguese university students towards sexual and reproductive health.

Material and methods: Self-filled anonymous questionnaire distributed in January 2012 to state university students. A descriptive statistic analysis was made.

Results: A total of 2741 students were included in the study, 57% female and 43% male. The mean age was 21 years. Globally, students demonstrated a good or very good level of knowledge concerning contraception (89%) and sexuality (95.1%). Most of the students had an adequate knowledge about available contraceptive methods: 58% knew about three to five different methods and 27% were aware of more than five; 12% knew only about two different methods and 0.1% had no knowledge at all; 2.85% were non-responders. Condom, pill and IUD were the methods most frequently mentioned by responders (92%, 88% and 68%). The contraceptive patch (32%), the ring (25%), the implant (18%) and natural methods (10%) were less well known. Most (64%) of responders used only one contraceptive method (58% of male and 72% of female), while 14% (21% of female and 4% of male) used two methods simultaneously: the more frequent two-method users were between 18 and 21 years of age. The male condom was the most frequently used method 49%, followed by the pill with 38%. Among pill users only 22% were good compliers and 11% acknowledged that they were frequent missers, whilst 43% of pill users knew the patch, 32% the ring, 79% the IUD and 24% the implant.

Conclusions: The majority of questioned students revealed a good or very good knowledge about sexual and reproductive health. The condom and the pill were the better known and most used methods. The level of knowledge of other contraceptive methods was lower, and they were less used. Most pill users are not good compliers, exposing themselves to the risk of unplanned pregnancy.

P075

Self-reported and verified compliance with TwirlaTM, a new weekly low-dose contraceptive patch, compared with a daily low-dose combination oral contraceptive in a phase 3 clinical trial

A.M. Kaunitz¹, D.F. Archer², D.R. Mishell, Jr.³, M. Foegh⁴

¹University of Florida, Jacksonville, Florida, USA,

²Eastern Virginia Medical School, Norfolk, Virginia,

USA, ³University of Southern California, Los Angeles, California, USA, ⁴Agile Therapeutics, Inc., Princeton, New Jersey, USA

Objectives: Although contraceptive effectiveness is dependent on compliance, many women using daily combination oral contraceptives (COCs) are noncompliant. Past trials have indicated that women are more compliant with the use of a weekly contraceptive patch than a daily pill. This randomised study evaluated self-reported and verified compliance with TwirlaTM (AG200-15), a new contraceptive patch containing low-dose ethinyl estradiol (EE) and levonorgestrel (LNG), compared with a low-dose COC (EE 0.020 mg, LNG 0.1 mg).

Methods: In an open-label, parallel-group, multicentre, phase 3 study, subjects were randomised for one year (13 cycles) to TwirlaTM (Patch group) or to 6 cycles with the COC followed by seven cycles of TwirlaTM (Pill group). Subjects recorded patch application and pill-taking daily on diary cards. Cycles with perfect self-reported compliance were defined as cycles with 21 days of patch wear without missed days or any patch worn for > 7 days, or cycles with 21 days of pill-taking without days of missed pills. Compliance was also assessed objectively ('verified compliance') based on detectable plasma concentrations of EE and LNG at cycles 2, 6, and 13.

Results: Of the 1328 women (mean age, 26.4 years; 60% new hormonal contraceptives users; 46% non-Caucasian; 33% obese), 998 received TwirlaTM and 330 received COC for the first six study cycles. Over the first six cycles, the percentage of cycles with perfect self-reported compliance was significantly higher in the Patch group than in the Pill group (90.5% vs 78.8%, $p < 0.001$). Verified compliance showed that 10 to 14% of subjects in both groups were noncompliant (i.e., had non-detectable drug levels). Including only verified compliant subjects, compliance was noted to be greater in the Patch group than in the Pill group (91.4% vs 80.3%, $p < 0.001$, respectively).

Conclusion: The discrepancy between self-reported and verified compliance casts doubt on the reliability of patient diaries in assessing actual contraceptive use. Women using TwirlaTM demonstrated increased compliance compared with those using a COC.

P076

New users compared with experienced users of hormonal contraceptives in a phase 3 study of Twirla™, a new weekly low-dose levonorgestrel/ethinyl estradiol contraceptive patch

A.M. Kaunitz¹, D.F. Archer², D.R. Mishell, Jr.³, M. Foegh⁴

¹University of Florida, Jacksonville, Florida, USA,

²Eastern Virginia Medical School, Norfolk, Virginia, USA,

³University of Southern California, Los Angeles, California, USA, ⁴Agile Therapeutics, Inc., Princeton, New Jersey, USA

Objectives: The levonorgestrel (LNG)/ethinyl estradiol (EE) contraceptive patch Twirla™ is a new weekly transdermal system that has been shown to deliver LNG and EE within range of low-dose LNG/EE combination oral contraceptives (COCs). The objective of this study was to compare the contraceptive efficacy of Twirla™ in new users versus experienced users of hormonal contraceptives.

Method: A phase 3, open-label, randomised, comparative, parallel-group, multicentre study enrolled healthy women (17 to 40 years of age) of all body mass index groups, including both new and previous/current users of hormonal contraceptives. Following treatment with the LNG/EE patch or a COC for six treatment cycles, all participants were to receive an additional seven cycles of LNG/EE patch treatment. Compliance was verified by drug levels in blood samples collected in cycles 2, 6, and 13. Pregnancy rate was determined as Pearl Index (PI) for the intent-to-treat population.

Results: Of 1273 women with BMIs from 18 to 60 kg/m² who received LNG/EE patch treatment, 55.8% were new users of hormonal contraceptives, 26.3% were recent users (≤ 6 months), and 17.9% switched from another hormonal contraceptive. Higher proportions of recent users and switchers completed the study compared with new users in all treatment groups. The PI for the intent-to-treat population independent of user status was 4.72 (3.08 for verified compliant users). New users were also less compliant. The PI for new users was more than twice as high (6.32) than the PI for experienced (recent and switcher) users (2.81). When subjects with laboratory-verified non-compliance were excluded, the PI decreased to 4.18

for new users and to 2.02 for experienced users. Trends regarding PIs were similar among women randomised to COC.

Conclusions: Contraceptive failure with the LNG/EE patch and COC is more likely among women who are new users of contraceptives compared with women who have previous experience using hormonal contraceptives. New users may benefit from more counselling regarding correct and consistent use of short-acting hormonal contraceptives.

P077

Uptake of intrauterine contraception method in nulliparous women attending Haringey Contraception and Sexual Health Clinics (retrospective audit) between April 2011 and March 2012

E. Valarche

Whittington Health, London, UK

Objective: Nulliparous women represent a fertile female population who may not be offered intrauterine (IU) method of contraception due to traditional attitudes, and a fear from health care providers, of an increased rate of complications (e.g., PID, infertility, risk of perforation during procedure). Wider use of IU contraception is likely to have a positive impact on the rate of unintended pregnancies in the UK.

Design: Electronic patient records were reviewed for all women who had an IUD/IUS inserted between 1 April 2011 and 31 March 2012. Nulliparous women were identified. Demographic and clinical data was extracted and analysed using an Excel database. Clinical practice was evaluated against local and FSRH standards of care.

Results: A total of 423 women initiated intrauterine contraception in Haringey Contraception and Sexual Health (CASH) clinics over the study period, of whom 107 (25%) were nulliparous. The majority (60%) were white UK ethnicity; with a median age of 27 (range 15 to 49) years, 68% were aged > 25 years, and 24% had previous TOP (5% two TOPs).

All patients had successful IUD/IUS insertions; three patients had NovaT 380 inserted after failed insertion of a TT380 slimline device. No uterine perforations occurred. Most (93%) IU procedures were performed with the use of local anaesthetic (1% Lignocaine gel,

intra-cervically), and 83 (78%) procedures were performed with an assistant present, 23 (21%) were done by a clinical nurse specialist, with 73% having a Nova T380 inserted and only 4% Mirena® IUS.

Immediately after the IUD/IUS insertion, only 7 (7/107) patients felt mild abdominal discomfort with spontaneous resolution within 30 minutes. The available data for follow up was for 50% (53/107) of patients. Only 9 (9/53) removals were recorded during our study (mostly due to bleeding and/or pain). STI testing (chlamydia and gonorrhoea, NAAT) was performed for 75 patients (70%), and two Chlamydia-positive patients were identified (treated within three weeks of diagnosis, both were asymptomatic, no PID developed).

Conclusions: Our study demonstrated the successful practice of the use of the Intrauterine Contraception method in nulliparous women in the CASH service. It also highlighted a trend in our society that women are having children later in their childbearing life, so health professionals must give the choice of IU contraception to nulliparous women of any age.

P078

Finnish university students' intentions to have children and willingness to have fertility education

S. Nipuli, J. Brandt, E. Hemminki, R. Klemetti

National Institute for Health and Welfare, Helsinki, Finland

Objectives: In Western countries postponing parenthood is common especially among the highly educated. Both maternal and paternal age at first birth has increased in Finland. This study aimed to examine Finnish university students' intentions to have children in the future and their willingness to have education which offers information on age-related fertility.

Methods: Data were collected using both quantitative (a nation-wide survey) and qualitative (focus group discussions, FGDs) methods. A survey with a structured questionnaire was made in autumn 2011. Survey participants were a consecutive sample of university students from nine Finnish universities, recruited at the time of their registration for the autumn semester. Of the 2057 invited students, 67% ($n = 1368$) returned the questionnaire at site or by mail. Students aged 35 or older ($n = 76$) were excluded from this analysis. Five focus group discussions (FGDs) including

21 female and male students in total were carried out in 2011 at two universities in the capital area.

Results: About 7% of the students had a child or children or were pregnant at the time of the survey (female: 9%, male: 5%). A total of 69% of female and 62% of male childless students intended to have a child/children in the future. Proportions of students who were unsure about the intentions of childbearing were notable; 27% of female and 31% of male. The childless students' (median and mean age 24 years) planned to have children mostly within the next 5 to 9 years. In the oldest age group (30 to 34 years), 20% of males and 10% of females planned to have the first child at the age of over 35 to 39 years old. A fifth (female: 15%, male: 30%) of the students aged 30 to 34 years old had not considered when they would have their first child.

Most (78%) of the female and 81% of the male childless students were willing to have fertility education. Results from FGDs supported these findings; male students especially were willing to have fertility education already at school.

Conclusions: Only a few university students already had children and many were unsure about having children. Some planned to have children much later than the optimal time would be. University students accepted fertility education.

P079

'As many options as there are, there are just not enough for me': A qualitative analysis of contraceptive use and barriers to access among Australian women

S. Dixon¹, D. Herbert², D. Loxton³, J. Lucke¹

¹The University of Queensland, Brisbane, Queensland, Australia, ²Queensland University of Technology, Brisbane, Queensland, Australia, ³University of Newcastle, Newcastle, New South Wales, Australia

Objectives: There is currently little information available about reasons for contraceptive use or non-use among young Australian women and the reasons for choosing specific types of contraceptive methods. A comprehensive life course perspective of women's experiences in using and obtaining contraceptives is lacking, particularly relating to women's perceived or physical barriers to access. This paper presents an analysis of qualitative data gathered from free-text

comments provided by women born between 1973 and 1978 as part of their participation in the Australian Longitudinal Study on Women's Health.

Methods: The Australian Longitudinal Study on Women's Health is a large cohort study involving over 40,000 women from three age groups (18 to 23, 40 to 45 and 70 to 75) who were selected from the database of Medicare, the Australian universal health insurance system, in 1995. The women have been surveyed every three years about their health by mailed self-report surveys, and more recently online. Written comments from 690 women across five surveys from 1996 (when they were aged 18 to 23 years) to 2009 (aged 31 to 36 years) were examined. Factors relating to contraceptive use and barriers to access were identified and explored using thematic analysis.

Results: Side-effects, method satisfaction, family timing, and hormonal balance were relevant to young women using contraception. Most women who commented about a specific contraceptive method wrote about the oral contraceptive pill. While many women were positive or neutral about their method, noting its convenience or non-contraceptive benefits, many others were concerned about adverse effects, affordability, method failure, and lack of choice. Negative experiences with health services, lack of information, and cost were identified as barriers to access. As the cohort aged over time, method choice, changing patterns of use, side-effects, and negative experiences with health services remained important themes.

Conclusions: Side-effects, convenience, and family timing play important roles in young Australian women's experiences of contraception and barriers to access. Contrary to assumptions, barriers to contraceptive access continue to be experienced by young women as they move into adulthood. Further research is needed about how to decrease barriers to contraceptive use and minimise negative experiences in order to ensure optimal contraceptive access for Australian women.

P080

Predictions of unwanted fertility over the last decade in France based on changes in contraceptive behaviours

C. Moreau¹, J. Trussell³, A. Bohet², N. Bajos²

¹Bloomberg School of Public Health, Baltimore, MD, USA, ²INSERM, Le Kremlin Bicetre, France, ³Princeton University, Princeton, NJ, USA

Objectives: Abortion rates in France increased between 1999 and 2006 and stabilised since. Abortion rates however, may not directly reflect contraceptive effectiveness at the population level as they result from a complex series of decisions involving sexual activity, contraceptive practices and decisions to terminate a pregnancy. Thus, in order to improve our understanding of recent trends in reproductive behaviours and outcomes in France, we explore how patterns of contraceptive practices may contribute to fluctuations in unintended pregnancies rates over time.

Methods: We used data from the 2000 and 2005 waves of the National Health Barometer Survey, a periodic multi-thematic national health study and data from the 2010 FECOND study, a national survey on sexual and reproductive health. The analysis included 4775 women in 2000, 8776 in 2005 and 5272 in 2010. We assessed the potential consequences of population shifts in contraceptive practices on the expected number of unintended pregnancies based on French estimates of first year method-specific typical use failure rates.

Results: A minority of women were non users and at potential risk of an unintended pregnancy: 2.4% in 2000 and 2010 and 3.2% in 2005 ($p = 0.01$). Among contraceptive users, 59% of women in 2000 and 2005 relied on user-dependent hormonal methods, this proportion decreasing to 52% in 2010 ($p < 0.0001$). This decline was partially compensated by an uptake in long acting methods, which rose from 22% of method mix in 2000 to 25% in 2005 and 24% in 2010 ($p = 0.04$). Use of barrier and natural methods declined from 18 to 14% between 2000 and 2005 and rose to 20% in 2010. The annual unintended pregnancy rates were estimated to have risen from 3.16% to 3.49% between 2000 and 2005, and to have decreased to 3.26% in 2010. Small changes in contraceptive prevalence exerted the largest effects, with a 34% increase in unintended pregnancy rates due to the increase in non use of contraception between 2000 and 2005, and a 24% reduction in the following five years.

Conclusion: Changes in contraceptive practices over the past decade in France have potentially resulted in substantial fluctuations in unintended pregnancy rates, which seemed to have peaked in 2005. While changes in the minority of non contraceptive users has the highest impact on unintended pregnancy rates, there is also the potential for reducing unintended pregnancies by promoting use of long acting methods, which have made little progress over the last 10 years.

P081

A survey on the perception of oral contraceptive pills between mother and daughter generation in Korea

J.J. Lee, H.J. Jung, M.Y. Kwak, H.K. Lee, I.-S. Lee

Soonchunhyang University Hospital, Seoul, Republic of Korea

Objectives: The survey intends to investigate the change of perception on oral contraceptive pills by identifying the perception gap between mother and daughter generation in South Korea.

Method: One-on-one interviews took place by nurses for 414 women from age 20 to 60 who visited the OB&GY clinic.

Results: The rate of women who considered positively about taking oral contraceptive pills was 52.2%. It was 10% more than the rate of women who considered negatively about taking oral contraceptive pills (42.4%). The rate of women who considered positively was not different between the two groups. The rate was 52.8% for the daughter group of age 20 to 30 and 53.4% for the mother group of age 50 to 60.

The mother generation took oral contraceptive pills mainly for the contraceptive purpose (53.6%) rather than for non-contraceptive benefits (0.04%). However, the daughter generation took oral contraceptive pills not only for the contraceptive purpose (39.4%) but also for non-contraceptive benefits (12.7%). The daughter generation tends to take contraceptive pills continuously (33.6%) twice as much as the mother generation (16.6%).

The impression after taking oral contraceptive pills was different between the two generations, with 34.4% of the mother generation worried about harmful effects of oral contraceptive pills on their body. However, 33.3% of the daughter generation felt secure because of reliable contraceptive effects. The mother generation mostly bought oral contraceptive pills at the pharmacy (80%). However, the daughter generation tended to receive prescriptions at OB&GY clinics (55%). The daughter generation was more aware of new ETC oral contraceptive pills (46.4%) than the mother generation (7.4%).

Conclusions: More than half of the mother generation and the daughter generation considered positively about oral contraceptive pills. However, the daughter generation tended to take the pills continuously and were more aware of the non-contraceptive

benefits of the pills than the mother generation. Also, the daughter generation tended to receive prescriptions at OB&GY clinics to buy new ETC oral contraceptive pills while the mother generation tended to buy oral contraceptive pills at pharmacies. Those differences suggest that the perception of oral contraceptive pills are changing because some pills were changed to the doctor's prescription medicine and more information has been given to the daughter generation. Therefore, OB&GY doctors need to make an effort to provide appropriate counselling and quality information about oral contraceptives.

P082

Determination of couple's attitudes concerning the withdrawal method

R. Türk, F. Terzioglu

Hacettepe University Faculty of Nursing, Ankara/Sihhiye, Turkey

Background: The withdrawal method used by couples to take fertility under control by most of society before modern family planning methods emerged has been used widely in Turkey and around world.

Aim: This study was conducted as a methodological/cross-sectional field work to determine couple's attitudes concerning the withdrawal method.

Method: A total of 245 couples (490 individuals) between 15 and 49 years who used the withdrawal method formed the study sample. A questionnaire and the Withdrawal Method Attitude Scale (WMAS) were used for data collection. Mean, standard deviation, and percentage numbers; Shapiro test, t-test, One-Way ANOVA and LSD tests were used to analyse the obtained data.

Results: It was determined that while the mean score of the attitude scale concerning the withdrawal method was 107.56, mean scores of the sub-scales were 16.37, 30.10, 36.07, 13.32 and 11.71, respectively for reliability, the nature of the sexual act, usability, effect on health, religious and social factors. It was determined by this study that attitude regarding the withdrawal method is positive for the couples having lower education, living longest time in a village, not having a job, speaking Kurdish as mother tongue, having a low-income, being married more than 15 years and first marriage aged 17 or under.

Conclusions: Due to the positive attitude of couples regarding the withdrawal method, as well as planning counselling services in term of protectiveness, reliability and more efficient/effective usage of the method, it is important to integrate the method into family planning education and counselling services.

P083

Do young women still take the oral contraceptive pill with a seven-day break?

M. Laursen

Statens Serum Institut, Copenhagen, Denmark

Objectives: In Denmark more than 60% of women aged 18 to 19 years are using the combined oral contraceptive pill (COC). An increasing number of women seem to skip the schedule with 21 pill days and 7 pill free days for a schedule without a break. For every cycle of 28 days where a woman does not take the pill free break, she will increase her estrogen intake by 33%. We wanted to test how many women take COC in the 21 + 7 schedule and how many skip the break sometimes or all the time, and whether this has changed over time.

Method: In the national Register of Medicinal Product Statistics at Statens Serum Institut, Denmark, we selected women aged 18 or 19 years at 1 January 2011 who used COC. A total of 30,710 women in 2011 who were taking COC regularly were included. Regular users were defined as having a minimum of three purchases during 2011. For each woman we calculated the number of calendar days from first to last purchase in 2011, and calculated the number of pills purchased between these dates. We made the concept 'treatment days' where 21(24) pills with hormones was set to 28 treatment days. We calculated the number of treatment days per cycle for each woman. For detection of temporal trends between 2011 and 1996, we did the same for the year 1996 where 25,469 women were included using the same criteria.

Results: In 2011, 58% of the women used COC in a 21 + 7 days schedule, having as many treatment days as calendar days per cycle (± 2 days). A total of 22% of the women had 3 to 7 extra treatment days per cycle, indicating that they skipped the break sometimes or always. Of the rest, 14% had -3 or less treatment days per cycle, which could indicate non regular

use and 6% had more than seven extra treatment days per cycle. Because of the unlikelihood of using more than one pill per day this must be due to e.g. purchase before travelling. Comparing the results between 2011 and 1996, we found that women were using more pills per cycle in 2011 than 1996.

Conclusions: The majority of women aged 18 to 19 years take the COC using the ordinary schedule of 21 + 7 days, but an increasing number of women skipped the seven-day break between the years 1996 and 2011.

P084

Determinants of family planning use among Turkish married men who live in south east Turkey

L. Markin, O. Zhemela, G. Kunynets,
L. Yashchenko

*Danylo Halytsky Lviv National Medical University,
Lviv, Ukraine*

Objectives: To study results of progestine contraceptive administration, containing 0.075 mg desogestrel, in the postpartum period with mixed feeding of babies.

Method: The assessment group consisted of 100 parturient women. Criteria for patients' enrollment into research were: absence of contraindications of administration of hormonal contraception and women's willingness to use the planned oral contraception, confirmed by their informed consent. All the observed patients practiced partial mixed feeding with the 25 to 30% share of formula milk. Parturient women kept to the so-called 'ecological' principle of feeding, which included feeding on the baby's demand (even at night-time). The preparation was administered by the uninterrupted scheme (1 pill per day). The interval between intakes of the next pill was 24 h. During first seven days, barrier contraception was used additionally to avoid unintended pregnancy.

Results: Recommencement of the menstrual cycle was not registered in any of the cases at the background of desogestrel intake during the period of clinical observation. Ultrasonic examination of the assessed women showed efficient inhibition of ovulation and absence of proliferative changes in the endometrium. Administration of this progestine contraceptive ensured efficient

prevention of unintended pregnancy in all the cases of resumed intercourse within 6 to 8 weeks after delivery. At the background of the contraceptive intake till the 6th month of the postpartum period, no veracious changes were observed in the indices of blood pressure and body weight of the assessed group. In 20% of cases patients complained of short-term periods of fatigue and mood changes. The latter, to our mind, should be viewed not as side effects caused by the contraceptive intake, but rather as the signs related to exertion of the maternal organism's adaptive reactions in the period of baby care.

It is worth mentioning, that 92% women declared their approval of the administered gestational contraceptive that, according to the international standards, is evaluated as evidence of its perfect acceptability.

Conclusions: Administration of this progestine contraceptive is a reliable and acceptable means for prevention of unintended pregnancy in parturient women, who practice mixed feeding. This preparation exerts an efficient inhibitory action on the cyclic function of ovaries and proliferative changes in the endometrium. Desogestrel intake is not accompanied by estrogen-related complications and side effects. This contraceptive has no impact on lactation and body weight of parturient women.

P085

Scale development study related to determine couples' attitude concerning the withdrawal method

R. Turk, F. Terzioglu, S. Gelbal

Hacettepe University Faculty of Nursing, Ankara/Sihhiye, Turkey

Background: Withdrawal is the oldest traditional family planning method to be used by couples in order to take fertility under control. Whereas this method can result in pregnancy, it has been used extensively by couples.

Aim: This research was conducted as a methodological/cross-sectional field work to develop a measurement tool which allows the determination of couple's attitude concerning the withdrawal method.

Method: A total of 198 couples (396 people; 15 to 49 years old) who used the withdrawal method from May to July 2011 and accepted to participate in the study constituted the research sample. Two forms were

used for data collection; one of them was a socio-demographic data collection form and the other an attitude scale developed for realising validity and reliability of the study in relation to the withdrawal method.

Results: It was determined for the developed scale in relation to the withdrawal method that the value of Kaiser Meyer Olkin (KMO) is 0.875; all factors loading are above 0.30 and factor loading of the items is between 0.386 and 0.768. It was also determined that the scale consists of 36 items and five subscales: (i) reliability, (ii) the nature of the sexual act, (iii) usability, (iv) effects on health, and (v) religious and social factors. Also it was found that the power of all five subscales for explaining the main scale is around 46.079% and Cronbach's Alpha Reliability Coefficient for all 36 items is 0.86.

Conclusions: The factor analysis results related to the Attitude scale towards the withdrawal method show that the scale is usable and beneficial; moreover, it has appropriate structural validity and powerful factor structure. This analysis also found that it is a valid and reliable measurement tool to determine couples' attitudes related to the withdrawal method at a desired level and can be used in other studies concerning this subject.

P086

Contraceptive behaviour and abortion used by women older than 40 years

F. Ferreira¹, A. Brandão¹, A. Carlos Lobo¹, C. Almeida², T. Bombas¹, P. Moura¹

¹*Centro Hospitalar e Universitário de Coimbra - Maternidade Dr. Daniel de Matos, Coimbra, Portugal,*

²*Centro Hospitalar e Universitário de Coimbra - Maternidade Bissaya Barreto, Coimbra, Portugal*

Objective: To assess the method of contraception used by women older than 40 years old who requested an abortion in two public health services.

Design and methods: Retrospective analysis of 3030 women who requested an abortion between 2007 and 2011. We considered two groups: women aged ≥ 40 years old (group A) and women aged 25 to 30 years old (group B). We assessed socio-demographic characteristics, contraceptive method before and after abortion and the reasons for unplanned pregnancy. Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) version 20. Chi square and Fisher's exact tests were used for categorical

outcomes. Student's *t* test was used to compare means of continuous outcomes.

Results: In group A (268 women), 92.1% were multiparous, 63.3% were married or had a stable relationship. In group B (775 women), 53.4% were multiparous, 26.2% were married or had a stable relationship. History of abortion was present in 15% of women in group A and 17.2% in group B ($p = \text{n.s.}$). The use of contraceptive methods was higher in group B (77.5% vs 67.8%, $p < 0.001$). Combined hormonal contraception was used by most of the women in both groups but there were statistically significant differences in the type of contraceptive methods used: natural methods were used by 21.8% of women in group A and 6.9% in group B; condoms were used by 31.9% of women in group A and 26.6% in group B; combined hormonal contraception (CHC) represented 41.1% of group A and 64.6% of group B; long-acting reversible contraception (LARC) represented 5.0% of group A and 1.9% of group B. The frequency of family planning attendance was similar in both groups, around 50%, the majority of them in primary health care. Emergency contraception was used by 2.5% in group A and 5.2% in group B ($p = \text{n.s.}$). The mean gestational age on abortion was similar in both groups. The major cause of unplanned pregnancy was no use of contraception in group A and missing a pill in group B ($p < 0.001$). After abortion, in group A, 37.9% choose CHC and 35.5% LARC and in group B, 57.8% choose CHC and 24.3% LARC.

Conclusions: Women over 40 were less likely to be users of an effective contraception method, despite the attendance at family planning services. Health professionals must be attentive to this specific group of women who seem to be less aware of the need for contraception and who would benefit most from the promotion of LARC methods.

P087

How effective are traditional contraceptive techniques in an urban area of West Bengal after the collapse of modern methods (use of both qualitative and quantitative data)

K. Paul

International Institute for Population Sciences,
Mumbai, India

Objectives: (1) To understand any historical and cultural practices believed. (2) To understand any climatic circumstances which affect the use of different techniques. (3) To understand any cause-benefit effects.

Method: In this study I have used both qualitative and quantitative data. In qualitative data the focus is on focus group discussion (secondary data) and for the quantitative data I used NFHS (I, II and III). Cross tabulation and binary logistic regression were the statistical methods used.

Findings: All independent variables like religion, wealth quintile, educational attainment, caste type etc, were highly associated with traditional techniques, because of some qualitative data (ritual, belief, practices, norms) and cause-benefit effect in attendance.

Implications: Only one state in India shows these findings. Urban people in west Bengal belong to the high education and wealth quintiles, therefore following traditional methods means they are still not utilising any private or government policy or strategies regarding contraceptive types.

Conclusion: The value of this paper is that it suggests that the use of traditional contraceptive techniques should be encouraged (both for health and economic reasons) not only in other states of India but also globally.

P088

Contraceptive choices in a student population attending a general practice in the UK

C. Armitage, D. Smith, J. Lyons, F. Chaudhry

Leeds Student Medical Practice, Leeds, UK

Introduction: The setting of a large general practice serving the populations attending two universities and additional further education colleges within one city offers access to the full range of contraceptive methods available within the UK, excepting male and female sterilisation. Contraception is available free on prescription within the UK.

The Practice has 36,502 patients registered as of 10 December 2012 with 20,483 female patients registered, with 15,971 women age 17 to 24 years. The majority of the patients registered are UK born but there is also an international population drawing from 180 countries. There are 16 doctors working in the practice, most holding the Diploma of the Faculty of

Sexual and Reproductive Health (DFSRH) with seven clinicians trained in fitting intrauterine devices (6 doctors and 1 nurse) and 10 clinicians trained in fitting implants (7 doctors and 3 nurses). Seven nurses are formally trained in contraception. Templates for documentation are used for each contraceptive method within EMIS, the chosen clinical software system.

Objectives: To look at trends in the prescribing of different contraceptive methods over time. Use of depot medroxyprogesterone acetate (DMPA-Deprovera), Combined vaginal ring (CVR-Nuvaring) and the Combined Transdermal Patch (CTP-Evra) will be explored. Use of desogestrel 75 mcg (Cerazette) in comparison to other traditional progesterone-only pills will be explored. Geographical variations on contraceptive preferences will also be explored.

Method: Data was collected from EMIS looking at consultation titles and prescriptions issued, comparing two times periods three years apart to identify any trends in prescribing.

Results (interim): Use of the Levonorgestrel releasing Intrauterine system (LNG IUS) was audited in 2009 to 2010. A series of 100 women were followed up, one device could not be fitted, three devices were expelled and 10 removed. A total of 75 women of the 89 (84%) being followed up at 12 months still had the device.

Use of the progesterone-only implant (Nexplanon) was audited in 2010 to 2012 and 400 women were recruited by March 2012. At 6 months use, 181 of 190 followed up still had the implant (95%), 26 women were using additional medications to help with side effects (14%), whilst nine devices were removed.

Conclusions: Offering all contraceptive choices within a single health care setting has led to increasing use of long acting reversible contraceptive methods, with good continuity rates. Counselling has been standardised by the use of templates for documentation, consistent use of written patient information and staff training to meet national standards.

P089

The effect of hormonal contraception on female sexual function

L. Ciaplinskiene¹, V. Vanagiene², B. Žilaitiene¹

¹Lithuanian University of Health Sciences, Institute of Endocrinology, Kaunas, Lithuania, ²Lithuanian University

of Health Sciences, Department of Obstetrics and Gynecology, Kaunas, Lithuania

Objective: To study the relation of hormonal contraception with female sexual function, anxiety and depression symptoms, and couples' adjustments.

Methods: This report is on a pilot study in which 20 to 43-year-old participants with regular menstrual cycles (22 to 35 days) were randomly selected and interviewed. The test group consisted of 113 women who used any hormonal contraception method. The control group consisted of 51 women using barrier contraceptive methods or natural family planning methods. Participants were asked to fill in four questionnaires: *socio-demographic and medical factors questionnaire* prepared by the author, *The Female Sexual Function Index (FSFI)*; *The Dyadic Adjustment Scale (DAS)*, and *The Hospital Anxiety and Depression Scale (HAD)*. The statistical analysis was performed using the SPSS software package.

Results: The FSFI desire domain score of the women who used hormonal contraceptives compared with women who used barrier contraceptive methods or natural family planning methods was 3.95 (SD 1.08) vs 4.33 (SD 0.92) ($p = 0.006$), their FSFI arousal domain score was 4.19 (SD 1.48) vs 4.59 (SD 1.59) ($p = 0.005$), the FSFI lubrication domain score was 4.72 (SD 1.68) vs 5.32 (SD 1.2) ($p = 0.02$). The DAS score of hormonal birth control users compared with non-hormonal birth control users was 107.99 (SD 15.79) vs 112.76 (SD 16.132) ($p = 0.109$), the HAD anxiety and depression scale score was 11.60 (SD 5.93) vs 12.02 (SD 5.43) ($p = 0.7$). The DAS correlated with the total FSFI domain score ($p < 0.001$) and with all FSFI domains ($p \leq 0.001$) of the women who used hormonal contraceptives. The DAS correlated with the FSFI satisfaction ($p = 0.001$) and pain ($p = 0.004$) domains of the women who used non-hormonal contraceptive methods. The DAS correlated with the HAD anxiety and depression scale of the women who used hormonal and non-hormonal contraception ($p < 0.001$).

Following the evaluation of multicollinearity between the variables the linear regression analysis model for hormonal contraception users group was obtained: the DAS dependence in scores on the FSFI desire and orgasm domains, $y = 79.578 + 3.154 \text{ desire} + 3.432 \times \text{orgasm}$.

Conclusions: Hormonal contraception users reported worse sexual function compared to non-users. Anxiety and depression symptoms and couples'

relationships did not differ between hormonal contraception users and non-users groups. But linear regression analysis in hormonal contraception users demonstrated impact of couples' relationships on sexual function.

P090

Factors influencing Lithuanian women's choice of contraception method

B. Zilaitiene¹, V. Vanagiene², E. Prakapiene¹

¹Hospital of Lithuanian University of Health Sciences Kauno Klinikos, Endocrinology department, Kaunas, Lithuania, ²Hospital of Lithuanian University of Health Sciences Kauno Klinikos, Obstetrics and Gynecology department, Kaunas, Lithuania

Objectives: (1) To evaluate the factors influencing women's choice of contraception method; (2) to assess the frequency of side effects in women, who are using combined contraceptive pills (COCs), to identify the impact of these side effects on the quality of women's life.

Methods: The study involved 18 to 49-year-old women ($n = 1551$) who were using various methods of contraception. Participants were asked to fill in a questionnaire. The first part of the questionnaire was filled in by study researchers ($n = 51$), the second part was filled in by those women who were using COCs ($n = 630$). Research data statistical analysis was performed using SPSS 12.0 and MS Excel. The differences between the results were considered significant at $p < 0.05$.

Results: The participant's mean age was 32.03 ± 7.45 . Of these, 63.4% were employed, 84.91% had a constant life partner, 53.8% had higher education, 78.85% had given birth. A total of 38.94% women were using COCs, 12.57% condoms, 8.96% interrupted sexual intercourse, and 5.8% several methods of contraception. Women, who were not planning to have more children, significantly more often were using hormonal contraception ($p < 0.05$). Many of the participants were using COCs ($n = 630$), though they had contraindications to its use. Of these: 31.75% were smokers, 21.9% had a family history of cardiovascular events, 5.4% had migraine. A significant proportion of the women had experienced side effects caused by COCs: 54.3% breast tension, 55.4% headache, 25.3% swelling, and 22.1% nausea. These side effects had a negative

impact on couple's relationship 10.48% of women and a negative influence on activities of daily life for 18.73% of women. Female smokers significantly more often experienced nausea ($p = 0.047$), headache ($p = 0.049$). A total of 92.6% of the women who were using COCs agreed to try progestin-only pills, and 56.7% of them said it was important that contraceptive pills should have less oestrogen. Only 40.2% knew that there are pills without oestrogen.

Conclusions: (1) One third of participants using COCs, had contraindications for this method of contraception; (2) half of the respondents taking COCs experienced side effects possibly related to the estrogenic component of COCs; (3) almost all women taking COCs are ready to try other methods of contraception, when they get appropriate information about contraceptives; (4) women who were not planning to have more children more often used hormonal contraception.

P091

Contraception in premenopausal women

V. Gheorman, L.M. Gheorman, R.C. Pana

University of Medicine & Pharmacy, Craiova, Romania

Objectives: In the premenopausal period the risk of pregnancy is small but does exist. The chance of an unwanted pregnancy means that a contraceptive method is necessary in that period.

Design and methods: The study analysed a group of 21 women aged between 42 and 49 years. In the first group formed by 16 (76.19%) the women used an intrauterine device with progestative. In the second group formed of five (23.81%) patients a hormone replacement therapy method was used. This group considered that the estro-progestative combination with the value of hormone replacement therapy and contraceptive effects too was the best method. Both groups were followed during one year.

Results: In the first group we didn't find any pregnancies but frequently periods of amenorrhea caused by therapeutic methods determined a supplementary stress to the patients who required frequent medical assistance. In the second group we didn't find any pregnancies either but the women of this group were anxious because we used a method which didn't also include contraception.

Conclusions: Elective contraceptive methods in premenopausal women are not common although contraception is necessary in that period.

TOPIC 8: CONTRACEPTIVE, SEXUAL AND REPRODUCTIVE HEALTHCARE FOR ALL

P092

A targeted domiciliary service helps to ensure sexual health care for all in the UK

A. Corkill, A. Webb

Abacus Clinics for Sexual and Reproductive Healthcare, Liverpool, UK

Objectives: To determine the clinical and cost effectiveness of the Liverpool, UK, Domiciliary Sexual and Reproductive Health (SRH) service. Domiciliary Family Planning services were introduced into the National Health Service in 1959. Since then they have largely been abandoned, despite the Faculty of SRH Standard (March 2012) stating that outreach services should be provided. Liverpool appears to be the last remaining domiciliary service. Previous audits, carried out in 1996 and 2007, highlighted a no access rate of 25% and 24%. Since then the service has been redesigned.

Design and methods: Retrospective analysis of all resources, referrals and discharges for one year from April 2011 to March 2012. Electronic and paper patient records as well as staff diaries identified all visits and staff hours worked.

Results: The service had contact with 47 clients, resulting in 88 successful visits, 11 no access visits (no access rate of 12.5%) and 46 clinical phone calls to clients. There were 18 new referrals from seven different agencies. The mean age was 33 years (range 17 to 65 years). Those requiring contraception were younger (17 to 36 years) than those needing cytology (44 to 65 years). Seven women had new babies and six families had safeguarding issues. Three patients had alcohol or drug dependency problems, three had mental health issues and two had learning difficulties. Mental or physical disability was the most frequently used referral criteria (14 patients). Six women were referred for smears, 11 for contraception and one man was referred for *Chlamydia trachomatis* treatment. Of

the 11 new clients requiring contraception, six had implants fitted at home. Twelve patients were discharged: six following cytology, the rest because they had been helped into accessing mainstream services.

During the year registered practitioners worked an average of four hours a week on this service with one hour of clerical support. Other staff spent less than one hour a week between them.

Conclusions: For a minimal time investment, well organised services can provide effective SRH services for hard to reach groups who, despite open access, free, high quality services would otherwise be at high risk of unplanned pregnancies and not participate in STI and cytology screening. Reducing the risk of recurrent unplanned pregnancies can assist in helping them address their complex social situations. Liaising with other professionals working with these groups helps to target those patients with greatest needs.

P093

Ovarian follicular activity with a 91-day extended-regimen oral contraceptive: Results from a Phase I Multicenter, Open-Label Study

R. Kroll¹, L. Seidman², H. Weiss³, B. Howard⁴

¹Women's Clinical Research Center, Seattle, WA, USA,

²Clinical Research of Philadelphia, Philadelphia, PA, USA, ³Teva Women's Health, Petach Tikva, Israel,

⁴Teva Women's Health, Frazer, PA, USA

Objective: To characterise the effects on ovarian follicular activity and ovulation inhibition of the 91-day cycle extended-regimen oral contraceptive (OC), consisting of 84 days of active levonorgestrel (LNG)/ethinyl estradiol (EE) combination tablets [0.15 mg/0.03 mg] followed by seven days of EE tablets [0.01 mg] (Seasonique®).

Design and methods: This Phase I study enrolled 62 healthy, reproductive-aged women who were non-pregnant and non-lactating. Treatment included a 91-day cycle with the extended-regimen OC. Primary objectives included the evaluation of ovarian follicular activity using measurements of follicle size by transvaginal ultrasound and serum hormone concentrations of progesterone (PGN) and 17 beta-estradiol (E2), and classified according to the Hoogland and Skouby grading system. Ovarian activity over

three (3) intervals: first four weeks, second four weeks, and last five weeks of the 91-day cycle as well as over the entire course of the 91-day treatment period was determined. Safety and tolerability of the extended-regimen OC were also assessed.

Results: A total of 45 women received at least one dose of study drug and were included in the Safety Cohort; 43 women were included in the Intent-to-Treat (ITT) Cohort; and 35 women were included in the primary efficacy analysis (Efficacy Cohort). In the Efficacy Cohort, luteinised unruptured follicles (LUF) or ovulation were detected in none out of 35 subject cycles during the first 28-day interval; 1 out of 35 cycles (2.9%) in the second 28-day interval; and 2 out of 35 cycles (5.7%) in the final 35-day interval. Overall, the ovarian activity rate was 2.9% and ovulation was inhibited in all but three of 105 subject cycles evaluated (97.1%). Similar results were demonstrated when the Hoogland and Skouby grading system was applied to subject cycles evaluated in the ITT Cohort, with the overall ovarian activity rate determined to be 2.4% and ovulation inhibition determined to be 97.6%. Compared to pre-treatment levels, serum PGN and E2 concentrations were lower and were generally maintained over the course of the treatment period. There was a low incidence of adverse events, with the most frequent treatment-emergent adverse events being headache (28.9%, 13/45) and upper respiratory tract infection (13.3%, 6/45).

Conclusions: The 91-day extended-regimen OC, consisting of 84 days of active levonorgestrel (LNG)/ethinyl estradiol (EE) combination tablets [0.15 mg/0.03 mg] followed by seven days of EE tablets [0.01 mg], was effective in suppressing ovarian activity and inhibiting ovulation. The extended-regimen OC was shown to be safe and well tolerated.

P094

IUD use in France: A cross analysis of women and physicians' perspectives

C. Moreau¹, A. Bohet², N. Bajos²

¹Bloomberg school of Public Health, Johns Hopkins University, Baltimore, MD, USA, ²INSERM, Le Kremlin Bicetre, France

Objectives: While the intra-uterine device (IUD) is the most cost-effective reversible contraceptive, its use

is restrained among women at greatest risk of unintended pregnancies (young and nulliparous). Such barriers also prevail in France, despite the IUD being the second most popular method of contraception. In this study, we aim to explore the determinants of IUD use from a user and a prescriber perspective.

Methods: We used data from two national studies conducted in 2010 (population-based and physician surveys) exploring sexual and reproductive health. The analysis included 1712 women aged 15 to 49 at potential risk of an unintended pregnancy as well as 364 GPs and 401 gynaecologists who delivered family planning services in private offices. We used logistic regression models to identify factors associated with current use of IUDs and factors associated IUD recommendations among physicians.

Results: Altogether, 20% of women in need of contraception were using an IUD. Parity, age, pregnancy intentions and contra-indications to hormonal methods were associated with IUD use. The odds of IUD use were 4 times higher among women who were followed by a gynaecologist as compared to a GP.

More than half of the women (56%) believed the IUD was not suited for nulliparous women and 18% thought IUDs could alter future fertility. Controlling for all other factors, the odds of IUD use were lower among women who feared IUD related fertility problems (OR = 0.3 [0.2–0.4]). Young women (< 30 years) were less likely to use IUDs when they thought they were contra-indicated for nulliparous women, while the reverse was true for older women.

IUD recommendations by physicians in the last 12 months mirrors the results of the population survey, showing increased odds of IUD recommendations among gynaecologists. Physicians' training and exposure to medical information significantly influenced IUD recommendations. Recently trained physicians, women physicians and those who had used an IUD were also more likely to recommend it.

Eighty three percent of physicians considered that IUDs were not suited for nulliparous women, 41% believed they were associated with high risk of pelvic infection, and 52% with a high risk of ectopic pregnancy. A majority (71%) considered IUDs were well tolerated. Only the belief that IUDs were poorly tolerated had a significant effect on recommendations (OR = 0.4 [0.2–0.8]), after controlling for other factors.

Conclusions: Misperceptions about IUDs remain a significant barrier to their use. Physician training and women's information are important leverages to promote IUD use.

P095

An audit of termination of pregnancy (TOP) assessment and referral service within an outreach setting of a contraception and sexual health service

D. Rayamajhi, E. Volkman, R. Browne, A. Nageswaran

St Ann's Hospital, Whittington Health, Tottenham, London, UK

Background: RCOG views induced abortion as a healthcare need and ensure that women have access to abortion services locally.

Aim and objectives: We evaluated the clinical practice against local and RCOG standards of care of women requesting induced abortion.

Methods: The care of every 3rd patient referred to the assessment service between 1 June 2010 and 30 December 2011 was audited.

Results: A total of 167 women aged 14 to 48 years were audited. Most, 86 (52%) belonged to Black ethnicity, 77 (46%) were from deprived postcodes, 66 (39%) were under 19-year-olds and 54 (32%) were under 18, of whom 12 (7%) were under 16, all were Fraser competent. All under 19-year-olds were offered two weeks follow-up with a nurse. A total of 154 (92%) abortions were carried out up to 14 weeks, 129 (77%) were under 10 weeks of which medical abortion accounted for 48 (29%). A total of 161 (96%) had their abortion within two weeks of referral to TOP services, and 48 (29%) of women had had one or more previous abortion, 26 (44%) of whom were under 19. After abortion, 162 (97%) were offered LARC, of whom 89 (53%) accepted, and 60 (36%) received LARC post abortion. All 167 were counselled and offered Chlamydia screening. A total of 165 (99%) received prophylactic antibiotics post procedures.

Conclusion: The service needs improvement on:

- Uptake of contraception especially LARC post TOP especially for under 19-year-olds to reduce repeat abortion
- Dedicated nurse follow-up
- Aim for 100% documentation of child protection issues (achieved 98% currently)
- Staff training

- Improve access to medical TOP and reduce time interval between initial assessment and procedure
- Now we have two new medical TOP clinics within our CASH clinic

P096

Impact of a 91-day extended-cycle oral contraceptive vs two 28-day standard oral contraceptives on sex hormone-binding globulin levels in healthy women

B. Howard¹, H. Weiss², N. Ricciotti¹

¹Teva Women's Health, Frazer, PA, USA, ²Teva Women's Health, Petach Tikvah, Israel

Objectives: Increased sex hormone-binding globulin (SHBG) levels may be a surrogate marker for risk of venous thromboembolism (VTE) in users of combined oral contraceptive (OC) regimens and also may be associated with sexual and other metabolic changes. To evaluate the impact of a 91-day OC regimen (150 mcg levonorgestrel [LNG]/30 mcg ethinyl estradiol [EE] for 84 days, followed by 7 days 10 mcg of EE monotherapy [Treatment 1]) compared with two standard 28-day OC regimens (21 days of 150 mcg LNG/30 mcg EE, 7 days of no treatment [Treatment 2] and 21 days of 150 mcg desogestrel [DSG]/30 mcg EE, 7 days of no treatment [Treatment 3]), on SHBG over a 6-month treatment period.

Design and methods: This was a multinational, multicentre, randomised, open-label, parallel-group comparative study. Healthy, nonsmoking women 18 to 40 years old without any known genetic component for thrombophilia were included. Eligible subjects were randomised to one of three open-label treatment groups, described above. Safety and change from baseline in SHBG levels, a secondary endpoint, were also evaluated.

Results: A total of 187 subjects were randomised in the per-protocol population (Treatment 1: $n = 61$; Treatment 2: $n = 67$; Treatment 3: $n = 59$). Mean SHBG baseline values were within normal range (Treatment 1: 62.54 nmol/L; Treatment 2: 69.32 nmol/L; Treatment 3: 82.21 nmol/L). For all three groups, SHBG levels were elevated following 6 months of treatment. Least squares mean change from baseline in SHBG for Treatment 1 (34.87 nmol/L) and Treatment 2 (30.85 nmol/L) were similar, while Treatment 3 showed a much greater elevation (165.01 nmol/L) ($p < 0.001$ for Treatment 1 vs. 3).

Clinical and laboratory AEs observed were few, unremarkable, and consistent with those associated with other OCs. No subjects experienced VTE during the study.

Conclusions: The EE/LNG-containing OC regimens had less impact on SHBG levels in women than the EE/DSG-containing OC regimen over 6 months of treatment. In addition, the 91-day EE/LNG OC regimen had a similar impact on SHBG levels as the 28-day EE/LNG OC regimen.

P097

Analysing young peoples' attitudes to sex and sexual health in Northern Ireland: An interpretative phenomenological approach

S. Rooney

Queens University, Belfast, UK

Objectives: With rates of sexually transmitted infections (STIs) increasing across age groups in Northern Ireland (NI), the current study aimed to identify attitudes towards sex and sexual health among one of the most 'at risk' samples – university students. Education of reproductive and sexual education (RSE) is compulsory in NI therefore it would be anticipated that this group would not only be well informed on the topic, but would also be adhering to safer sexual practices in order to prevent unwanted pregnancy and the transmission of STIs. The current research asks: what are students' perspective on attitudes towards sex and sexual health in NI?

Design and methods: A series of five focus groups was held with current students at Queens University Belfast. Students were interviewed on the topic of 'attitudes towards sex and sexual health in NI'. Four focus groups consisted of students from NI and the Republic of Ireland (ROI); and one group consisted of students from England who were living and studying in Belfast. In England, RSE is not compulsory within the school curriculum therefore the opportunity was to gauge knowledge and understanding of sex and sexual health of this group in comparison with their NI counterparts.

Results: Interim findings suggest that for students, the purpose of contraception is primarily the prevention of pregnancy, and less about the prevention, transmission or acquisition of STIs. Additionally, those with increased education and knowledge of sex

and sexual health tended to fall into two different strands: those who engaged in increased safe sexual health practices, such as attending family planning clinics for 'check-ups' when the risk of either having a STI or the risk of pregnancy was low; and those who engaged in more 'risky' sexual behaviours as they perceived themselves and others to be at lower risk of either unwanted pregnancy or STI status. While the majority of students perceived the current attitudes towards sex and sexual health in NI to be 'backward', students from England tended to be more open to discussing personal sexual experiences than students from NI or ROI.

Conclusions: In conclusion, although RSE is compulsory in NI the form of delivery and the detail included is not standardised across the Province. Students from England tend to be better informed, find it easier to discuss personal sexual experiences, and have an increased awareness of not only the risk of unwanted pregnancy, but also the risk of STIs.

P098

Quick starting contraception following emergency hormonal contraception

S. Namratha

Staffordshire & Stoke-on-Trent Partnership NHS Trust, Stoke-on-Trent, UK

Objectives: To reduce risk of unintended pregnancies (UIP) and improve adherence and continuation of contraceptive method, the Faculty of Sexual & Reproductive Health recommends where appropriate, immediate or quick start (QS) of contraceptive method of choice as alternative to waiting until next menstrual cycle; unless the woman wishes otherwise. This audit was conducted to check the adherence to this recommendation in our practice to help reduce UIP by improving initiation of a contraceptive method after issuing emergency hormonal contraception (EHC).

Method: A prospective audit of completed proformas of women attending contraception clinics for EHC was conducted from May 2011 to December 2011. The number of women offered and started on QS and the number of UIP following EHC was identified. Women were encouraged to attend for a pregnancy test after three weeks and a verbal consent was obtained to contact those who did not attend.

Results: A total of 168 women attended for EHC of which 141 (84%) received Levonelle (POEC) and 27 (16%) received Ellaone (UPA). All 168 were offered QS (100%) and 139 (83%) accepted and were issued a method; 29 declined (17%). There were five UIP (3%), of which four opted for termination of pregnancy within the first trimester. The fifth case was a complete miscarriage. Of the five, only two were on oral contraceptive pills but stopped soon after due to poor compliance. Effectively none of the five was on a reliable method of contraception. The age of these patients when they attended for EHC was 17 y, 18 y (2 patients), 19 y and 26 y, showing the risk of teenage pregnancies in those attending for EHC.

Conclusions: All the women attending for EHC were offered QS. The number continuing the method was difficult to ascertain as some of the patients were not contactable and some proformas did not have the required information. This should get rectified once the service is computerised. All of the UIP were in the Levonelle group and none of them were on a reliable method of contraception. Pregnancies could have resulted due to failure of EHC or further exposure to UPSI in the same cycle. If it is the latter, QS may actually reduce risk of UIP in the same cycle, especially teenage pregnancies. There is a 2–3 fold higher risk of pregnancy in women who go on to have other episodes of unprotected sexual intercourse in the same cycle that EHC has been given.

P099

Contraceptive switching following early discontinuation of contraceptive implant

V. Kumar, N. Deshpande, K. Jaffer

*Department of Sexual and Reproductive Healthcare,
University Hospitals Birmingham NHS Foundation Trust,
Birmingham, UK*

Objectives: Contraceptive switching may pose a higher risk of an unwanted pregnancy and there is limited published data on the patterns of contraceptive switching immediately following early removal of implant. The objectives of this study were three-fold: (1) to study the demographic profile of women requesting removal of implant within one year of insertion, (2) to assess the rates of contraception switching immediately after discontinuation of

implant, and (3) to identify the reasons for requesting early removal.

Methods: Case notes of women requesting implant removal and contraceptive switching within one year of insertion between June 2010 and July 2011 were studied. The data collected included demographic data, status of parity, duration of implant use, the reason for its removal and contraception switching. A total of 78 women, who met the inclusion criteria, were included in the study.

Results: Of the 78 women (50% 20 to 29 y; 44% white Caucasian; 28% nulliparous), who discontinued implant within one year, 6 (8%) decided to get pregnant whereas the remainder requested switching due to side effects including bleeding irregularities (70%) and other non-bleeding related reasons (23%) attributable to hormonal changes such as weight gain, mood change, acne. Half, 38 of 78 (50%), of the women stopped using any form of regular contraception altogether, whereas 41% (32 of 78) changed to a short acting method of contraception (16 combined oral pill, 15 progesterone only pill, 1 Evra patch). The most common reason for not using an alternative reliable contraception was the woman's wish to give 'her body a break from hormones'. Only two women out of the 78 chose to switch to another LARC (1 IUD, 1 Depo).

Conclusions: This retrospective study indicates that early discontinuation of implant due to its side effects appears to significantly alter the pattern of use of effective contraception and increases the probability of switching to a short acting method or no contraception altogether.

P100

How to promote the usage of the female condoms among female sex workers in China?

M. Xi¹, Y. Cheng²

¹Peking Union Medical College, Beijing, China, ²National Research Institute for Family Planning, Beijing, China

Objective: To analyse the factors influencing the rate of continued use of the female condom (FC) among female sex workers (FSWs) in China.

Method: The present crossover survey trial among 307 subjects and key informant interview among 20 subjects were conducted in a little city in south

coastal China between September and December in 2007. Each one used 13 Phoenurse FCs (made in China) and 13 Femidom FCs (made in UK). The knowledge, attitude and practice (KAP) of using FCs and the functional performance of the two FC types were compared. Chi-square and t tests were used where appropriate, and $p < 0.05$ was significant.

Results: A high percentage (89.7%) of the 291 subjects in this study had ever used contraceptive methods and the most popular one (65.6%) was the male condom. A total of 54.6% of subjects reported that they had ever had an abortion and 55.2% of these subjects had had more than two abortions. Moreover, 16.2% of subjects had ever been diagnosed with at least one kind of sexually transmitted infections (STI). The FC knowledge of those who had used FCs (the mean score was 10) were significantly higher ($p < 0.001$) than those who had never used FCs (the mean score was 7). After using FCs, 64.6% of subjects were satisfied with the FCs and 64.9% of subjects would continue to use FCs. With the increment of the number of using time, there were some outcomes which are as follows: easy to put into vagina (95.9%); reduced the misusing (92.4%); ease the discomfort (73.2%); ease disturbance to the sexual life (64.3%). The rate of continued use was associated with the ease to the discomfort (OR, 4.25, 95% CI, 2.04–8.89), ease to disturb the sexual life (OR, 3.57, 95% CI, 1.83–6.69), no difficulty made from the sexual partners (OR, 2.33, 95% CI, 1.13–4.80), easy to put into vagina and advantages are more than disadvantages (OR, 6.69, 95% CI, 1.14–39.41 and OR, 3.29, 95% CI, 2.01–5.40).

Conclusions: FSWs in China were sorely in need of using FCs to reduce the rate of abortion. Most subjects would like to use FCs in the future. Better product promotion could expand the consumer group and better training of using FCs among users could ease the influence to the sexual life, and then the rate of continued utilisation of FCs would increase.

P101

Increasing IUCD and contraceptive implant use in a remote and rural small island population

N. Astill, M. Astill

Ross of Mull and Iona Medical Services, Buinessan, Isle of Mull, UK

Objective: Uptake of IUCD and contraceptive implants in a remote and rural island primary care centre can be improved by a combination of increased LARC awareness, and the availability of on-site IUCD and implant provision.

Methods: In a remote, small island primary care centre with approximately 160 female patients aged 15 to 50 years, the options for IUCD and implant fittings were limited to a clinic over two hours by car, or a mainland hospital.

In January 2011 a new GP started actively promoting LARC, and a doctor qualified in IUCD and implant insertion began providing a routine service.

The NHS Quality Outcomes Framework data for LARC counselling to women on oral contraception, for the two years before and after 1 January 2011, were analysed. LARC prescribing data and all case notes were reviewed for implant and IUCD insertions. The pre- and post-intervention administration of LARC advice, and IUCD and implant prevalence, were compared.

Results: The percentage of women on oral contraception recorded as being given LARC advice increased from 0% in 2009 (0/38) and 2010 (0/41), to 100% in 2011 (44/44) and 2012 (39/39).

In the two-year period preceding the intervention (1 January 2009 to 31 December 2010), 1.2% (2/173) of women of reproductive age had an IUCD fitted. No contraceptive implants were inserted.

In the two-year period after the intervention (1 January 2011 to 14 December 2012), a total of 12.2% (19/156) of women of reproductive age had an IUCD or implant fitted, increasing the insertion rate by a factor of 10. A total of 10.9% (17/156) had an IUCD fitted (5 replacements, 12 new fittings, 16 Mirena® IUS) and 1.3% (2/156) had a contraceptive implant fitted.

In women aged 15 to 50 years, the prevalence of IUCD and implant at 31 December 2010 was 8.4% (14/166). At 14 December 2012, it had more than doubled, to 21.6% (32/148).

The proportion of IUCDs inserted for contraceptive purposes increased from 64.3% (9/14) before 1 January 2011, to 82.4% (14/17) by 14 December 2012.

Of those using the IUCD for contraceptive purposes ($n = 14$), and those with implants ($n = 2$), 50% (8/16) changed from oral contraceptives, and 25% (4/16) from barrier or no contraception.

Conclusions: There was an observational increase in the uptake of IUCDs and implants since LARC counselling and IUCD/implant on-site fittings were concurrently introduced. This may have been affected by an overall increase in public awareness of LARC,

but the evidence from this small practice suggests that there is a significant unmet need amongst women for better contraceptive services and advice.

P102

We are also providing condoms! Are they helpful?

F. Nathani, D. Pritchard, A. El Dalil

Dudley Group of Hospitals, Dudley, West Midlands, UK

Objectives: To find out through a patient survey whether our condom provision is useful to the population we are catering for.

Background: Condoms are researched extensively as a method to prevent sexually transmitted infections (STIs). In our sexual health service, we routinely supply condoms and many clients specifically walk in and pick up the condoms: but is that enough?

Method: We designed a patient questionnaire survey enquiring whether we are catering for their contraception and sexual health needs. The questionnaire was approved by the local audit department and consisted of eight questions which were:

- Whether they attended the clinic only for condoms.
- Were they ever shown how to use the condoms.
- Were they aware of how to use the condoms AND were they offered it as part of contraceptive advice?
- They were asked specifically if they wanted sexual health advice.
- They were asked if they wanted any contraceptive advice.
- They were asked if they wanted a Chlamydia test or had STI in last 12 months.

Results: A total of 48 patients' questionnaires were analysed. Out of these, three patients refused to fill in the forms, 43 patients said that they were in the service only for condoms, 17/45 have not been shown how to use the condoms which is a significant percentage at 37%. In the same group only one client agreed that he wasn't aware of how to use a condom and he had had a STI in the last twelve months. One client didn't answer this question. Two said they were aware and approached the nurses about how to use it. One of

these clients was bisexual and was having difficulties. His health needs were addressed. Only a small proportion, 4/45, wanted sexual health advice and 8/45 wanted a chlamydia test.

Condoms were offered as a part of the contraceptive advice in 27/45 clients and a further 3/45 wanted to have further discussion about contraception when they attended.

Conclusion: Through our service, we picked up one client who had a STI and did not know how to use the condom. One client was bisexual and was having problems and another was having erectile dysfunction. The health needs of both these clients were met but whether we would have picked them up without this survey is difficult to say. Use of this questionnaire routinely will therefore enable us to detect this difficult group of service users and offer timely intervention. We are planning a nurse review for all our first time requests for condoms to address education and demonstration.

P103

Political willingness: Key elements of strategies to improve sexual and reproductive health in the State of Queretaro

M. del Pilar Malagón Salazar¹,
M. Luisa Magaña Aquino²,
L. Nelson Bautista García³, G. Domínguez Luna⁴,
G. Quiroz Mendoza⁴, A. Luisa Flores Romero⁴

¹*Departamento de Salud Reproductiva de la Secretaría de Salud de Querétaro, Querétaro, Mexico,* ²*Departamento de Salud Reproductiva del Hospital de Especialidades del Niño y la Mujer de la Secretaría de Salud de Querétaro, Querétaro, Mexico,* ³*IPAS MEXICO A.C, DF, Mexico*

Objective: In addition to identifying discrepancies in the registered information about Family Planning Coverage at the Mother and Child Hospital, the Reproductive Health Department of the Queretaro Ministry of Health noted that the rate of post-obstetric event contraception provision, at 41.91% fell short of the goal of 70%. This prompted a series of strategies aiming to improve the Family Planning services.

Design and methods: In the first phase, record discrepancy causes were identified as well as the obstacles that prevented the achievement of the

post-obstetric event contraception coverage. An assessment phase was entered into in which an observational process of the healthcare providers involved in Family Planning was begun. Strategies for post obstetric event contraception were created from these observations, such as: constant training and updating of the staff involved, the hiring of committed personnel, improvement of the registry system, weekly definitive surgical sterilisation with volunteer staff, health brigades for school level adolescents, permanent in-hospital counselling and medical file colour-classification according to the method chosen by the users.

Results: Thanks to the strategies implemented at the hospital, the goal has been surpassed during three consecutive months: August – 71.57%; September – 73.54%; and, October – 72.18%. The registration system was improved for post-obstetric event contraception. An authorised registration system is now available, and where there was a 15% divergence initially, by October this was reduced to a 3% divergence. Some physical resources were added including a Family Planning medical office, and one for the Adolescents Clinic, as well as material resources supporting their work.

Conclusions: The successful strategies implemented at the Mother and Child Hospital have favoured the provision of post-obstetric event contraception, an achievement fulfilled thanks to the political willingness of the State Reproductive Health Department Board. This process is planned to continue at a steady pace at the hospital and to be extended to a state level. A total of 12% of the productivity has been salvaged on post-obstetric event contraception, further surpassing the coverage goal in a quarter. This care provision model could be implemented in other states of the country with high maternal morbi-mortality rates where post-obstetric event contraception is required in a permanent manner with sound strategies in order to improve the quality of life and care for Mexican women.

P104

Premarital sexual behaviour, contraception and unwanted pregnancy of Chinese unmarried women

Y. Cheng¹, M. Xi², S. Ren²

¹National Research Institute for Family Planning, Beijing, China, ²Graduate School of Peking Union Medical College, Beijing, China

Objectives: To find out the situation of premarital sex, contraception, unwanted pregnancy and induced abortion among Chinese unmarried young women.

Methods: This study adopted health facility based descriptive epidemiological research. From August 2011 to December 2011, we surveyed 1575 unmarried young women at two premarital physical examination clinics in Huangdao and Jimo districts, Qingdao city, Shandong province, China.

Results: Among 1575 respondents, 83.4% (1313) had had premarital sexual behaviour. The earliest sexual debut was at 11 years old, and the average age of sexual debut was 22.7. 26.4% were non use of contraception at the first sex. 11.1% used traditional contraceptives (rhythm or withdrawal) at the first sex, while the rest 62.5% used modern contraceptives (condoms, oral contraceptives, and emergency contraception) at the first sex. 6.3% of sexual debut were unwanted. 74.4% of respondents were cohabitating with their male partners. Among them, about 70% of respondents had ever used condoms and 23.5% used rhythm and 21.2% used withdrawal in the last 6 months. The traditional contraceptives (rhythm and withdrawal) were the second frequently used contraceptives. Emergency contraceptive and oral contraceptive were used by 15.6% and 4.3% of respondents respectively. 25.9% had at least one had non use in the last 6 months. 478 (36.4%) unmarried young women had history of premarital pregnancy and 213 of them were being pregnant when the current research was conducted. Among women with history of premarital pregnancy, 60.2% (287) pregnancies were unwanted. 53.2% of them were resulted from contraceptive failure and 46.8% were resulted from non-use of contraceptives. 269 (17.1%) respondents had history of induced abortion. The minimal age of first induced abortion was 14-year-old, and 19.4% of them had first induced abortion in ≤ 20 -year-old. 24.5% (66) women with induced abortion history had repeated induced abortion. Among them, 2 respondents had 5 times of induced abortions. Among abortion women, 149 (55.4%) respondents had chosen medical abortion, and 146 (54.3%) had chosen surgical abortion.

Conclusions: Among unmarried young women, the occurrence of premarital sex was prevalent and the rate of use of modern contraceptives were lower. Unwanted sex did happen. The percentage of induced abortion and repeated induced abortion were higher. It is worthy of paying more attention to promote sexual and reproductive health care among them.

P105

Improving men's knowledge, attitude and involvement in reproductive health issues using health education intervention

J.C. Enemuoh¹, C. Onwasigwe¹,
B.C. Uzochukwu², O. Onwujekwe³

¹Faculty of Medical Sciences, Department of Community Medicine, College of Medicine, University of Nigeria Enugu Campus, Enugu, Nigeria, ²Health Policy Research Group, Department of Pharmacology and Therapeutics, College of Medicine, University of Nigeria, Enugu Campus, Enugu, Nigeria, ³Department of Health Administration and Management, University of Nigeria Enugu Campus, Enugu, Nigeria

Objectives: Knowledge, attitude and involvement (KAI) of men in sexual and reproductive health issues is central to the attainment of health benefits centered on MDG 3, 4 and 5. The study determines the effect of health education on improving men's knowledge, attitude and involvement towards contraception, sex negotiation, prevention of domestic violence, having multiple sex partners, becoming more involved and supportive of reproductive health issues such as women's needs, choices, and rights in sexual acts.

Method: The study was a cross sectional interventional study using a study and a control group. It was undertaken in two Enugu urban and two rural areas in Enugu State. A pre-tested interviewer administered questionnaire was used to assess the KAI from 356 sampled married men aged 30 to 50 years on pre-natal, post natal, antenatal, family planning and domestic violence before administering health education intervention. A pre-tested training guide was used to train 178 respondents in the study group before evaluation. The remaining 178 respondents in the control group were trained at the end of the survey for ethical reasons. Data were analysed using SPSS. Statistical differences between the pre- and post-intervention data were determined using chi squared test at p -value ≤ 0.05 .

Results: Many men 36 (67.9%) in urban areas at the pre-intervention stage had good knowledge on when to confirm a woman is pregnant and improved highly to 47 (89.9%) after the intervention. In the rural study group it improved from 66.1 to 85.7%. They equally showed improved knowledge [39 (73.5%) – 56

(100%)] on condom use as a family planning method with a statistical difference in their knowledge. Most respondents in the control group both in urban and rural areas had some general knowledge on reproductive health.

The highest attitude 50 (89.3%) on reproductive health issues was shown in the study group in the urban area after the intervention. A higher attitude response 48 (85.7%) was also shown in the control group in the urban area compared to in rural area 37 (66.0%).

Many men in the study group showed improved involvement in reproductive health issues across the urban and rural areas with chi square values of 4.1 in urban and 0.0 in rural areas.

Conclusions: Knowledge, attitude and the involvement of men in reproductive health issues were improved as a result of health education interventions although some evaluation results were statistically insignificant. More behavioural change interventions are needed to improve their knowledge, attitude and involvement.

P106

Young women and oral contraception – knowledge, expectations, satisfaction

V. Stepanic, M. Podgajski, J. Valetic, G. Zovko,
V. Kukura

Department of Gynecology & Obstetrics, Clinical Hospital Merkur, Zajceva 19, Zagreb 10000, Croatia

Objective: To educate young women about using oral contraception and assess their satisfaction with the services provided.

Design and methods: A group of young females who had recently started using oral hormonal contraception (OHC) were given a questionnaire. The survey asked women about their reasons for starting OHC, their feelings about the information and care received from their ob/gyn, and their satisfaction with the counselling about oral contraceptives. A total of 90 young women were surveyed, and the data were analysed by predictable statistical methods.

Results: The participants' mean age was 20.9 years (range 17 to 27 y). The reasons for using OHC were: contraception, 52%; menstrual period regulation, 24%; dermatological reasons, 7%; menstrual period

regulation and dermatological reasons, 3%; contraception and dermatological reasons, 2%; and multiple reasons, 12%. Prior to starting OHC, their ob/gyn advised them of the laboratory tests they would need to determine any risk to using the method. If there was no contraindication for OHC, they were instructed on how to use OHC intake. All the women (100%) were satisfied by the information and care received, with 20% strongly confirming their satisfaction. The only major objection related to OHC was cost (28%), and 52% had no comment.

Conclusions: Younger women (women under 30) are influenced mostly by information from various websites, friends (non-medical persons), and forums (mostly non-medical). Not only is that information often inaccurate (and sometimes may cause harm), it does not help in educating young women about all the contraceptive methods offered and the best method for them. Younger women are not aware if there are contraindications for a method they are considering, etc. We believe that the correct information from their gynaecologist could and should change their point of view. Using the described approach of counselling, the women were completely satisfied. These findings imply that this approach may be optimal for providing contraceptive services to young women who have started making important health decisions for their benefit and for the benefit of their sexual partners, as well.

P107

The provider perspective of family planning access to women with a focus on post-abortion care and youth – An exploratory study in central Uganda

M. Paul¹, C. Kiggundu³, K. Gemzell Danielsson¹, R. Namugenyi⁴, M. Klingberg-Allvin²

¹Karolinska Institutet, Stockholm, Sweden, ²Högskolan Dalarna, Falun, Sweden, ³Mulago Hospital, Kampala, Uganda, ⁴Makarere University, Kampala, Uganda

Objective: To explore health care providers' perceptions on contraceptive counselling in relation to post-abortion care (PAC).

Method: Uganda has the second highest total fertility rate in the world and abortion is highly restricted. Poor access to family planning results in

unwanted pregnancies forcing women to clandestine abortions posing a great burden on the health system. Health care providers' perspectives are central to provision of quality care. Sexual health among youth is a socially condemned and providers' attitudes may contribute negatively to quality of services. In-depth interviews ($n = 27$) with health care providers participating in PAC were conducted in seven health facilities in the Central region of Uganda. Data was organised using thematic analysis with an inductive approach.

Results: In connection with PAC the issue of family planning was brought up. Providers explained family planning as a good and important service for married women, primarily to space children and secondarily, but less obvious, to prevent unwanted pregnancies. When asking about young, unmarried or school going persons the attitudes were diverging. Majority would promote abstinence and if necessary condom use would be suggested. Others thought all sexually active women should use family planning irrespective of marital status and age. However, doubts concerning safety of methods for young people were present and a lack of knowledge and skills in proper counselling was expressed, especially regarding counselling youths. A fear of being held responsible for infertility was communicated.

To facilitate counselling and uptake, joint family planning and PAC units were suggested. PAC was considered a window of opportunity to motivate women to use contraception. Moreover, benefits of enabling youth friendly services and training of providers in counselling skills were discussed. Stock-outs limiting the availability of methods were commonly mentioned as a reason for poor uptake and women would blame their partners for not accepting contraceptive methods. Injection was the only method women could keep a secret, however side effects were common and women would not return for a repeat injection.

Conclusions: There is a great need to improve contraceptive counselling for all women of reproductive age at the district level in Uganda. Unmarried women have nowhere to access contraceptive methods or information regarding their sexual and reproductive health. Health workers express inadequate resources in time, supplies and knowledge, especially considering youth. In relation to PAC, family planning needs to be addressed, mobilized and implemented to prevent repeated unwanted pregnancies, especially targeting youth.

P108

Testing for sexually transmitted infections in general practice in Ireland

M. Daly, C. Collins, M. de Paor

Irish College of General Practitioners, Dublin, Ireland

Objective: The incidence of Sexually Transmitted Infections (STIs) in Europe (including Ireland) is rising. Genital *Chlamydia trachomatis* (CT) infection, which is commonly asymptomatic, has an estimated prevalence of 5% in asymptomatic women in Ireland. Gonorrhoea (GC) is much less common but the incidence is rising. Early diagnosis and treatment of STIs can cure and prevent complications. Waiting times to attend specialist Genitourinary Medicine (GUM) clinics are long. There is potential to increase diagnosis and treatment by increasing testing in the primary care setting.

The aim of the study was to inform us about what STI services GPs are providing in Ireland, including costs and barriers. This paper focuses on tests carried out by GPs for Chlamydia and Gonorrhoea for asymptomatic female and male patients requesting screening.

Methods: A postal survey and one reminder were sent to 500 GPs on the Irish College of General Practitioners (ICGP) membership database; the response rate was 58.4% and the respondent profile is consistent with that of the full membership population.

Results: Overall, 76.4% of respondents reported that someone in their practice provides STI testing and screening. To test for chlamydia (CT) and gonorrhoea (GC) in an asymptomatic female, 43.2% of doctors would usually send a first pass urine and 58.9% would usually send an endocervical swab and 5.4% would not send any tests but would refer to a GUM clinic for tests. To test for CT and GC in an asymptomatic male, 58.4% GPs would usually send a first pass urine sample for chlamydia/gonorrhoea, 37.8% would usually send a urethral swab and 5.9% would send no tests and would refer to a GUM clinic for testing. The patient is charged an additional fee for these tests in 35% and 17% of practices respectively for private and public patients. Almost 30% of those GPs who provide testing have completed a Sexually Transmitted Infections Foundation (STIF) course. The barriers to providing testing were as follows: perceived lack of knowledge and skills 18.5%, lack of time 24%, problems accessing testing swabs 12.3%, no financial incentive 33.6%.

Conclusion: The proportion of GP practices sending tests for screening of STIs in asymptomatic individuals is lower than expected. A large proportion of GPs send urethral swabs to screen for CT and GC in asymptomatic males and this is not consistent with guidelines. The barriers to providing testing for STIs in general practice are similar to those reported in other studies.

P109

A review of emergency contraception prescribing in a sexual assault treatment unit

S. Stephens, D. Marshall

Midlands Regional Hospital, Mullingar, Ireland

Objective: To review the prescribing of emergency contraception in the sexual assault treatment unit, ensure all patients received adequate treatment and identify numbers of patients who would have been suitable for treatment with Ella One had it been available.

Design and methods: An audit of the clinical notes of all female patients attending the unit from 4 February 2009 to 26 November 2012.

Results: A total of 291 female patients attended the unit between 4 February 2009 and 27 November 2012; 140 patients received emergency contraception, 138 with Levonorgestrel and two with ulipristal acetate which was introduced to the unit in July 2012, while 113 did not receive Levonorgestrel in the unit. A total of 28 of these women had received emergency contraception prior to attending the unit. Reasons for the 85 women who did not receive emergency contraception included incident no risk of pregnancy, patient refusal, adequate contraception already in place hysterectomised, pregnant or post-menopausal patients. Three patients received Levonorgestrel between 72 and 120 h post acute incident (unlicensed use) and in future patients attending in this time frame can be offered Ella One. In total 14 patients attended in the 72 to 120-h period before the introduction of Ella one and would potentially have been suitable for this drug. For 38 patients data was either incomplete or the patient was seen > 1 week since the acute incident so need for emergency contraception was not accessed.

Conclusions: A total of 53% of the female patients who had not already received emergency contraception were prescribed emergency contraception in the SATU during the period reviewed. This shows the importance of the need for assessment of need for emergency contraception in patients attending SATUs. The introduction of ulipristal acetate increases the time frame in which oral emergency contraception can be offered to patients. Access to emergency IUD through our service needs to be developed.

P110

The acceptability and the side effects of Jadelle® Subdermal Implants among clinic attendees of FPA Sri Lanka

Asanka Pathiratne, Sumithra Tissera,
Achini Jayatilleke, Menaka Wimalaratne,
Pubudu Guruge, Udari Palandage

The Family Planning Association of Sri Lanka, Colombo, Sri Lanka

Background: Reproductive health hazards of unwanted pregnancies and unsafe abortions have been reduced with the use of modern contraception. The purpose of this review was to highlight the acceptability and the side effects of Jadelle®; a subdermal implant.

Methods: Case files of the acceptors of subdermal implants between 25 August 2009 and 30 April 2012 at the Family Planning Association of Sri Lanka were retrieved for analysis. We included women who were between 18 and 45 years, requesting a long-term contraceptive method, and were followed up at one month and yearly intervals till discontinuation. Descriptive statistics were analysed using SPSS version 16 statistical software.

Results: Of all the subdermal implant acceptors ($n = 289$), 39.1% were between 31 and 40 years, 33.6% were between 21 and 30 years, and 17.3% were above 40 years when they first accepted subdermal implants. The majority were not using a contraceptive method when accepted for subdermal implants (37%), while 22.1% changed from DMPA, 11.1% from OCP, 11.8% from condoms, 5.2% from IUD, and 12.8% re-inserted the implant. Of all the subdermal implant users, 42.2% had two children, 31.1% had one child and 19.4% had

more than three children. The reason for subdermal implant insertion was family limitation for 50.2%, spacing for 35.3%, and to delay the first pregnancy for 14.5%. Most (78.2%) did not report any side effect for subdermal implants while 9% reported irregular vaginal bleeding, and 12.5% reported symptoms such as headache, acne, and breast pain. Only 0.3% reported a weight gain. There were no accidental pregnancies during this study period. Only 0.9% had discontinued using subdermal implants for reasons such as menstrual complaints, headache, nausea, etc.

Conclusion: Subdermal implants appear to be a good contraceptive method which is well accepted by women of reproductive age. It has less side effects and a low discontinuation rate.

P111

Life style changes versus combined oral contraceptives treatment impact on sexual life of young females with Polycystic Ovary syndrome

D. Stoian¹, M. Craina¹, D. Anastasiu¹,
M. Craciunescu², D. Anastasiu¹

¹Department of Obstetrics Gynecology, University Medicine and Pharmacy 'V.Babes', Timisoara, Romania,

²Department of Microbiology, University of Medicine and Pharmacy 'V.Babes', Timisoara, Romania

Objectives: Polycystic ovary syndrome (PCOS) is associated with hormonal, emotional, sexual and metabolic changes. The aim of the treatment is to restore, if possible, all above mentioned health parameters. Different approaches have positive and negative effects.

Method: We evaluated 97 cases diagnosed with PCOS (Rotterdam criteria 2003), that were randomly assign them to one of the following subgroups: A (32 cases) – low glycemic index diet: 800–1000 kcal daily intake, B – COC treatment (33 cases) with Yaz preparation, C – controls (33 cases). For a period of six months we evaluated the quality of sexual life by means of the FSFI questionnaire, hormonal milieu with free testosterone (nM/L), SHBG (nM/L) DHEAS (mcg/dL), LH/FSH ratio, at base line and at the sixth month after the intervention.

Results: There were no differences regarding age, weight or sexual activity between the study groups:

Age (years): 31.15 ± 4.5 vs 30.8 ± 4.7 vs 31.3 ± 3.7 ; BMI (kg/m^2): 33.4 ± 5.5 vs 34.01 ± 6.7 vs 33.7 ± 5.8 ; total FSFI score 21.3 ± 1.5 vs 22.5 ± 2.8 vs 20.9 ± 1.9 . The mean weight loss in group A was 8.7 ± 2.3 kg.

The 'hormonal' milieu of the cases did change significantly in the intervention groups: there was a decrease in free testosterone (nM/L): from 0.015 ± 0.0016 to 0.005 ± 0.003 in weight loss group, lower than the COC group: from 0.016 ± 0.0017 to 0.003 ± 0.001 ($p = 0.012$), both significantly lower than in controls: 0.016 ± 0.002 ($p = 0.0015$, $p = 0.002$). LH/FSH ratio decreased in both interventional groups, and remained stable in the controls (1.75 ± 0.15 vs 2.25 ± 0.18 – A, 1.28 ± 0.1 vs 2.27 ± 0.114 – B, respectively 2.28 ± 0.113 vs 2.27 ± 0.0112 in controls). DHEAS decreased significantly only in the weight loss group (344.67 ± 45.78 vs 410.64 ± 61.20). The most significant change was observed in the SHBG evolution: no change in controls: 23.05 ± 4.87 vs 22.87 ± 5.06 , important increase in COC group: 185.51 ± 32.45 vs 24.03 ± 5.03 , normalisation in weight loss group: 64.51 ± 7.65 vs 22.90 ± 7.06 .

These changes were associated with increase of FSFI domain score: sexual satisfaction, desire, arousal and orgasm score in A group, slightly increase of orgasm and sexual satisfaction scores but with decrease of arousal and desire scores in B group, with no change in controls.

Conclusion: The intervention approach makes a difference in the hormonal and sexual quality of life in females with PCOS. Weight management has a better impact on sexual quality of life, but only in cases with sustained and significant weight change.

P112

What do Indian Muslim married adolescent women know of contraception?

A. Kumar

*International Institute for Population Sciences,
Mumbai, India*

Objectives: This study has been established to examine the knowledge of contraception given the various factors that influence awareness of contraceptives among Indian Muslim married adolescent women (MMAW). Next to examine the use of contraception and its factor affect. Further to examine the cause of

discontinuity among Indian Muslim married women. This paper also intends to future intention to use among these adolescent women.

Method: District Level Household Survey 2007–2008 data were used for the study. Bivariate and multivariate analysis (binary logistic regression) were used to understand the differentials in knowledge and use of contraception and its determinants.

Results: The result reveals that about 10% of MMAW do not have knowledge of any methods of contraception in the country. Age, education, place of residence, wealth quintile, and husband's education plays a significant role in women having knowledge of any method or any modern methods of contraception. About 13% of MMAWs are currently using contraception and there is constant increase in contraceptive use with the increase in education of women, wealth quintile, marital duration, number of living children, but its increase is high when women know all the modern methods of contraception. Living children and knowledge of contraception plays significant role in its use, besides that, exposure to mass media plays a significant role. Surprisingly we found that MMAW who had ever used but currently were not using contraception had highly reported fertility-related discontinuity reasons compared to opposition to use (religious prohibition, husband opposed, other oppose, respondent opposed) and lack of knowledge-related reason, while opposition to use related cause is highly associated with illiterate only women. Further there is constant increase in future intention to use of contraception with increase age of adolescent, education of women and husband, marital duration, number of living children and number of living son. However prefer for future use to spacing method compare limiting method among all socio-demographic characteristics.

Conclusion: The analysis shows that significant implications for reproductive health situation of adolescents in the future. Use of contraception among MMAW in India is sadly low among all groups; the unmet need is very high calling for focused interventions. The conventionally important factors are still relevant in explaining contraceptive use among today's adolescents. However, strong efforts are needed to improve awareness and to clarify misconceptions about reproductive health. Improved access to mass media and education could improve Indian Muslim adolescent women's awareness about family planning methods.

P113

Women's reproductive healthiness and MDG 5: Evidence from status of women surveys 2003 and 2007 in Pakistan

N. Akhtar^{1,2}¹Research Analytics International, Islamabad, Pakistan,²Population Council, Islamabad, Pakistan

Objectives:

- (1) This research paper is determine to find evidence on women's reproductive healthiness, its determinants and its variation by women's wellbeing (Wealth Index).
- (2) To determine the strength of MDG 5's indicators from 5.2 to 5.6 towards reproductive healthiness.
- (3) To draw specific attention towards the policy recommendations that best enhance the efforts to meet the MDG 5's indicators.

Methods: The two episodes of Status of Women were completed by the National Institute of Population Studies (NIPS) in 2003 and 2007. The data were collected on a representative sample of women of reproductive age (15 to 49) from Pakistan. Principle Component Analysis method is employed to develop women's reproductive healthiness to see the most contributing factors towards it and to develop an index on it. The findings are plotted against women's household's proxy poverty index, i.e. wealth index and against education levels of women. The multinomial logistic regression was employed to see the variation on healthiness index by wealth index (lowest as base).

Results: The results provided evidence on level achievements towards the current reproductive healthiness of women of Pakistan. The multinomial logistic regression shows the difference between groups of women as per their household's wealth index. Further analysis is underway.

Conclusion: It is evident that contraceptive use is one of the main contributors towards the women's wellbeing and to achieving their reproductive targets, but in Pakistan the women's fertility intentions have a role in it. There is a need to meet the demand of contraception. At present, use of antenatal, postnatal and delivery by trained experts have a role in women's reproductive healthiness. Policy recommendations are being developed.

P114

Disruptions of contraceptive use and reasons in four selected states of India

R. Kumar Singh

International Institute for Population Sciences,
Mumbai, India

Objective/Hypothesis: The paper attempts to examine the failure and abandonment by different spacing methods of family planning and to know the reasons behind contraceptive failure and abandonment by method. We tested the hypothesis whether women from poor economic status tend to have a higher relative risk for abandonment and whether women having health-related reasons are more likely to discontinue family planning methods.

Methods: Crosstabulation and Cox Regression Hazard Models.

Findings: The study shows that mainly fertility- and health-related reasons were the main reasons behind discontinuing for the last method of contraception. Method-related reasons were also significant in abandonment of the last method in all the selected states. There was not much variation when reasons were distributed over the socio-economic background characteristics. Age, residence, number of children living and mass media exposure showed some variation in a few states. Pearl pregnancy index was generally lower for five years exposure period as compare to three years exposure. In general, index was higher for rhythm and withdrawal in almost all the cases. Relative risks of abandonment were calculated after combining rhythm and withdrawal. It was not possible to provide relative risks for abandonment for condom in case of Gujarat due to small sample. In all the cases, those women who had desire for additional child have higher relative risk to discontinue the method. This might be due to switching to modern method of spacing method. In the limitations of this study, one can mention that to study the propensity to go for abortion in case of method failure will be able to reveal the determination of desire family size in different population segment. However, this portion of the study could not be carried out due to time constraints.

Conclusion: The study suggests that programmes should have fair provisions on inter personal communication and counselling on the efficacy and

possible side effects of any contraceptive method before providing the method. To ensure method continuity, the family planning programme should extend its role from providing contraceptive methods to assisting clients who experience method-related side effects to choose a more suitable method and thus mitigate the risk of abandonment method and experiencing unwanted pregnancy. The strategies should be framed in order to identify the time following the last birth at which discontinuation of a particular method use is acceptable so that the health of mother as well as children can be maintained.

P115

LARC: How is the message getting through?

J. Lyons, D. Smith, C. Armitage

Leeds Student Medical Practice, Leeds, UK

Objectives: Prescriptions for contraceptive implants (Implanon®) and IUS in primary care in England continued to increase following the introduction of Clinical Guideline 30(LARC) by NICE in 2005. In November 2009 the UK Department of Health launched a campaign 'Worth Talking About' with two main strands; one focusing on contraception and in particular increasing awareness of LARCs and the other focusing on chlamydia. However when the LARC guideline was reviewed in the NICE implementation uptake report: Long-acting reversible contraception (LARC) Sept 2010, the use of both implants (Implanon) and IUS was lower than anticipated. We were keen to determine if those women who attended our surgery for an implant fitting had been influenced in this decision and if so by whom. We were also keen to determine if they were aware of the campaign to promote the use of LARCs.

Methods: A prospective study of 400 women who had an etonogestrel contraceptive implant (Nexplanon®) fitted was initiated in October 2010 in a general practice, which provided services for university students and their dependants. When the women attended their fitting appointment we asked if anyone had influenced their decision to have an implant and whether they were aware of any media campaigns promoting their use. We also recorded their current contraceptive method.

Results: A total of 157/400 (39%) chose Nexplanon® on recommendation of friends or family; 126/400 (32%) were influenced by a nurse and 58/400 (15%) by a GP, while 43/400 (11%) were requesting replacement. Only 60/400 (15%) reported awareness of media campaigns to promote implants. Most (318/400; 80%) were using regular contraception prior to attending for an implant.

Conclusions: It appeared that the women attending for a contraceptive implant fitting had been influenced by friends or by healthcare professionals but that the 'Worth Talking About' campaign had little direct impact. Offering LARCs opportunistically if women attend to request contraception may be a more effective way of increasing awareness of these methods of contraception. Women may be more willing to consider a LARC if it has been discussed in a review of their contraceptive choice.

P116

My goodness! Condom has other uses besides sexual intercourse

T. Agyarko-Poku

Suntreso Government Hospital, Ghana Health Services, Kumasi/Ashanti, Ghana

Objectives: Self-reported uses of condom have been documented in many studies as not good proxy indicators for their utilisation. Many workers in health programmes in Ghana report a high distribution of male condoms for HIV prevention programmes. This is not commensurate with their usage. Available recent study data prompted this study. The objective of this study is to determine if there are other uses for male and female condoms besides sexual intercourse.

Method: Between January and October 2012, 987 (Male 48% (474), Female 52% (513)) persons aged between 18 and 45 consented to participate in this cross sectional study. A pretested structured questionnaire was administered to consenting individuals one-on-one in Western, Ashanti and Northern regions of Ghana. Sociodemographic characteristics were recorded as well as their opinions on uses of condoms beyond sexual intercourse. Data was analysed with SPSS 16.

Results:

- 80% (790/987) reported that condoms can be used to prevent urinary tract Infections by wearing them during swimming in ponds and rivers.
- 74% (730/987) reported that condoms are used to set fires especially for domestic use. The rubber and oil in the condom support fire setting quicker than using paper especially when charcoal and firewood is used as a cooking fuel.
- 68.0% (671/987) reported that bangles and earrings could be made out of female condoms for sale.

Conclusions: Condoms have other uses which have both commercial and social potential to compete favourably with the traditional use of condom for sexual intercourse to provide dual protection i.e. prevention of sexually transmitted infections including HIV and unwanted pregnancy. This study presents evidence that programmes need to use several methods to validate use of condoms for their intended purpose as data on condoms distributed could mislead the indicators on unmet needs for contraceptive and Couple Years Protection (CYP).

P117

Choice of facility for antenatal care among women in an urban community in south-western Nigeria

C. Ogedegbe, M. Balogun, F. Omokhodion

University of Ibadan, Ibadan, Oyo State, Nigeria

Objectives: The antenatal care (ANC) utilisation rate in developing countries, including Nigeria is fast increasing. However, there are concerns about where women receive ANC since some women in developing countries utilise maternity services provided in informal facilities, usually by unskilled personnel. Few studies provide information about the preferences of women with regards to choice of facility for ANC. This study was therefore conducted to determine where women in an urban community in south-western Nigeria go for ANC services, and factors associated with utilisation of orthodox facilities for ANC.

Methods: A cross-sectional questionnaire survey was conducted among 350 randomly selected women

in a Nigerian urban community that delivered in the one year preceding the study and had ANC in a single site throughout their pregnancy. Chi-square tests were done to determine the association between categorical variables and further analysis using binary logistic regression was done, all at 5% level of significance.

Results: The mean age was 29 ± 5 years. A total of 179 respondents (51.1%) had ANC in government-owned facilities, 109 (31.1%) in private facilities, 56 (16.0%) in mission homes and 6 (1.7%) with TBAs. Majority of respondents, 288 (82.3%) had ANC in orthodox facilities whereas 62 (17.7%) did in informal facilities. Women with at least secondary education (OR = 2.1; CI = 1.1–4.1) and those in the middle (OR = 2.0; CI = 1.0–3.9) and high (OR = 2.4; CI = 1.1–5.1) socioeconomic groups were more likely to have ANC in orthodox facilities.

Conclusions: A significant proportion of women had ANC in informal facilities. Educational attainment and socioeconomic status of respondents were predictors of choice of facility for ANC.

P118

Sleep quality and disturbances in hormonal versus non-hormonal contraceptive users

M. Barbieri, A. Bisse, M. Torloni, H. Campos, F. Araujo, C. Guazzelli

Universidade Federal São Paulo, São Paulo, Brazil

Objective: To assess the effect of different types of contraceptive methods on the sleep pattern of users.

Methods: This cross sectional study was carried out at the Family Planning sector of São Paulo Federal University-UNIFESP, São Paulo, Brazil between 2011 and 2012. Women (20 to 45 years) using hormonal and non-hormonal contraceptives were eligible to participate. Those with uncontrolled clinical disorders (e.g., hypertension, diabetes) or using alcohol, illicit drugs or psychotropic medications were excluded. Socioeconomic data and information on contraceptive method were collected and the Pittsburgh Sleep Quality Index (PSQI) questionnaire was used to assess sleep quality and disturbances. Sociodemographic characteristics and PSQI scores of hormonal versus non-hormonal contraceptive users were compared using Chi squared, Mann-Whitney

and Student's *t* tests, and $p < 0.05$ was considered significant.

Results: A total of 235 women were included (101 non-hormonal and 134 hormonal contraceptive users). Mean age was 31.3 ± 7.6 years and most were multiparous. Only 34% of the participants had good sleep quality (PSQI scores < 5). Mean overall sleep quality scores were similar in non-hormonal versus hormonal contraceptive users: 6.1 ± 3.2 and 5.9 ± 2.9 , respectively ($p = 0.5$). Sleep efficiency was significantly higher in non-hormonal compared to hormonal contraceptive users: 94.7 ± 17.7 versus 90.0 ± 15.3 respectively ($p = 0.03$).

Conclusion: Only 34% of the participants had good quality sleep. Although sleep quality was unaffected by the type of contraceptive method used, sleep efficiency was higher among non-hormonal contraceptive users.

P119

One-year follow up of Mirena® (evaluation of 273 cases in 10 years)

K. Ertopcu¹, A. Donmez², Y. Yildirim³, B. Saydam⁴

¹Private Clinic Izmir, Izmir, Turkey, ²Ministry of Health Izmir Aegean Obstetrics and Gynecology Training and Research Hospital, Izmir, Turkey, ³Private Clinic Izmir, Izmir, Turkey, ⁴Aegean University Izmir Atatürk School of Health, Izmir, Turkey

Objective: The purpose of our study was to evaluate the acceptability, side effects and compliance of Mirena® in the first year of usage.

Design and methods: The study was performed in the Ministry of Health Training and Research Hospital. We included the patients to whom Mirena® was applied and came for follow up in the years from 2001 to 2011 into the study. Demographic properties of the cases such as; age, education level, number of births, abortions, and reproductive goals were recorded. All of the cases were accepted after individual counselling on all contraceptive methods including Mirena®. During the one-year follow up period, we recorded all findings including side effects in control examinations. We applied individual counselling, routine pelvic examinations, and vaginal ultrasonography on all the cases. Data over the ten years were recorded in a Microsoft Access-based computer programme and

later analysed by SPSS 16.0 using chi-square and Student *t* tests.

Results: Evaluating demographic properties indicated that 67% of the cases Mirena® applied had two children and 77.7% of the cases desired no further children. During the follow up period we observed side effects in 57% of the patients. Corpus luteum cysts were observed in 28% of the cases. The diameter of cysts ranged between 2.0 and 6.2 cm. Menstrual bleeding problems included most of the other side effects. Oligo-amenorrhea, menometrorrhagia, spotting, inguinal-pelvic pain or dysmenorrhea were observed in 14%, 5%, 5%, and 2% of the cases, respectively.

Conclusion: In our study, 77.7% of the women choosing Mirena® wanted no more children. Women with Mirena® must be evaluated for corpus luteum cysts, which were observed in 28% of our study, in the first year of their follow up. Unlike other studies, in our study oligo-amenorrhea was observed more than menometrorrhagia and spotting during the first year of follow up. Also, pelvic pain and dysmenorrhea were not often in the first year of Mirena® usage. These findings support the fact that Mirena® can be accepted as a good alternative method for permanent contraception for women.

P120

A survey on the state of prescription of emergency contraceptive pills in Korea

S. Ki Hong, M. Young Kwak, H. Kyoon Lee, I. Soon Lee

Cheongdam Marie Women's Hospital, Seoul, Republic of Korea

Objectives: The purpose of the survey was to understand the use of emergency contraceptive pills by investigating the state of prescription of emergency contraceptive pills in South Korea.

Method: A questionnaire about prescribing emergency contraceptive pills was answered by 30 obstetricians and gynaecologists who were working in private clinics in Seoul.

Results: The age group which showed the highest use of emergency contraceptive pills (ECPs) was 20s (66.7%). The age group which showed the lowest use was 30s (10.0%). Unmarried women (80.0%) received prescriptions of ECPs more than married women (6.7%).

ECPs were prescribed mostly in July (25.0%), August (23.5%) and December (22.2%) during the summer and winter holidays. Also they were prescribed mostly on Monday (93.3%). A total of 36.7% of women who received prescriptions were unfamiliar with the harmful effects of repetitive use of ECPs, and 53.3% of women who received prescriptions did not know that repetitive use of ECPs decreased the effectiveness of contraception. A total of 76.7% of women took counselling when they received a prescription from physicians at the hospital but 13.3% of women did not agree to counselling.

Conclusions: The results of the survey suggests that ECPs are used as a temporary solution after unplanned sex especially on Monday during the summer and winter holidays. Also, a lot of women did not know that repetitive use of ECPs has harmful effects on their body and decreased the effectiveness of contraception. Therefore, it is necessary to encourage sexuality education about the correct and safe use of ECPs and effective contraceptive methods such as oral contraceptives.

P121

Regional use of emergency contraceptive pills (ECP) over a four-year period

Z. Ulakcsai¹, M. Vanya², M. Matuz¹, R. Benko¹, G. Soos¹, G. Bartfai²

¹Department of Clinical Pharmacy, University of Szeged, Szeged, Hungary, ²Department of Obstetrics and Gynecology, University of Szeged, Szeged, Hungary

Objective: To quantify and describe the pattern of ECP use in the Hungarian Southern Great Plain region.

Design and methods: In Hungary ECPs are prescription only medicines (POM) available only in pharmacies. Crude (package-level) consumption data of ECPs is based on wholesaler's distribution data and derived from the IMS Health database. The study period was between 2008 and 2011, in the Southern Great Plain region (inhabitants: ~ 1,330,000). We used the WHO defined DDDs (defined daily dose) as a technical unit to quantify ECP use and standardised the usage data for the regional female population aged 15 to 39 years (DDD/1000 young women/year = DTWY). As the WHO defined DDDs are equal

to the amount of active substance in one ECP package, practically 1 DDD corresponds to one preventable event.

Results: Three ECPs were available in the Hungarian ambulatory care, one containing ulipristal and two products (single and double dose) levonorgestrel. Their total consumption has decreased gradually in the four-year of assessment from 29.0 DTWY in 2008 to 25.1 in 2011 $p < 0.05$. This means that 2.5 % of this female population used ECP once in 2011. The single dose levonorgestrel has become the most popular, its use increased from 11.5 DTWY in 2008 to 15.5 DTWY in 2011 with the parallel decrease of the double dose levonorgestrel-only product (from 17.5 to 7.9 DTWY). After its marketing in 2009 ulipristal use gradually reached 1.7 DTWY in 2011. The two levonorgestrel-only products represented 93% of total ECP use in 2011.

Conclusions: A significant decrease in the use of ECP occurred between 2008 and 2011. The pattern of use also changed in favour of the single dose levonorgestrel-only pill and ulipristal containing pill. These investigation of significant decrease needs further study to discover the possible explanation.

TOPIC 9: DEMOGRAPHY AND CONTRACEPTION (INCLUDING ENVIRONMENT)

P122

Subgroup analyses of a global online survey exploring healthcare providers' knowledge, attitudes and beliefs regarding intrauterine contraception for nulliparous women

L. Marions¹, T. Peers², J. Lira³

¹Karolinska Institutet/University Hospital, Stockholm, Sweden, ²Cobham Hospital, Surrey, UK, ³Hospital Angeles del Pedregal, Mexico City, Mexico

Objectives: To understand how knowledge, attitudes and beliefs regarding intrauterine contraception (IUC) for nulliparous women vary among health care providers (HCPs) according to their speciality, years of experience and role in provision of IUC.

Methods: A survey was conducted online. Respondents were from Europe, Canada, USA, Latin America

and Australia who saw at least 20 women per month for contraception and were either a gynaecologist ($n = 1130$), general practitioner (GP; $n = 447$) or family planning clinician, midwife or nurse (FPC; $n = 210$).

Results: When asked to report their top three barriers when considering IUC for nulliparous women, the most frequent responses were ‘concerns about PID’, ‘concerns about insertion pain’ and ‘concerns about difficult insertion’. Concern about PID was reported more frequently by gynaecologists (55%) than GPs (43%) or FPCs (31%). Concern about insertion pain was reported more frequently by FPCs (49%) than GPs (40%) or gynaecologists (38%). Concern about insertion difficulty was reported more frequently by GPs (66%) and FPCs (63%) than gynaecologists (51%).

HCPs with > 20 years’ experience more frequently reported PID as a barrier than those with 1 to 10 years of experience (55% vs 42%). Concern about insertion difficulty was a more frequent barrier for HCPs who refer women to other providers for IUC insertion (‘referrers’; 61%) than HCPs who perform insertions themselves (‘inserters’; 55%) or train/supervise others (54%).

Overall, 27% of respondents reported never inserting IUC in nulliparous women. Excluding these HCPs, GPs more frequently reported IUC to be ‘much more difficult’ to insert in nulliparous than parous women compared with gynaecologists or FPCs (31%, 17% and 10%, respectively). Additionally, referrers more frequently reported IUC insertion to be ‘much more difficult’ in nulliparous than parous women compared with inserters and HCPs who train/supervise (30%, 18% and 9%, respectively).

Gynaecologists and GPs more frequently reported IUC insertion to be associated with ‘much more pain’ in nulliparous than parous women compared with FPCs (21%, 20% and 11%, respectively). HCPs with > 20 years’ experience more frequently reported that IUC insertion is associated with ‘much more pain’ in nulliparous than parous women compared with less-experienced colleagues (23% vs 18%, respectively).

Compared with GPs and FPCs, more gynaecologists correctly identified how nulliparity is categorised for IUC in the WHO MEC. However, only 50% of respondents overall correctly identified nulliparity as category 2 (benefits outweigh risks).

Conclusions: Misperceptions regarding the use of IUC in nulliparous women are widespread, particularly among HCPs with > 20 years’ experience.

P123

Joining forces across sectors to meet the unmet need for family planning

D. Van Braeckel, O. Degomme

ICRH, Ghent University, Gent, Belgium

Objectives: Since the 1994 Cairo conference on Population and Development, the liberty of women and couples to decide freely on the number and timing of their children is widely recognised as a human right. One of the consequences of this consensus, the necessity to provide universal access to modern family planning methods, has however proven difficult to realise. Despite the obvious beneficial impacts of generalised access to family planning services on maternal and child health, as well as on the economic, social and psychological well-being of individuals and communities, the number of women who don’t have access to FP today is still estimated at 222,000. In some countries, the percentage of women who are willing to delay or avoid pregnancy but have no access to modern methods reaches 40%. Advocates for providing universal access to family planning are traditionally to be found in circles of health care and women’s rights, and their efforts to raise funding and political support for their cause is often hampered by competition with other causes, many of them undoubtedly being of comparable importance. One of these is the preservation of the environment and the fight against climate change. In a world of scarce resources, competition is unavoidable, but identifying synergies between causes and joining forces across sectors may lead to broader support and more successful policies and programmes.

Methods: In this presentation, we explore the inter-relatedness between meeting the unmet need for family planning on the one hand, and fighting climate change and environmental deterioration on the other.

Results: Population size is – together with lifestyle and use of technology – one of the main drivers of climate change. Reducing fertility and slowing down population growth have significant impacts on emission of greenhouse gasses, and one would expect that this is reflected in considerable attention and support from political and societal actors in the field of environment, for policies that are aimed at improving access to contraception. In practice however, the issues of family planning and demography are largely absent

in the climate change debates. Similarly, population is an important stress factor on many natural resources and vulnerable ecosystems, but conservation activities rarely include family planning initiatives.

Conclusions: We conclude by pointing at opportunities for synergies and mutual reinforcement of environmental and demographic research, policy and action, and we plead for an integrated policy approach to tackle environmental and family planning issues.

P124

Fertility intention and contraceptive use among males in Nigeria

T. Adeyoju, L. Ibisomi

University of the Witwatersrand, Johannesburg, South Africa

Objective: Despite the numerous reproductive health programmes on contraceptive use and the benefits of low fertility, many African countries still record low contraceptive prevalence and high levels of fertility. Several studies have shown mismatch in fertility intention and subsequent reproductive behaviour of women. A possible explanation for the mismatch is the influence of male partners on female contraceptive behaviour since males exert great influence on contraceptive use and fertility outcomes in households. Could the fertility intention of males therefore predict contraceptive use and eventual fertility outcome in Households?

Methodology: Using the 2008 Nigerian Demographic and Health Survey data of sexually active, fecund 15 to 59-year-old men. The analysis sample was 8585. The dependent variable was current modern contraceptive use coded as 0 for non-use and 1 for use. The key independent variable is fertility intention (which is a prospective measure of intention for or against a/another child). The study controlled for respondents' age, education, number of living children, region and occupation. Others are place of residence, wealth status and religion. Marital status was dropped from the analysis because it was highly correlated with number of living children.

Results: Results show that only 13.5% of the 15,486 men in the analysis sample were using modern Contraceptive methods while 15.9% want no more children and 34.7% want to delay having a/next child. Fertility intention was found to be associated with use

of modern contraceptive methods at both bivariate and multivariate levels. Men who do not want a/another child are significantly more likely (OR = 2.19) to use a modern contraceptive compared to men who want a/another child within two years. Men who want to space childbirth (want after two years) are also more likely to use modern contraceptive (OR = 1.50) compared to men who want a child within two years.

Education, number of living children and wealth status were significant predictors of contraceptive use with the odds for use generally increasing as level of education, number of living children and wealth increase. Age of respondents was found to be negatively associated with modern contraceptive use and respondents that reside in rural areas were less likely to be users of modern methods of contraception.

Conclusion: This study shows that the fertility intention of Nigerian men is a driver of their contraceptive behaviour. The policy and programme implications of the finding are discussed.

P125

Area of residence is associated with Australian women's uptake of long-acting contraception

J. Lucke¹, D. Herbert²

¹*The University of Queensland, Brisbane, Queensland, Australia*, ²*Queensland University of Technology, Brisbane, Queensland, Australia*

Objective: Several new types of contraception have become available in Australia over the last 12 years (the implant in 2001, progestogen intra-uterine device (IUD) in 2003, and vaginal contraceptive ring in 2007). Most methods of contraception require access to health services. Permanent sterilisation and the insertion of an implant or IUD involve a surgical procedure. Access to health professionals providing these specialised services may be more difficult in rural areas. This paper examines uptake of permanent or long-acting reversible contraception (LARCs) among Australian women in rural areas compared to women in urban areas.

Method: Participants in the Australian Longitudinal Study on Women's Health born between 1973 and 1978 reported on their contraceptive use at three surveys: 2003, 2006 and 2009. Contraceptive

methods included permanent sterilisation (tubal ligation, vasectomy), non-daily or LARC methods (implant, IUD, injection, vaginal ring), and other methods including daily, barrier or 'natural' methods (oral contraceptive pills, condoms, withdrawal, safe period). Sociodemographic, reproductive history and health service use factors associated with using permanent, LARC or other methods were examined using a multivariable logistic regression analysis.

Results: Of 9081 women aged 25 to 30 in 2003, 3% used permanent methods and 4% used LARCs. Six years later in 2009, of 8200 women (aged 31 to 36), 11% used permanent methods and 9% used LARCs. The fully adjusted parsimonious regression model showed that the likelihood of a woman using LARCs and permanent methods increased with number of children. Women whose youngest child was school-age were more likely to use LARCs (OR = 1.83, 95%CI 1.43–2.33) or permanent methods (OR = 4.39, 95%CI 3.54–5.46) compared to women with pre-school children. Compared to women living in major cities, women in inner regional areas were more likely to use LARCs (OR = 1.26, 95%CI 1.03–1.55) or permanent methods (OR = 1.43, 95%CI 1.17–1.76). Women living in outer regional and remote areas were more likely than women living in cities to use LARCs (OR = 1.65, 95%CI 1.31–2.08) or permanent methods (OR = 1.69, 95%CI 1.43–2.14). Women with poorer access to GPs were more likely to use permanent methods (OR = 1.27, 95%CI 1.07–1.52).

Conclusions: Location of residence and access to health services are important factors in women's choices about long-acting contraception in addition to the number and age of their children. There is a low level of uptake of non-daily, long-acting methods of contraception among Australian women in their mid-thirties.

P126

Perception and uptake of contraception among health workers in Ile-Ife, South-west Nigeria

A. Olaleye¹, A. Olaleye², A. Akintayo¹

¹Obafemi Awolowo University Teaching Hospital, Ile-Ife, Osun state, Nigeria, ²The Premier Specialists' Medical Center, Victoria Island, Lagos, Nigeria

Objectives: To assess the perception of health workers towards contraceptive methods, determine the proportion of health workers using modern contraceptive methods and identify factors influencing their contraceptive practice.

Methods: A cross sectional descriptive survey of 300 practicing nurses in all the health facilities within Ife Central local government, Ile-Ife was done using pre-tested, self-administered semi-structured questionnaires.

Results: Most of the respondents were less than 30 years, married, multiparous and had practiced for more than two years. The private and public health facilities were equally represented. The prevalence of contraception was 77.1% for all methods, and 75.2% for modern methods. Majority of the matrons used the intrauterine contraceptive device (IUCD), while condoms were favoured by the other groups. The desire for another pregnancy was the main reason for discontinuing contraception (51.2%). About a third of the staff nurses, nursing officers and midwives had poor knowledge of injectables and oral contraceptive pills (33.6–37.7%). Twenty six percent of respondents believed that contraception should be limited to women who had completed their families, while 32.4% were either uncertain or disagreed with the safety of contraceptives.

Conclusion: Knowledge and perception of contraception among nurses is relatively poor. Ensuring accurate information on contraception among this target group of health workers is an important step towards achieving success in the national family planning programme. This should be done through structured and comprehensive in-service training programmes.

P127

Utilisation of family planning services in a Nigerian tertiary hospital

A. Olaleye, A. Akintayo

Obafemi Awolowo university Teaching Hospital, Ile-Ife, Osun state, Nigeria

Objectives: To describe the pattern of contraceptive use, determine contraceptive prevalence rate in relation to hospital deliveries, assess discontinuation rate and identify reasons for discontinuation among family planning users in a Nigerian tertiary hospital.

Method: A six-year retrospective review of hospital records of all new family planning clinic clients from January 2006 to December 2011 was done; including theatre records of surgical sterilisation. Data was obtained from clients' cards at the family planning clinic of the teaching hospital and subjected to statistical analysis using SPSS 16.0

Results: A total of 1180 new clients were registered at the family planning clinic during the period of review. The peak age group of the family planning acceptors was 31 to 35 years, constituting 344 (29.2%) of the study population while the modal parity was Para 2–3, comprising 541 (45.9%) of the study population. Following delivery, 431 (36.5%) women sought contraception within six months and 685 (58.0%) within one year, while 508 (43.1%) were still breast-feeding at the time of visit. Of the clients, 124 (10.5%) had never used any form of contraception. The intra-uterine contraceptive device was the most accepted method, being chosen by 835 (70.8%) women, while 61 (5.2%) women chose the implant. Seven hundred (59.3%) women wanted more children in future while 68 (5.8%) of the women were uncertain. Most of the patients acquired knowledge of family planning from health personnel (71.2%). The overall contraceptive prevalence rate in relation to deliveries at the hospital was only 16.7%. The contraceptive discontinuation rate was 23.4%, with the IUCD method being the most discontinued. The major reason for discontinuing contraception was the desire for another pregnancy (62%). Menstrual irregularity, weight changes and husband's decision were some of the other reasons elucidated.

Conclusion: There is a need for increased awareness on the availability, benefits and possible side effects of family planning methods. Involvement of men in reproductive health counselling and services is also essential to improve uptake and continuity of contraception in this environment.

P128

Community heart and family planning for good community development in Haiti

D. Genescar

Children's Development Center of the Baptiste Church, Port-au-Prince, Haiti

I'm very glad to have this opportunity to participate in the extraordinary activities that help me to contribute to the progress of my country, that's Haiti. In my institution I work to help the population plan for their family, because we have a big problem here in Haiti due to many young mothers giving birth but not being able to keep their children. Working in the community with the young mothers, we try to help with family planning. We have certain things that we put in place such as vaccination, encouraging breast feeding, helping to plan families, literacy programmes, good food and so on.

The method that we use is to train community workers to show the consequences of not planning families and help with solutions. After these interventions we hope that family planning will improve the situation here in Haiti.

P129

International survey to assess women's attitudes on female hormonal contraceptive choice

D. Mansour¹, C. Moeller Leites²

¹*New Croft Centre, Newcastle upon Tyne, UK,*

²*Bayer Pharma AG, Berlin, Germany*

Objective: To gain an understanding of women's unmet needs relating to contraceptive products available in European and American markets, including an examination of usage patterns, factors driving dissatisfaction and contraceptive change, and perceptions of currently available options.

Methods: A total of 12,094 women across five countries (USA, Germany, France, Italy, and Brazil) and eligible for contraception completed a 45-minute anonymous online survey. Women were 15 to 49 years of age and comprised a representative sample of the contraceptive market across these countries according to age, education, income, and regional distribution. Responses were made on either a binary (yes/no) or 7-point scale (1 = complete disagreement; 7 = complete agreement).

Results: There was an even spread across the age range, with income level normally distributed across the sample. In total, 68% of women had a demand for contraception; 83% reported being sexually active and 56% relied on hormonal contraceptives. Most women

reported being busy, with 42% being married and 46% having children. Overall, 28% expressed an interest in novel contraceptive products and 49% stated that they would prefer to use a non-daily method. Indeed, 20% reported having discontinued oral contraceptive (OC) use due to the burden of daily administration. Of the women currently taking an OC, 17% thought a weekly option would be ideal and 28% shared the same view of a monthly option. Over half of women (52%) indicated that their preferred method of contraception was not an OC, with 43% not wanting to take a contraceptive every day. An option eliminating daily pill-taking would prompt them to switch from their current method. In 49% of women, a preference for low-dose hormones was reported, and around 40% of women felt they would like to conceive within the next three years.

Conclusions: These findings indicate that approximately half of respondents would prefer to switch to a non-daily form of contraception. Survey respondents, most of whom reported being time-constrained, stated that the burden of daily pill-taking could lead them to discontinue OC use and drive them to switch methods should a viable alternative be offered. Furthermore, the finding that around half of women wished to conceive in the near future suggested that they are unlikely to favor a longer-term contraceptive option. These results provide impetus for the development of a non-daily, non-oral contraceptive that has minimal impact on long-term fertility.

P130

Time dependent decisions: Planning of pregnancy and induced abortion in a large-scale representative study

J. Vandamme, G. T'Sjoen, A. Buysse

University of Ghent, Ghent, Belgium

Objectives: The literature has shown that some women are more vulnerable than others for experiencing an unintended pregnancy or abortion (e.g., women from lower socio-economic backgrounds). In this population-based study, we hypothesise that the current perception of a pregnancy as being unintended and a subsequent induced abortion, is also related to the time period in which a pregnancy occurs.

Method: This study draws on data from the 'SEXPert' survey, a large-scale representative survey on sexuality, sexual health and relations in the Flemish part of Belgium. Respondents were randomly drawn from the Belgian National Register and were recruited during the years 2011 and 2012. The final database consisted of 1832 men and women between 14 and 80 years old. All data were gathered via computer-assisted face-to-face interviews. Within the survey, both men and women were asked about their lifetime experience with pregnancy and offspring. For each pregnancy, the intent and desirability for the pregnancy was questioned, as well as the outcome for each of them. Multilevel analyses were performed in order to explore the relationship between features of pregnancies and respondents on the one hand and current perceptions of 'planning', 'wantedness', and induced abortions of pregnancies on the other hand.

Results: Preliminary results show that more recent pregnancies (which happened during the years 1990 to 2010, $N=1073$ or during the years 1970 to 1990, $N=821$) are currently perceived as preceded by a more conscious decision (i.e., they are more planned) than those which happened before 1970 ($N=337$) ($p<0.05$ and $p<0.001$ respectively). On the contrary, the chance that a pregnancy is currently named as 'unwanted', is roughly the same for a pregnancy that occurred before 1970 in comparison to one that occurred during 1970 to 1990 ($p=0.47$, ns) or during 1990 to 2010 ($p=0.62$, ns). The chance that an unwanted pregnancy is aborted has increased in pregnancies which happened during the years 1970 to 1990 in comparison to those which occurred before 1970 ($p<0.05$).

Conclusions: Decisions regarding pregnancy and birth (planning a pregnancy or aborting an unwanted pregnancy) are significantly related to the time period in which a pregnancy occurs.

P131

IUD use in Bangladesh: Prospects and Challenges

F. Shabnam, A. Jamil Faisal, E. Themmen, M. Rahman, S. Sarker

EngenderHealth, Dhaka, Bangladesh

Introduction: The IUD contraceptive method for females has been in use in the Bangladesh

family planning programme since the early 1950s. Currently IUD Cu-T 380A has been used in the programme since the late 1980s which offers 10 years protection against pregnancy. According to country policy, women having one living child can use IUDs and services are available at the grass route level. In spite of these advantages, the use of IUDs in relation to other contraceptive methods has never been a popular method and has declined gradually. EngenderHealth Bangladesh has been taking different initiatives directly working with the Directorate General of Family Planning (DGFP) of MOHFW to strengthen IUD services in Bangladesh in an integrated approach keeping in mind supply, demand and advocacy aspects since 2001.

Objective: The objective of our study was to review the current situation of the IUD and to identify the prospects and challenges of the programme in order to suggest any more intervention.

Design and methods: The secondary analysis of national Family Planning MIS data, Bangladesh Demographic and Health Survey (BDHS), different study reports and field findings from different project interventions.

Results: According to BDHS 2011, the share of the IUD in the methods mix is only 0.7. During the period 1975 to 2011 share of IUD in method mix varied from 2.2 in 1993 to 1994 to 0.6 in 2004. The one-year discontinuation rate is 20.3% and the major reason is side effects (16.5%). Almost 90% of IUDs are being supplied from public sources. Education or urban versus rural factors don't show any significant differences in IUD use. Initiatives have been taken to reinvigorate the services focusing on quality improvement through counselling, training, improvement of infection prevention practices, supervision, behaviour change communication (BCC) activities, initiation of postpartum IUD and provision of services through nurses.

Conclusion: Considering the country situation there are opportunities to make IUD popular considering the factors which contributes decreasing trend of IUD. Our review suggests that physicians' involvement in IUD service provision, availability of IUD in the open market/private sector, promotion of postpartum IUD and provider-acceptor direct communication during the post insertion period even through mobile phones still could be the answers to combat the challenges related to IUD. Some of the interventions are needed not only

in response to the growing market demand but also expanding consumer choices.

P132

The effect of birth interval on neonatal and post neonatal mortality in Uttar Pradesh and Maharashtra

K. Patel

*Institutional Institute for Population Sciences,
Mumbai, India*

Objective: This study was an effort to analyse the effects of birth interval on neonatal and postnatal mortality in two selected states in India. The selected states differ significantly based on the socioeconomic development in the country.

Method: By using National Family Health Survey (NFHS)-3 data, the study presents a distinct picture of neonatal and postnatal deaths corresponding to different birth intervals in the selected states. Cox-proportional hazard model and Survival analysis are done to estimate the effects of selected covariates and birth interval on infant and child mortality in two selected states in India.

Results: In a nutshell, it is evident in the study that the incidence of neonatal are more in Maharashtra whereas the occurrence of postnatal deaths are more in Uttar Pradesh. Further, the deaths differentials are analysed for different background characteristics wherein it is observed that neonatal deaths are more among males and postnatal deaths are more among females. In Uttar Pradesh, the rural and urban differentials are insignificant whereas in Maharashtra the occurrence of neonatal and postnatal deaths are high in urban as compared to rural areas.

Conclusions: The birth interval is significantly related with infant and child mortality. If the interval is more or increases for the woman then the infant and child mortality is less likely to occur. Beside this, other socio-demographic factors are also found to be associated positively with occurrence of infant and child mortality. If the mother's age at marriage and her educational level increases then infant and child mortality decreases significantly in both the states. However, these findings are more prominent in Maharashtra.

P133

Unmet needs for contraception in Mexico: Analysis of recent trends and persistent regional differences

B. Ochoa Torres

IPAS, México, D.F, Mexico

Objectives: The objective of this work was to analyse and compare the unmet needs for contraception (UNC) among married women of reproductive age in Mexico by region. Specific objectives are: describe and analyse the proportion of married women of reproductive age with unmet needs for contraception and identify and compare the changes between 1997 and 2009 in the proportion of unmet needs for contraception between different regions.

Methods: To determine the proportion of women with UNC will proceed to the standard procedure. The regionalisation identifies nine forms of exclusion measured as a percentage of the population that does not participate in the enjoyment of essential goods and services (the country was divided into five regions). Once the variables were identified, logistic regression models were estimated using information from the National Survey of Demographic Dynamics (ENADID) (first model); a second model was fitted with regions included in order to determine changes on the risk of women presenting UNC (relationship between regions and UNC). Then a logistic regression model was fitted for each of the regions in order to find differences between those who have more explanatory variables related to UNC and highlight differences between regions. Finally the last model include year as an explanatory variable (1997 and 2009) in order to identify the extent were changes in the levels of UNC.

Results: The main results of this research show that the proportion of women with unmet needs for contraception in 1997 was 12.2% and 9.8% in 2009. For both years (1997 and 2009), women with higher unmet needs are those belonging to the age group 15 to 19 years (27% and 25%), indigenous language speakers (26% and 21%), and those living in rural areas (22% and 26%). Disparities persist on women with lower educational attainment (22% and 17%) and living in highly marginalised regions. The results showed that by including regions as an explanatory

variable, they impact on the other variables. There is a direct relationship between the marginalisation of the region and the prevalence of unmet need for contraception.

Conclusion: It is concluded that there were no changes in the levels of women's unmet needs during the 12 years of study, after controlling for certain socio-demographic variables. Changes shown are due to larger population groups with lower unmet needs for contraception in 2009 (the decrease is associated with the variables in the two years of study).

P134

Intrauterine system (Mirena®) fitting in a general practice setting in Dublin, Ireland

C. McNicholas

The surgery, 50 Marian Road, Rathfarnham, Dublin 14, Ireland

Objectives: The Mirena® intrauterine system has been available in Ireland for over 12 years. Traditionally this device is fitted by a gynaecologist or a general practitioner specifically trained to carry out this procedure. As not all general practitioners are trained to do this many general practitioners refer their patients to a local colleague to fit them. This study will look at various aspects related to IUS fitting including inter referral.

Method: A retrospective study looking at the last 100 intrauterine devices fitted in this practice in Rathfarnham, Dublin. Specific areas looked at included (a) the referring doctor; (b) the parity of the patient; (c) the number of devices fitted; (d) previous contraception used if this was first intrauterine system being fitted; (e) marital status; and (f) public or private patient.

Results: The study showed that 15 local general practitioners refer their patients to have the intrauterine device fitted in a general practice setting. The majority of the women were married, one third of them were on their second device and most of them were private patients.

Conclusions: Intrauterine device fitting in general practice is increasing. Interreferral amongst general practitioners is alive and healthy.

P135

Demographic factors and satisfaction rate in subdermal hormonal implant users in contraception and sexual health clinics

M. Nasri, E. Valarche, S. Pillai

Barnet CASH services, London, UK

Objectives: Our understanding of women's reasons for contraception choice and factors related to their decision making will help us improve service delivery. Therefore, we designed this survey to gather information about some demographic factors of women in our CASH (Contraception and Sexual Health) clinics who use subdermal contraception (Implanon/nexplanon).

Method: An anonymous questionnaire containing 12 questions on demographic factors and satisfaction rate was developed. Participation was offered to women who attended clinics for insertion or removal of SDI (subdermal implant) over six months. Clients answered the questionnaire on site and returned to the clerks.

Results: Of 113 participants, 22% of the women were under 20, the majority (56%) were between 20 and 30, 16% were between 30 and 40 and 6% were above 40. Nulliparous women constituted 50% of the sample, 21% had one child and the remainder had two to six children. Thirty seven per cent were single and 30% were married. Seventy eight per cent were very to somewhat satisfied and only 4% very unsatisfied. Sixty five per cent would recommend SDI to their friends. From those who would not recommend, the main reason for 53% was irregular bleeding. Women's information source was 40% from their friends, 32% from the CASH Clinics and from their GP only 19%.

Conclusions: In this study, SDI appears to be a method acceptable to all ages but more to the 20 to 30 year olds. It is used by single and married women alike. SDI is particularly favoured by nulliparous women; this might be because it is more commonly accepted in the younger age group who have not yet started a family. Women are mostly satisfied and the major side effect compares with other studies and is irregular bleeding. As women have often been drawn to the method from their peers and also the majority are willing to recommend it to their friends we suggest maybe expert patient group set ups would be a powerful way of informing them. This could be done where

the younger age group can be targeted, e.g., schools, universities and colleges. Counselling has to include an explanation of possible bleeding patterns and emphasise the managements that are now available.

P136

Pre- and post-abortion contraception in Australian women: What is the rate of uptake of LARC methods?P. Goldstone¹, K. Francis², K. Black²*¹Marie Stopes International Australia, Melbourne, Vic, Australia, ²University of Sydney, Sydney, NSW, Australia*

Objectives: To prospectively document the types of pre- and post-abortion contraception use by women and the factors associated with uptake of long acting reversible contraception (LARC) methods.

Method: This was a prospective study of the contraception use of women attending the clinics of a large Australian abortion provider around the time of medical and surgical abortion. The aims were to determine the contraceptive use prior to abortion and the uptake of methods after abortion, particularly with respect to LARC methods. We sought to examine whether there was any relationship between demographic data and contraceptive choices.

Results: We present the first 412 of over 4000 data collected. Of the 412 women 306 (74.3%) had a surgical abortion and 89 (21.6%) a medical abortion. Three women required surgical evacuation after a failed medical abortion. Prior to abortion no method was used by 176 (42.7%) women, 111 (26.9%) were using condoms and 95 (23.1%) were using the combined pill. Inconsistent use was considered the cause of unintended pregnancy across all methods in 116 of 236 (49.2%) where contraception was used around the time of conception, including in 40 (36%) of the condom users and in 62 (65.3%) of the pill users. Only four women were using a LARC method. Following abortion 109 women (26.4%) committed to having a LARC method, although in only 60 women (14.5%) was this undertaken prior to discharge from the service. LARC insertion at the time of the abortion was not related to age or partnership status but was significantly more likely to occur in women undergoing surgical termination.

Conclusion: Inconsistent use of a contraceptive method contributed to half of all the unintended

conceptions in women. Over a quarter of women committed to using a LARC method after abortion. In about half of these was the LARC method given prior to discharge. Follow up of those women who did not have the method immediately to ensure use is important as LARC method uptake will reduce the chance of a repeat abortion. There is also growing evidence for the safety of intrauterine and implant use at the time of medical abortion.

P137

Changes in contraceptive choice of women in the city of Kazan from 2003 to 2010

G. Cleveland, I. Klyucharov, A. Shulaev

Kazan State Medical University, Kazan, Russia

Objective: Today gives patients a choice of contraceptives for every occasion in life, and therefore the choice determines the trend in contraceptive behaviour of women.

Method: We inspected the official statistical reports on Kazan demographic and population situation of 2003 and 2010 years to discover these trends in one of the big city of Russia, where approximately 50% of Russian and 50% of Tatar people live. There are about 1,200,000 citizens living in Kazan now.

Results: From 2003 to 2010 the number of women of childbearing age has increased from 305,940 to 353,565 (+15.6%). Contraceptives were used in 275,458 and 287,689 women respectively (+4.4%). But overall, contraception use decreased from 90.0% in 2003 to 81.4% in 2010. Use of hormonal contraception was found in 50,297 (18.4 %) and 63,926 (22.2%), intrauterine devices in 70,405 (25.6) and 65,894 (22.9%), surgical sterilisation in 3509 (1.3%) and 3792 (1.3%) patients in 2003 and in 2005, respectively. A special issue is teenage contraception. In 2003, there were 33,762 adolescents, with 7729 sexually active, 5651 (73.11%) used contraceptives. In 2010, there were 21,700 adolescents, 5130 were sexually active and 3836 (74.8%) used contraceptives. It should be noted that in 2003, 2808 and in 2010, 2695 pregnancies before the 12th week of gestation ended with artificial abortion.

Conclusion: Over this period the proportion of women of childbearing age rose (+15.6%). Also, the reproductive aged women population increased

followed by a decrease in the proportion of women using contraception (−8.6%). The proportion of patients using hormonal contraception rose (+3.8%), but the use of IUDs decreased (−2.7%), and using surgical methods was stable (1.3%). The problem is that one-quarter of sexually active adolescent patients are not using contraception. In addition, we should perform more detailed investigation on contraceptive behaviour in the mode of first choice, reasons for change, reasons for discontinuation of use.

P138

At what age are combined oral contraceptives (COCs) usually used by women in Serbia

V. Vukotic-Pavlovic¹, A. Kostic², B. Zivaljevic³, A. Adamov¹, U. Zupanc⁴, S. Vasiljevic⁵, Z. Stankovic⁶

¹Medical center 'Stari grad', Belgrade, Serbia, ²Medical center 'Dr Simo Milosevic', Belgrade, Serbia, ³P.O. Biljana Zivaljevic, Belgrade, Serbia, ⁴Medical center, Celje, Slovenia, ⁵P.O. Merida, Belgrade, Serbia, ⁶Institut for Mothers and Children, Belgrade, Serbia

Background: In Serbia, only 4% of women use contraceptives, which makes us one of the countries with the lowest rate of contraceptive usage in Europe. More than a half of these women use oral contraceptives and, less than a half use other contraceptives: spiral, condom, IUS, vaginal ring, etc.

Objective: The objective of this study was to determine at what age women in Serbia usually start to use a combined oral contraceptive, and to find out the reasons why an abortion is, for decades, the most often used method of contraception in Serbia.

Material and methods: An anonymous questionnaire was given to all the patients using combined oral contraceptive after they had visited a gynaecologist for a gynaecological examination.

Results: A total of 208 patients completed the questionnaire; the youngest of them was 15 years old and the oldest was 37. All of them had already started using combined oral contraceptive after the consultations with their gynaecologist to whom they answered if they had any of the relative contraindications to use of contraceptives and if they previously used some other kind of birth control.

The analysis based on the age of the patients indicates as follows:

- age 15 to 19, 50% used COC
- age 20 to 24, 19% used COC
- age 25 to 29, 21% used COC
- age 30 to 34, 6% used COC
- age 35 to 39, 4% used COC

Discussion: Based on the conducted survey, it is clear that the combined oral contraceptive is mostly used at the adolescent period, from age 15 to 19 (50%), and that the patients are almost perfectly healthy (they do not have and they did not have serious diseases). A positive surprise is the fact that the large percentage (71%) of the patients have previously used some other contraceptive consistently and responsibly, especially given the fact that 50% of the subjects are under the age of 19.

Conclusion: The results indicate that a positive shift has been made in use of contraceptives, especially combined oral contraceptives, given the fact that a half of the subjects are at the youngest age, which shows a positive effect of the health education of the young and even better results are expected through the work of the Youth Advisory Center. We hope that the percentage of the patients using COC shall soon increase further.

P139

Evaluation of oral combined contraception usage in the Russian federation in connection with the abortion level and incidence of menstrual disorders

M. Khamoshina, E. Tsapieva, E. Zorina

Russian People's Friendship University, Moscow, Russia

Background: For the last 15 years the statistics reflecting the level of women's health in Russia indicates the consistently high level of abortions and a low index of somatic and gynaecologic health.

At the same time practice has shown that hormonal contraceptives were considered by clinical physicians as good medicine and evidence-based medicine proved their non-contraceptive effects.

Objective: The objective of the study was to perform an analysis of the official statistical data on hormonal contraception use, abortion level and menstrual disorder prevalence and their influence on each other in Russia in 1995–2010.

Design and methods: The official review was done in order to identify trends in hormonal contraception use in Russia in the past decade and its influence on the abortion level and morbidity of the menstruation disorders. The review involved the number of abortions, the amount of women using combined oral contraceptives, the number of patients with firstly registered menstrual disorders. The last characteristic included the analysis which was done every five years since 1995.

Results: The study revealed that 1,186,100 abortions were registered in the Russian Federation in 2010. It is only one third (–29.2%) less compared with 2005 (1,675,700) but more than half (–57.1%) less in comparison with 1995 (2,766,400). It was found that studied parameters were in close relations: the increase of hormonal contraception usage for the last 15 years resulted in the decrease of abortions ($r = -1.0$) and was strongly correlated with the incidence of menstrual disorders ($r = 0.97$). The analysis showed that the increase of contraceptive users by 61.9% during 1995–2000 caused the decrease of abortions by 22.7%. Probably these changes were due to the increase or menstrual disorders by 66.6% and prescribing the COCs for treatment. The same tendency was maintained during 2000–2005. In 2006–2010 the number of COCs users increased by 25.5%. At the beginning of 2011 4.6 million women were taking COCs either for contraception or for treatment. Meanwhile the incidence of menstrual disorders decreased by 29.2% but the number of abortions decreased only by 4.4%.

Conclusion: The results of the study show that the increase in the amount of contraceptive users is correlated with a decrease in the number of abortions and stabilisation of menstrual disorders and has positively influenced women's reproductive health in the Russian Federation.

P140

The awareness on sexual and reproductive health issues in urban and rural areas of Greece: A retrospective study on 200 adults 18 to 45 years old

A. Anastasiadis, G. Paltoglou, N. Tzoumas, A. Koumousidis, L. Top, A. Deltsidou, M. Varras, A. Leontsini, N. Salakos

2nd Department of Obstetrics and Gynecology, National & Kapodistrian University of Athens Medical School,

Aretaieio Hospital – Family Planning Unit, Athens, Greece

Background: Sexually transmitted diseases threaten every sexually active individual. Our younger adults, as more IT literate, should be better familiarised with the various methods of STD protection as well as of the traditional and modern contraception.

Objective: Our purpose was to investigate and compare the awareness of 18 to 45-year-old adults from urban and rural areas on sexual and reproductive health issues and establish any potential new strategies for its best promotion.

Design and methods: Two hundred individuals coming from either our capital or one specific rural town (Tripoli), were stratified randomly and answered a three-part closed ended questionnaire. The reason we chose individuals particularly from these two industrialised areas, was to create a certain lifestyle spectrum, in the one end of which the urban mentality is totally expressed (Athens) whereas its other end (Tripoli) represents the rural way of life. The spectrum interval between these two cities can be assumed that it contains at large the rest of the Greek areas, which are indeed more urban than Tripoli but less than Athens. Descriptive statistics was conducted and contingency tables were created.

Results: A total of 29% reported a committed relationship, trusted traditional methods of contraception and protection from STDs, like condoms (18% out of them were not regular users). Moreover, the percentage of hormonal contraception was low, while the younger the person or the more of an urban lifestyle they had adopted, the less cautious was their choice of sexual partners. Men still seemed to be alternating between sexual partners and performed 'one night stands' more frequently than their female counterparts. Furthermore, people living in Athens had abandoned sexual intercourse without a condom, while they still had multiple sexual partners and more 'one night stands' in comparison with people living in the provinces. We noticed the urban population to be more confident, but this seemed to have been a result of the multiple information that had led to 'fatigue' and a defeatist attitude towards current health dangers. Province inhabitants preferred contraceptive methods with easiness in use, low cost, kind of and accordance with moral beliefs.

Conclusions: The awareness on sex and reproduction is not yet as well developed as we might have expected according to our adequate standard of living

before the years of the economic crisis. However, objective improvement of contraception methods, thorough information and organised sex education programmes for young people are expected to help the adoption of safe sex practices in the future.

P141

Contraception behaviour in women with recurrent abortion

M.C. Almeida¹, T. Bombas², I. Silva¹, J. Monteiro¹, T.S. Fernandes², P. Moura²

¹Maternity Bissaya Barreto, CHUC, Coimbra, Portugal,

²Maternity Daniel de Matos, CHUC, Coimbra, Portugal

Background: The rate of recurrent abortion in Portugal, five years after the legalising of abortion by women request is 26%. There has been a struggle and a concern of health professionals to combat this reality.

Objectives: To assess the method of contraception used by women who request an abortion (IG) in two public health obstetric services in Portugal.

Material and methods: We included the women in two groups: (A) women without previous abortion; and (B) women who had had one or more abortions. We assessed socio-demographic characteristics, the contraceptive method before and after the abortion and the reasons for unplanned pregnancy. A statistical analysis was done using the Statistics Package for the Social Science (SPSS) version 17.0.

Results: We included 3030 women, of whom 16.2% ($n = 492$) had had recurrent abortions. Comparing the two groups, in group B the women's age was higher (30.4 years old vs. 28.6 years old $p < 0.001$), there were more women with a stable relation (59.6% vs 52.4% $p < 0.01$), multiparous (67.7% vs. 53.1%, $p < 0.001$) and more frequently foreign (18.9% vs. 11.5%, $p < 0.0001$). Group B had a lower frequency of family planning attendance (45.5% vs 51.3%, $p < 0.01$), but reported higher use of contraceptive methods (79.5 % vs. 74.6%, $p < 0.05$) before abortion. Missing a pill was the most frequent reason for pregnancy in group B (34.5% vs. 27.7%, $p < 0.05$) followed by condom failure which was more frequent in group A (20.4% vs. 27.2%, $p < 0.01$). The contraceptive choice after abortion reveals a tendency to use LARC in group B: implant 18.6% vs 9.7%,

$p < 0.001$ and IUD 18.8% vs 14.5%, $p < 0.001$) with no significant differences in the choice of tubal ligation or other methods (condom, ring, patch). Group B also had a lower frequency of Family Planning attendance after abortion (80.5% vs 89.3%, $p < 0.001$).

Conclusions: In this study, women with recurrent abortion were older, more often multiparous and had more frequently stable relationships. The leading cause of pregnancy was related with inconsistent use of a contraceptive method (oral and condoms) and with lower frequency of Family Planning attendance. It seems important to promote these appointments with an improvement in counselling and to promote the use of LARC.

P142

Information and knowledge about contraception: A randomised control study among student in health faculties

I. Boutas, C. Sofoudis, E. Kalampokas, C. Anastasopoulos, N. Tzoumas, L. Top, N. Salakos

Aretaieion Hospital, Athens, Greece

Introduction: Young adults, more and more often begin to have sexual activity without adequate use of contraceptive methods. The purpose of this study was to determine the degree of knowledge regarding the use of contraceptive methods among students in the faculties of Medicine, Pharmacy and Midwifery and whether students had been informed by the University.

Material and methods: A total of 600 students (male and female) aged between 18 and 22 years selected randomly, are included in this study. The only condition of enrolment in this study, was the student status in one of three health faculties at the University of Athens. A multiple choice questionnaire was used, based on the guidelines of the WHO (Cleland J. Sexual and reproductive health of adolescents. Asking young people about sexual and reproductive behaviours: Illustrative questionnaire for interview-surveys with young people). It included questions about contraception, abortion, the source and the age of information.

Results: The mean age was 21 ± 0.4 years. In our study group 213 (35.5%) were males and 387 (64.5%) females. The majority of the participants were females because most of the students in the midwifery department were females. A total of 407 students (67.8%) grew-up in a big city, 21.3% declared that they had informed about contraception from their parents, 15.5% (school), 28.5% (friends), 22.9% (books and media), University (8.2%) and other answers (3.6%). Most (79.4%) of the medical students answered that the degree of knowledge obtained from University was unsatisfactory. The same opinion was held by 84.7% of the Pharmacy students and 82.3% of the Midwifery students.

Are you capable of helping other people about contraceptive issues?

	Medicine	Pharmacy	Obstetrics
Yes	16.4%	13.1%	12.9%
No	83.6%	86.9%	87.1%

Knowledge about reproductive health and contraception

	Correct	Incorrect	Do not know
Pregnancy with the 1st contact	81.1%	6.3%	12.6%
Easier to get pregnant in the middle of menstruation	62.5%	8.2%	29.3%
Vaginal wash after contact can reduce the risk of pregnancy	16.2%	73.3%	10.5%
The pill as contraceptive method	79.1%	8.9%	12%
Condoms against unwanted pregnancy	95%	2.1%	2.9%
Abortion in Greece is legal until 12 weeks of gestation	59.2%	14.3%	26.5%
Abortion as contraception	3.4%	90.1%	5.5%
Abortion-complications	88.7%	3.1%	8.2%
Abortion in pharmacy	6.8%	83%	10.2%

Conclusion: The knowledge of students in health faculties about issues of sexual health and contraception, reaches satisfactory levels. However, the majority

of them don't believe that they are ready to inform and help other people.

P143

Our role in the years of demographic, political and economic crisis: The Greek aspect

A. Koumousidis¹, N. Tzoumas¹, L. Top¹, I. Boutas¹, C. Sofoudis¹, C. Katsetos², N. Salakos¹

¹2nd Department of Obstetrics and Gynecology, National & Kapodistrian University of Athens Medical School, Aretaieio Hospital – Family Planning Unit, Athens, Greece, ²Tzaneio General Hospital of Piraeus, Piraeus, Greece

Background: It is widely known that history teaches the next generations, while every single generation contributes significantly to the enrichment of this valuable store of knowledge. Greece is facing the epoch of political-economic declination; a fact with great impact on demographic parameters (mean life-expectancy, Malthusian parameter r of the Exponential Law in population dynamics, entropy-reproductive potential of population).

Objective: To support the essential role of contemporary gynaecologists against current demographic shrinkage.

Design and methods: We searched the web, looking for articles concerning history of nations and low birth rate. Historical proportionality was our main tool in selecting and distributing our results, as well as in extracting conclusions. Descriptive Statistics was applied, followed by sequence analysis, association rules, grouping and forecasting.

Results: In Classical Sparta, the alarming decline of Spartan citizens, as commented on by Aristotle (384 BC–322 BC), was one of the major factors, which led to the decline of the polis during the following Hellenistic and Roman Age. In his work on the rise of the Roman Republic and its gradual domination over Greece, Polybius (200–118 BC) cites the phenomenon of low birth rate, population decrease, subsequent agricultural decline and city desertion in Greece, attributing them to Fortune (Tyche). We learnt that plagues and low birth rate among Roman citizens led to depopulation in the Empire and in order for this to be combated, barbarian tribes were

actually welcomed into the Empire and encouraged to 'set up shop' (as famous author and historian Will Durant states, 'An Empire is not conquered from without, until it has fallen from within'). On the other hand, several modern articles have attributed the EU economic crisis to low birth rate (e.g., an article from the Head of Vatican Bank, 2011).

Conclusions: Historical proof of low birth rate leading as a factor to the catastrophe of a state, is abundant. We, as gynaecologists, could decelerate and maybe reverse this decline in births by informing properly our population on their fertility options, by combating unnecessary abortions (by launching campaigns for parents, schools and media) and finally, by cultivating a positive attitude towards immigrants to Greece, as they can contribute significantly to the recovery of our wounded economy. Such actions may protect our nation from the Malthusian Catastrophe, as it was prophetically described by Thomas Malthus and published in 'An Essay on the Principle of Population' in 1798.

P144

Family planning methods of women after abortion: Evaluation of 10,390 cases based on demographic and reproductive characteristics

A. Donmez¹, E. Ceber², K. Ertopcu³

¹Aegean Obstetrics and Gynecology Training and Research Hospital, Izmir, Turkey, ²Aegean University Izmir Atatürk School of Health, Izmir, Turkey, ³Private Clinic Izmir, Izmir, Turkey

Background and objective: If a woman desires an abortion for her pregnancy, it means that she needs to use an effective family planning method. Some characteristics of women affect the choice of family planning methods, so it is important to know the woman's particular socio-demographic and reproductive characteristics which can be best source for especially post-abortive family planning counseling. The purpose of this study was to evaluate the methods of family planning of women after abortion.

Material and methods: This study was a cross-sectional investigation of a record type. The data were collected used a computer program Microsoft

Access-based in the Ministry of Health Izmir Aegean Obstetrics and Gynecology Training and Research Hospital, Family Planning Training Center.

The study population consisted of 10,390 women who had a curettage history in this hospital between 1 January 2000 and 31 December 2011. The sample size was calculated as 372 Epi Info Version 6.0 StatCalc program (2008–after induced abortion in Turkey Demographic and Health Survey TDHS, selected by the effective rate of 42.1% based on modern methods, 95% confidence interval and 5% margin of error). Systematic sampling method was used in this study. Research sample was taken one record from every 28 recordings. The socio-demographic and reproductive characteristics were investigated in women who started using family planning methods after abortion. Living children, stillbirth, dead children, induced abortion (abortion), the number of spontaneous abortions, target of fertility, and contraceptive methods was evaluated in these women. Chi-square test was used for the evaluation of research data. Permission was obtained from the hospital to do the research.

Results: The mean age of the women included in the study was ± 31.83 . A total of 62.10% of the women were primary school graduates, 75.81% wanted a child, 65.85% of the women after abortion had chosen to use the IUD, with 16.40% of women over the same period choosing oral contraceptives, 9.14% tubal ligation and 5.11% three-month injection methods.

Conclusion: After abortion, most of the women used family planning methods most of which have long-term or even permanent effects. Findings support that the post-abortive period is an appropriate time to give family planning counselling to the women to prevent future unintended pregnancies.

TOPIC 10: FAMILY PLANNING PROGRAMMES AROUND THE WORLD

P145

A decade of monitoring contraceptive security and measuring success around the world

D. Aronovich, A. Bock, M. Tien, E. Stewart,
E. Bahirai, J. Feinberg

John Snow, Inc., Arlington, Virginia, USA

Objectives: Family planning (FP) is a critical service within any reproductive health programme, providing women with the services and contraceptives they need to have timely and healthy pregnancies. This results in healthier women, babies, families, and communities. Without a reliable supply of contraceptives, FP programmes cannot provide quality services to clients. Critical to this is contraceptive security (CS)—meaning every person is able to choose, obtain, and use quality contraceptives. The *Contraceptive Security Index* was developed to measure the impact of contraceptive security efforts and to monitor progress towards this goal over time.

Method: The *CS Index* measures countries' levels of CS through an objective set of indicators covering five key CS strategic areas: supply chain, finance, health environment, access, and use. The 17 indicators are also compiled to establish composite scores for more than 60 countries. With new data collected in 2012, these data now represent four sets of scores (2003, 2006, 2009, and 2012), allowing for a full decade of monitoring performance and measuring successes. This decade corresponds to significant efforts by global donors to improve CS throughout the world. By reviewing the trends in component and total scores, stakeholders can assess progress and identify broad areas of strengths and weaknesses needing focused attention and resources.

Results: Results from the *CS Index 2012* show statistically significant improvements in CS overall over the past decade across many countries and components. The highest average component scores are in supply chain management, but the most progress since 2003 was in the finance component (average finance scores increased 11% from 2003 to 2012). In addition, countries that started with the lowest scores in 2003 (mostly from sub-Saharan Africa) have made the most significant progress in improving their total *CS Index* scores over the past decade (39% increase in the lowest score from 2003 to 2012).

Conclusions: Despite these achievements, challenges remain. Countries with the lowest scores still have much work to be done, while the highest performing countries must sustain focus on ensuring availability and access to quality contraceptives for their populations. The Index can be used to advocate for CS, set priorities, better target limited resources, and monitor progress toward achieving a secure supply of quality contraceptives into the next decade.

P146

Intrauterine contraceptive device after caesarean section: Insertion at family planning centres in southern Tunisia

M. Rekik¹, R. Ben Hmid¹, F. Zouari¹,
A. Koubaa², K. Chaabane¹, S. Kebaili¹,
D. Louati¹, H. Amouri¹, M. Guermazi¹

¹Department of Gynecology and Obstetrics, Hedi Chaker Academic Medical Center, Sfax, Tunisia, ²Department of Anaesthesiology, Hedi Chaker Academic Medical Center, Sfax, Tunisia

Objectives: To determine the optimal timing and the safety of intrauterine device (IUD) insertion after caesarean section.

Methods: Comparative retrospective study on 3070 cases of IUD insertion performed between January 2008 and December 2011. In a first group, 1885 women received it at 40 days after caesarean section (early implantation (EI)), in a second group, 183 women received it within 6 months after caesarean section (late implantation (LI)) and in a third group, 1002 women who delivered vaginally received it at variable dates (non-scar uterus (NSU)).

Results: The mean age of patients was 28 years. The mean parity was 1.8 (1–10). The groups were similar in age and parity. The rate of complications (pregnancy, expulsion of IUD, migration of IUD, bleeding, leucorrhea, pelvic pain, uterine perforation, endometritis) for the group of EI was 9.7% VS 10.9% for LI one. The association of intrauterine pregnancy and IUD was observed in 3.8% of cases with a Pearl Index of 0.06 per 100 women/year. It wasn't influenced by the presence of uterine scar. In women with a scarred uterus, partial or complete expulsion of the IUD and bleeding were significantly higher compared to the control group (NSU) at respectively 84.4% VS 15.6% and 79.4% VS 20.6% (p respectively 0.0001 and 0.011). However, no significant difference was found between the EI and LI group.

Only lower genital tract infections were significantly more frequent in the EI group compared to LI group ($p = 0.037$).

Conclusion: The presence of uterine scar is not a limit to the IUD insertion at 40 days postpartum if the rules of prevention of infection are observed.

P147

Emergency contraception: Knowledge, provision and uptake from public sector health facilities in Thekwini District, KwaZulu-Natal, South Africa

M. Drace, J. Smit, M. Beksinska, C. Milford,
L. Rambally, R. Greener, Z. Mabude,
J. Pienaar, K. Sithole, F. Scorgie

MatCH [Maternal Adolescent and Child Health]
Dept of Obstetrics and Gynaecology, University of the Witwatersrand, Durban, South Africa

Methods: As part of a health systems study which aimed to develop and implement a model of HIV/FP service integration, baseline (2009) and endline (2011) surveys were conducted with clients and healthcare providers, and facility observations were undertaken at one district hospital and six feeder clinics. The EC data collected as part of this study were analysed and are presented here.

Results: The data revealed minimal differences between clients who had 'ever heard of'/'ever used' EC at baseline and endline. A third (35%) of men, in both surveys, had ever heard of EC. Before the intervention, slightly more women had ever heard of EC (65%) compared to 59% after. Of those who had ever heard of EC, similar percentages had ever used EC at baseline and endline (16%, 15% women, 8%, 10% men). Most clients at both baseline (77%) and endline (71%) were aware they could get EC at pharmacies, while only 26% at baseline and slightly more at endline (32%) knew they could obtain EC from public sector clinics. At baseline only 19% of providers reported that they counselled new FP clients about EC compared to 58% at endline. A total of 26% of providers reported that they prescribed EC in the previous three months which increased to 38% after the intervention, however, facilities do not record EC dispensing and this increase cannot be verified from clinic records. At baseline, only one facility reported stock-out of EC, while at endline no stock-outs were reported, and two facilities reported packaging EC at their own site.

Conclusion: Knowledge and use of EC has increased from very low levels reported in the 2003 South African Demographic and Health Survey. Insufficient monitoring of EC provision means changes in uptake in the public sector cannot be evaluated. Low awareness of EC availability within

public sector clinics, compared to availability at pharmacies, may indicate that clients who had ever used EC were likely to have obtained it at pharmacies. Counselling and community campaigns are needed to increase the awareness of the availability of EC in public sector facilities and EC provision should be part of routine data collection to effectively set targets for provision.

P148

Risk of repeat abortion and choice of method for pregnancy termination

M. Worm Frandsen, C. Rørbye, L. Nilas

Hvidovre Hospital dep. 465, 2650 Hvidovre, Denmark

Objectives: The primary aim was to compare the risk of a repeat termination in women with a prior medical or surgical termination of pregnancy. The secondary aim was to describe the preferred method at a repeat termination in women who have experienced a medical, a surgical or both methods.

Design and methods: Follow-up study of a cohort of 1379 women who had a termination of pregnancy (791 medical and 588 surgical) at GA \leq 63 days in 1999 to 2001.

Results: Within a five-year period 24% (330/1379) had a repeat abortion and the frequency was higher in the surgical than in the medical group; 27% (159/588) versus 22% (171/791), $p < 0.05$. At the repeat termination more women with a former medical procedure chose this method again compared to women who originally had a surgical procedure and later chose a medical procedure; 49% (83/171) versus 13% (21/159) $p < 0.01$.

In 125 women who had a third termination after having experienced both a medical and a surgical termination, 37% (46/125) were performed medically and 63% (79/125) surgically, $p < 0.01$.

Conclusions: Approximately one fourth of the abortion-seeking women had another termination within five years, and the incidence of repeat abortion was highest in the group of surgical terminations. Women with a repeat termination tend to choose the same method as tried before, and more often a surgical termination. Women having experienced both methods more frequently choose a surgical termination.

P149

Barriers to IUD Uptake in a rural West African setting

N. Robinson, S. Geller

University of Illinois, Chicago, Chicago, Illinois, USA

Objectives: Reliable contraception is a fundamental component of family planning services and assists women in realising their reproductive goals. In low-resource settings, where birth spacing and resource utilisation are vitally important, the role of contraception cannot be underestimated. While long-acting reversible contraception (LARC) methods such as the contraceptive implant and the intrauterine contraceptive device (IUD) are known to be highly effective and cost-effective methods of contraception, they are underutilised in low-resource areas. The purpose of this study was to: (a) assess community and provider knowledge and attitudes around the IUD; (b) identify barriers for IUD uptake within a rural West African setting; and (c) use the information obtained to develop targeted interventions to address this gap in contraceptive care.

Methods: Six focus group discussions with pregnant women, postpartum women (\leq 12 months postpartum), reproductive-aged women (aged 15 to 49 years), men and healthcare workers were conducted in a rural Ghanaian village to assess knowledge and attitudes surrounding the IUD and barriers to its use. Focus group content was analysed and emerging themes were identified.

Results: IUD specific knowledge is lacking among community members and healthcare workers. Myths about the safety of the IUD contribute to lack of interest in the method. Provider discomfort with insertion is associated with incomplete contraceptive counseling and omission of IUD content during family planning discussions with potential users.

Conclusions: A combination of participant and provider-related barriers contribute to poor uptake of IUDs within the study population. These include lack of knowledge about IUDs, misconceptions about ideal candidate selection for IUD use, discomfort with insertion technique, unfounded fear of side effects and safety concerns. Targeted interventions incorporating education, training and peer role modeling can be used to address the barriers identified and to serve as a strategy to promote greater IUD uptake in this setting.

P150

Design and evaluation of an integrated community-based postpartum family planning, maternal and neonatal health package in a low-resource area of rural Bangladesh

S. Ahmed¹, C. McKaig², S. Ahmed³, J. Mungia², A. Lefevre³, A. Baqui³

¹Johns Hopkins Bloomberg School of Public Health, Sylhet, Bangladesh, ²Jhpiego, Baltimore, MD, USA,

³Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

Background: The majority of women in most developing countries deliver at home, and reaching these women for improving their postpartum contraceptive use remains a major challenge for family planning programmes. The study examines the effect of family planning integration with a community-based maternal and newborn health program on improving postpartum contraceptive usage and continuing through the second year postpartum.

Objectives: To test a model of community-based maternal and neonatal health integrated with postpartum family planning services in a low-resource setting and to assess the impact of the intervention package on method mix at different points during the extended postpartum period.

Design and methods: Female Community Health Workers (CHW), one per 4000 population, conducted antenatal and postpartum counselling on maternal and neonatal health care in intervention and comparison areas; complementary FP counselling and services were integrated in intervention area. Using a quasi-experimental design a cohort of 4504 pregnant women (2247 in intervention and 2257 in comparison arms) were followed from December 2007 to January 2012, till 24 months postpartum at six time points.

Results: The hazards of all method adoption was approximately 2.5 times higher in the intervention arm compared to the control arm during 24 months postpartum period (unadjusted hazards ratio [HR] = 2.30; 95% confidence interval [CI]: 2.06–2.57, and adjusted HR = 2.49; 95% CI: 2.27–2.74). During the 24 months of postpartum observation, the incidence of a subsequent pregnancy was significantly ($p < 0.001$) lower in the intervention

arm (27.9%), compared to control arm (33.7% [adjusted Rate Ratio [RR]: 0.81; 95% CI: 0.68–0.98]). Counselling coverage by CHWs during pregnancy (99% vs. 99%; $p > 0.1$) and within first week of delivery (86% vs. 89%; $p > 0.1$) were similar in both arms.

Conclusions: Study findings demonstrate the feasibility and effectiveness of integrating postpartum family planning services into community-based maternal and newborn care programmes. Maternal and newborn health programmes should consider integrating family planning as a service component to improve use of family planning services and birth spacing and providing an opportunity to improve overall maternal and neonatal health. This low cost model can be effectively replicated in low resource settings in Asia and Africa.

P151

Evidence-based modelling suggests improved maternal and child health through increased access to family planning

H. Qureshi³, M. Tariq², K. Shahzad², S. Rab², D. Aronovich¹, J. Feinberg¹

¹John Snow, Inc., Usaid Deliver Project, Arlington, VA, USA, ²John Snow, Inc., Usaid Deliver Project, Islamabad, Pakistan, ³Health Services Academy, Government of Pakistan, Islamabad, Pakistan

Objectives: In 2009, with assistance from the US Agency for International Development (USAID), the Government of Pakistan introduced advanced contraceptive supply chain interventions to improve maternal health. The interventions were aimed at strengthening supply chain performance throughout the system and improving contraceptive commodity availability, including activities to sustainably improve capacity in procurement and logistics management, as well as warehouse rehabilitation. Additionally, a web-based logistics management information system (LMIS) was launched in 2011 to improve data visibility and commodity availability at the last mile, where clients can access them. The LMIS has been capturing consumption data on a monthly basis in the public sector, two major NGOs, plus sales data from social marketing.

From 2001 to 2009, the Pakistani government spent on average \$5 to 6 million per year on contraceptive procurement. To drastically increase these inputs, USAID supported in-kind contraceptive commodity donations worth \$32 million for 2010 and 2011 based on the projected needs of the population. This analysis endeavoured to determine the impact of these supply chain interventions and the drastic increase in contraceptive availability in Pakistan on maternal and child health outcomes.

Method: Using logistics data on contraceptive distribution, this analysis mapped the significant increase in contraceptive availability to the entire population across Pakistan. This data was used to calculate couple-years of protection. Evidence-based conversion factors were then applied to estimate the impact of contraceptive commodity availability on key maternal and child health outcomes, including unplanned pregnancies prevented, maternal and infant deaths averted, and other health outcomes.

Results: Findings suggest that the quantities of contraceptives distributed to clients through the supply chain from 2010–2011 represent approximately 11 million couples served, which in turn translates into an estimated 3.2 million unintended pregnancies prevented and more than 81,000 infant deaths and 3300 maternal deaths potentially averted. Approximately a 14% increase in contraceptive use from 2010 to 2011 can be attributed to the level of support provided for family planning commodities.

Conclusions: This analysis suggests that increasing product availability through improved supply chain performance is rapidly meeting the needs of Pakistani couples. Ensuring access to reproductive health commodities has a profound impact on the health of individual women, as well as the social and economic well-being of families and communities.

P152

Improving the measurement of unintended pregnancy to improve reproductive health

J. Hall¹, G. Barrett², A. Malata⁴, J. Stephenson³

¹UCL, Institute of Global Health, London, UK, ²Brunel University, London, UK, ³UCL, Institute of Women's Health, London, UK, ⁴University of Malawi, Lilongwe, Malawi

Objective: A total of 41% of all pregnancies are unintended, partly because 215 million women have an unmet need for family planning. Meeting this need would reduce unsafe abortions, maternal and neonatal deaths and reduce population growth, but doing so requires a greater understanding of pregnancy intention and women's contraceptive needs. The growing realisation of the complexity of pregnancy intention has led to calls to develop better measures. The London Measure of Unplanned Pregnancy (LMUP) is a new measure of the degree of pregnancy intention that scores intention as a continuous variable. The aim of this research was to translate and validate the LMUP for use in the Chichewa language in Malawi.

Methods: The LMUP was translated into Chichewa by three native Chichewa speakers, discussed to agree one translation and back translated by a native English speaker. The translation was tested on five pregnant women using cognitive interviewing techniques. Data was collected from pregnant women recruited at antenatal clinics and was analysed using classical test theory and hypothesis testing to validate the Chichewa LMUP.

Results: A total of 125 women aged from 15 to 43 (average 24.5), with parities of 1 to 8 (median 2) completed the Chichewa LMUP. The full range of LMUP scores from 0 to 12 was captured (median 6). There was no missing data, indicating excellent acceptability, no question had an endorsement rate of >80% and the scale was internally consistent (Cronbach's $\alpha = 0.78$). Primary component analysis showed the Chichewa LMUP to be internally valid.

Hypothesis testing confirmed that unmarried women ($p = 0.003$), women who already had four or more children alive ($p = 0.0051$) and women who were below 20 or over 29 ($p = 0.0115$) were all more likely to report their pregnancies as more unintended supporting the external validity of the Chichewa LMUP.

Retesting was conducted on 70 women with an average test-retest interval of 7 days (range 5 to 10 days). The median difference in the scores at test and retest was zero (mean -0.2). The weighted Kappa statistic was 0.80 showing good stability.

Conclusion: The Chichewa LMUP is a valid measure of pregnancy intention in Malawi. This is the first validation of this tool in a low-income country setting but evidence is building that the LMUP has good cross-cultural relevance. Using the LMUP more widely will greatly enhance our understanding of pregnancy intention, leading to insights into the family planning

services that are required to better meet women's needs and ultimately save lives.

P153

Impact of promotion of Lactational Amenorrhea Method within a community-based maternal, neonatal and child health programme in rural Bangladesh

S. Ahmed¹, C. McKaig², S. Ahmed³, J. Mungia², A. Baqui³

¹*Johns Hopkins Bloomberg School of Public Health, Sylhet, Bangladesh,* ²*Jhpiego, Baltimore, MD, USA,*

³*Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA*

Background: In Bangladesh, median duration of breastfeeding is 32.8 months. However, the mean duration of exclusive breastfeeding is only 1.8 months. Lactational Amenorrhea Method (LAM) is not promoted by service providers in Bangladesh. In the study area of Sylhet, Bangladesh, 26% births occur at intervals less than 24 months, contraceptive prevalence rate (CPR) was 31% and unmet need for FP was 26%.

Objectives: We describe an innovative intervention which attempted to integrate promotion of lactational amenorrhea method (LAM) and switching from LAM to other modern methods with a community-based maternal, neonatal and child health programme in a religiously conservative rural Bangladeshi community.

Design and methods: We implemented the study in two sub-districts of Sylhet district in northeastern Bangladesh. The intervention consists of (i) systems and capacity strengthening and, (ii) community-based advocacy and behaviour change communication that is targeting pregnant and postpartum women and their families. Female Community Health Workers (CHW), one per 4000 population, conducted antenatal and postpartum counselling on maternal and neonatal health care in intervention and comparison areas; complementary FP counselling including LAM and services were integrated in intervention area. Using a quasi-experimental design a cohort of 4504 pregnant women – 2247 in intervention and 2257 in comparison arms were followed from December 2007 to

January 2012. Quantitative data were collected from the consented cohort longitudinally from pregnancy to 24 months postpartum at six time points.

Results: Ever LAM use rate is 38% in intervention arm compare to none in comparison area. At three months postpartum the LAM use rate was 23% in the intervention group compared to zero in the comparison group and at six month 12% in intervention area. Contraceptive use rate at three months (36% vs. 11%; $p < 0.01$), six months (37% vs. 18%; $p < 0.01$), 12 months (42% vs. 27%; $p < 0.01$), 18 months (47% vs. 34%; $p < 0.01$) and 24 months postpartum (48% vs. 35%; $p < 0.01$) were significantly higher in intervention arm with significant changes in the method mix over time. Exclusive breastfeeding at three (58% vs. 47%; $p < 0.01$) and five months postpartum (40% vs. 25%; $p < 0.01$) were significantly higher in the intervention arm.

Conclusions: The inclusion of LAM counselling in a maternal and newborn care programme, demonstrates significant potential for increasing contraceptive use among postpartum women during a particularly vulnerable period, the first 24 months postpartum, the highest risk for the mother and newborn.

P154

What would make pregnant women in rural Ghana be willing to adopt postpartum family planning?

F. Baiden¹, S. Eliason², Y. Graham-Hayfron³, D. Bonsu⁴

¹*Kintampo Health Research Centre, Kintampo, BAR, Ghana,* ²*Department of Community Medicine, University of Cape Coast, Cape Coast, CR, Ghana,* ³*Municipal Health Directorate, Saltpond, Ghana,* ⁴*Saltpond Government Hospital, Saltpond, Ghana*

Introduction: To promote the uptake of postpartum family planning (PPFP) in sub-Saharan Africa, it is necessary to understand how women arrive at their decisions to adopt PPFP.

Method: We conducted a survey among pregnant women attending antenatal clinic in a rural district in southern Ghana to identify factors that influence their willingness to adopt PPFP. We used univariate and multivariate analysis to explore predictors of the willingness to adopt PPFP.

Results: We interviewed 1914 pregnant women attending antenatal clinics in four health facilities. About 84% considered PPFP acceptable, and 70% expressed a willingness to adopt a method after delivery. The most preferred methods of PPFP were the injectables (31.5%), exclusive breastfeeding (16.7%) and oral contraceptive pills (14.8%). The perception of partner acceptability (OR = 5.29, 3.23–8.38), acceptability of PPFP by the pregnant woman (OR = 3.54, 1.65–7.60), having had prior experience with the use of injectables (OR = 3.06, 1.71–5.47) and carrying an either unwanted or unexpected pregnancy (OR = 1.50, 1.11–2.02) were independent predictors of a pregnant woman's willingness to adopt PPFP. Conversely, women who had heard of the diaphragm (OR = 0.48, 0.30–0.76) were less likely to want to adopt PPFP.

Conclusion: Male partner approval, acceptability of PPFP by the pregnant woman, past experience with the use of injectables, and the circumstances under which the current pregnancy occurred are factors that determine the willingness of pregnant women in rural Ghana to adopt PPFP. Antenatal and early postnatal clinics need to be organised to meet these aspirations.

P155

Declining teen birth rates in California are attributable to a public-private partnership for improving contraceptive access

M. Chabot, H. Thiel de Bocanegra, Ph. Darney

Bixby Center for Global Reproductive Health, University of California, San Francisco, San Francisco, California, USA

Objectives: One in seven US births occurs in California, the world's eighth largest economy. Teen births have exceptional consequences for health care costs and economic development. In 1996 California inaugurated a unique public-private partnership to make contraception available to those without access to it. This 'Family PACT' Program placed special emphasis on reducing teen birth rates which were the highest in USA but which have subsequently declined steeply compared to other states, e.g., Texas. To determine if the programme was an important factor in the

subsequent steep decline in TBR we determined the influence of various factors.

Methods: We used six independent surveys and demographic and programme data from 2006 to 2007 to identify eight important TBR covariates. We used backward multiple regression to predict TBR in 18 regions with high TBR and 18 with low rates and measured the influence of each of the covariates.

Results: The Family PACT Program was one of the three most significant ($p = 0.005$) factors affecting decreases in TBR. Others ($p < 0.001$) were low adult income and birthplace. Access to traditional health insurance had little ($p = 0.6$) influence on TBR and educational success of teens was only modestly ($p = 0.1$) important.

Conclusions: Access to contraception through a specialised, well-funded public-private partnership is more important in decreasing TBR than access to traditional health insurance, education, or other factors.

P156

Gaps, trends and patterns in fertility rate and modern contraceptive use among Ghanaian women from 1988 to 2008: Is inequity an issue in attaining MDG 5 in Ghana?

B. O. Asamoah, A. Agardh, P.-O. Östergren

Social Medicine and Global Health, Department of Clinical Sciences, Lund University, Malmö, Skåne, Sweden

Objectives: Since the inception of Millennium development goal 5, there has been positive trends in maternal health although progress is unevenly distributed. Overall, current evidence show slow progress in expanding the use of contraceptives by women, deprivation of the poorest women and those with no education from gaining access to contraceptives, and insufficient financial commitment to family planning programmes. In most resource poor countries particularly sub-Saharan Africa, modern contraceptive use and prevalence is unfairly low and fertility is very high resulting in rapid population growth and high maternal mortality and morbidity. This current research seeks to examine the gaps, trends and patterns in modern contraceptive use and fertility within different socio-demographic subgroups in Ghana from 1988 to 2008.

Methods: We constructed a database using the Women's Questionnaire from the Ghana Demographic and Health Survey 1988, 1993, 1998, 2003 and 2008. We mainly applied regression-based Total Attributable Fraction (TAF) which we consider more robust in measuring inequalities in health. We also calculated the Relative and Slope Indices of Inequality (RII and SII) to complement the TAF in our investigation. The statistical software IBM SPSS Statistics 20 and Microsoft Excel were used for analysis.

Results: There has been a strong development towards equity in use of modern contraceptives, which is not mirrored in a similar trend in fertility. This study rather showed increased trend in inequality in fertility rate related to education, income and residence from 1988 to 2008. It was also found that rural-urban residence gap in the use of modern contraceptive methods had almost disappeared in 2008 while education and income related inequalities in the use of modern contraceptives still remained.

Conclusions: One obvious observation is that the discrepancy between equity in use of contraceptives and equity in fertility must be taken very seriously and addressed in a future revision of policy in this. Otherwise this could be a major obstacle for attaining further progress in achieving the MDG 5. More research into the causes of the unfortunate discrepancy is urgently needed. There still exist significant education and income related inequalities in both parameters that need appropriate action.

P157

In the era of youth friendly services, what are the persistent challenges to youth specific reproductive and sexual health services in Kisumu, Kenya?

J. Hill

Nuffield Centre for International Health and Development, Leeds, UK

Objectives: The burden of reproductive ill-health facing Kenyan youths is significant, particularly regarding HIV/AIDS, teenage pregnancy and gender-based violence; reflecting a pattern across the sub-Saharan African region. Youth-friendly reproductive health services are internationally promoted to

tackle the burden of disease among this age-group and the Kenyan government has gone far to develop national policy to aid the health and development of Kenyan youths. Despite this, adolescent reproductive health indicators remain poor and research needs to be conducted into the persistent challenges to delivering youth-friendly services. Healthcare providers working in the field of reproductive health and youths themselves can provide valuable perspectives on these challenges. This qualitative study aims to gain an insight into the experiences and opinions of healthcare practitioners, and young people to discover the persistent challenges to adolescent and youth reproductive and sexual health service delivery and utilisation in Kisumu, Kenya.

Method: A qualitative study was conducted at a youth-friendly service in Kisumu, Kenya, in May 2010. Purposive and gate-keeper sampling methods were used to identify six health-worker participants. Snowball and convenience sampling was used to identify four youth participants. One key-informant interview was conducted. A semi-structured interview design was used and interviews were digitally recorded then transcribed and analysed using thematic content analysis. Ethical approval was granted from the University of Leeds and family health options Kenya (FHOK).

Results: There were significant health challenges, societal challenges and gender challenges to service provision. Health challenges included low condom use in relationships, myths and misconceptions about family planning and unsafe abortion for unwanted pregnancy. Attitudes of families, schools and rural communities to sexual health education posed a significant societal challenge to service provision alongside peer pressure among youths. Young men's unwillingness to attend VCT, unacceptability of medical male circumcision and gender inequality posed significant gender challenges. There were many logistical challenges to service utilisation including cost of services, unacceptability of shared adult-youth services, lack of space and lack of resources at the health centre.

Conclusions: This study highlights the many persistent challenges to delivering youth-friendly services and emphasises the importance of an innovative approach to tackling these. Peer focussed strategies are highlighted to overcome health and gender challenges alongside community outreach programs to overcome wider societal challenges. Logistical challenges are

difficult to overcome and advocacy and sponsorship are recommended to overcome challenges in funding and resources.

P158

An approach of enhancing counselling service on sexual and reproductive health for adolescents in west China: Expanding of population and family planning

W. Guo¹, X. Zheng¹

¹*School of Social and Behavioral Sciences, Nanjing University, Nanjing, China, ²Institute of Population Research, Peking University, Beijing, China*

Objectives: Sex education and related consulting is the most effective way of enhancing adolescent sexual and reproductive health. The consulting sections failed to meet 60% of the consulting needs of Chinese adolescents, which exposed the huge lack of adolescent sexual and reproductive health services. There is a great concern about adolescents in Western China because previous empirical studies show that, in comparison to their counterparts in developed Eastern China, they have a higher risk of experiencing their sexual debut, having sex without protection, suffering sexual assault, which indicate that they have more consulting needs of sexual and reproductive health. However, realisation rate of consulting in Western China is far lower than that in Eastern China. Considering that population and family planning system is the only wide and deep service system in less developed Western China, we try to conduct a quantitative analysis to explore the possibility of expanding the network to promote adolescent consulting needs.

Method: Based on the 2010 census data of a typical Western region-Jianyang of Sichuan Province, using Brass logit life-table system and Gompertz fertility model, this paper projects the total amount of women of childbearing age (15 to 49 years old) in the region and the total amount of adolescents aged 15 to 24 years old for 2011 to 2030. Then, for a better evaluation of the effects of including sexual and reproductive health counselling services into the traditional family planning service network, we calculated a series of ratio of adolescents to 15 to 49-year-old women of

childbearing age excluding female adolescents of childbearing, who traditionally can use the services of the network.

Results: The results indicate that we can develop an effective service framework for disseminating health and reproductive health knowledge to local adolescents through making less than one-fifth expansion to the capacity of current population and family planning network. And, we just need a small increase in professional personnel in consulting module of the existing service network to meet all the consulting needs of local adolescents.

Conclusions: Including the adolescent sexual and reproductive health service into population and family planning service system could help promote adolescent health with lower marginal public investment in Western China. There is also a need to target at-risk groups in the possible expanded network, who have the least amount of knowledge about their sexual and reproductive health in these less developed areas in China.

P159

Geneflex: The Frameless IUD and its use in cases of post delivery and abortion: An experience of 15 years in China

J. Hu, S. Chen

H&J Medical Devices Ltd., Beijing, China

Objectives: The objective of this report is to prove the features and efficacy of the frameless IUD: Geneflex, especially when it is used to overcome expulsion, pain and abnormal uterus cavity. Studies also explore the use immediately after delivery and abortion. The report sums up the conclusions of multiple studies.

Method: A total of 24 months observation was carried out on a randomised and a control group, 245 cases of use in post abortion, and 721 cases of use in menstrual intervals; 1014 cases of post delivery use were also observed for 12 months.

Results: A total of 95.51% continued to use the IUD after 24 months for post abortion users; 90.14% of post delivery users continued to use after 12 months.

Conclusions: Geneflex is suitable for use immediately after abortion and delivery.

TOPIC 11: HOW TO PROVIDE CONTRACEPTIVE COUNSELLING

P160

How to provide contraceptive counselling – a nurse-led service

T. Forsyth

British Pregnancy Advisory Service, Stratford upon Avon, UK

Background: Traditionally, in the UK, women have obtained contraception from their GP or a Family Planning Clinic. This is usually on an appointment basis with times offered to suit the opening hours of the clinic and without consideration of the childcare needs, transportation, working hours or other commitments of the client.

Objectives: The British Pregnancy Advisory Service (Bpas) are the UK's leading independent provider of abortion services. Bpas decided to launch a contraceptive counselling service for their clients in 2009. Starting with a pilot scheme for three NHS Primary Care Trusts (PCTs) this service aimed to reduce repeat abortions by focussing more directly on the client's specific contraception needs, providing counselling over the telephone, at a time to suit the client and therefore enabling the client to exercise choice over her location during her consultation.

Method: The Nurse-led contraceptive counselling service believes strongly in Bekaert and White's (2006) findings that 'The best method of contraception for a woman and the one she is most likely to continue with is the method she has chosen herself'. During the telephone consultation the main focus is on the woman's lifestyle, what she wants from a method of contraception, her attitude towards contraception, ensuring time is taken to explain advantages and disadvantages of all suitable methods.

Results: In the initial Pilot Study (July to September 2009) 219 women were given contraceptive counselling over the telephone and 64% chose a Long Acting Reversible Contraceptive method (LARC) following their abortion.

Two years later we tried to contact the same 219 women but only managed to speak to 74 of the same group, due to the short-term nature of mobile phone contracts. Of this group all were still using a contraceptive method and only four (5.4% of the 2-yearly follow-up group) women had changed method from

that chosen in 2009. The percentage of LARC use had remained proportionally similar at 66.2%.

Conclusion: We have found, through our Pilot Study and from continuing practice, that by addressing client's views on the disadvantages of previous methods, by helping her match a method to her lifestyle and by bringing the service to her via the telephone we have enabled our clients to take control of their contraception in a way that suits them.

P161

Contraceptive organisation and attitudes among healthcare providers – a comparison between two close cities with different social environments

M. Palmquist¹, J. Brynhildsen², G. Falk¹

¹*Obstetric and Gynecology, Division of Women and Child Health, Linköping, Sweden,* ²*Department of Clinical and Experimental Medicine, Faculty of Health Sciences, Linköping University, Linköping, Sweden*

Objective: To study and evaluate the contraceptive services provided in two close cities with a similar size of 135,000 inhabitants lying in the same county in Sweden 25 miles apart. These cities differed in social history and were regarded as a 'white-collar' city and a 'blue-collar' city. The abortion rates in the cities differed significantly with rates in the 'white-collar' city 15.3 per 1000 women and in the 'blue-collar' city 21.1 per 1000 women in 2010 ($p = 0.0026$). The population in the 'blue-collar' city had a significantly larger number of first generation immigrants (20.1% compared to 16.6%, $p = 0.049$) and significant lower educational level than the 'white-collar' city. The aim of the study was to evaluate the contraceptive services provided in the two cities. We wanted to investigate if the differences in abortion rates between the two cities could reflect differences in organisation and contraceptive counselling.

Design and methods: The study was performed in two parts. First the contraceptive organisations in the two cities were scrutinised using ten predefined quality indicators based on Sannisto et al. (2010). Second 11 healthcare providers, 6 from the 'white-collar' city and 5 from the 'blue-collar' city, were interviewed with questions focusing on how contraceptive counselling was given and attitudes among the providers. The interviews were analysed using Qualitative content analysis in several steps.

Results: In the first part we did not find any differences in the organisation of contraceptive care in the two cities. Both cities lacked fulfilment in five of the indicators that dealt with time to access to contraceptive counselling and all contraceptive methods were not available. In the second part the analysis generated four themes: 'Guidelines and medical records', 'Criteria for good contraceptive counselling', 'Availability to contraception' and 'Sexual health'. There were no differences among providers from the two cities in these themes or in their attitudes.

Conclusion: We did not detect any differences between the two cities concerning organisation of contraceptive care or attitudes among healthcare providers. Our conclusion was that it was the differences in population and social backgrounds between the cities that caused differences in abortion rates. Maybe there should be a difference in the contraceptive organisations to be able to reach risk groups for unintended pregnancies and thus abortions. We also concluded that if improvement in fulfilment of quality indicators for contraceptive care and counselling were made it might be possible to lower abortion rates in both cities.

P162

Educational COunselling effectS in the choice of different combined hormonal contraceptives in Italy (the ECOS Study)

P. Scagliola¹, F. Corda², R. Papa³, C. Bastianelli⁴, N. Bernardini⁵, D. de Feo⁵, F. Beligotti⁵

¹University of Brescia, Brescia, Italy, ²ASL Napoli 1 Centro, Naples, Italy, ³University Federico II, Naples, Italy, ⁴University La Sapienza, Rome, Italy, ⁵Merck Sharp & Dohme, Rome, Italy

Objective: In Italy, the most common method of combined hormonal contraception (CHC) is the daily oral pill (91%). Less common methods include the monthly vaginal ring (6%) and the weekly transdermal patch (3%). Several studies have suggested that a structured counselling programme can increase the use of non-oral and non-daily CHC methods, such as the patch and the ring. Moreover, counselling may have the additional advantage of improving education and setting realistic expectations about possible side effects that might reduce callbacks to physicians for questions or complaints.

Method: In the ECOS study, women requesting CHC in 17 Italian centres (18 to 40 years old) were provided with structured counselling by physicians about available CHC methods (pill, patch, ring). Questionnaires were used to collect data about the women's preferred method before and after counselling, and the reasons for their decision. The study assessed which methods were chosen after counselling, the reasons for the choice and perceptions about a range of contraceptive methods. Moreover, callbacks by the women to clinicians were assessed following the office visit for all women for 4 months.

Results: A total of 1971 women participated in the study. After counselling, 38% of the women chose a contraceptive method that was different from the one initially intended. Almost all of the initially undecided women (18%), chose a contraceptive method after counselling and in particular: 42% chose the pill, 24.8% the ring, 15.2% the patch, 9.9% other method and only 8.1% remained undecided. The number of pill users remained substantially unchanged (64% vs 65% intended). After counselling, significant increases were observed in the number patch users (7% vs. 3% intended; $p < 0.0001$) and ring users (21% vs. 5% intended; $p < 0.0001$). The number of patient's callbacks to physician offices with questions or complaints was similar for the three different methods: 9.4% for the ring, 8.4% for the patch and 6.9% for the pill.

Conclusions: In Italy, structured counselling significantly influenced a woman's choice of CHC, primarily increasing the proportion of women who chose the patch and ring. In addition, after counselling, the number of callbacks to physician offices with questions or complaints was lower than previously published rates of more than 25%. From these data, we conclude that structured counselling helps women to make more informed decisions when choosing CHC methods and to improve their confidence with the chosen method as shown by reduced physician callbacks.

P163

A new contraceptive counselling model

S. Bender

University of Iceland, Reykjavik, Iceland

Objectives: Researchers have identified a great need for the development of a conceptually based counselling

model which can be tested since there is a need to find out a better way to improve contraceptive use. The purpose of this research project was to develop a new contraceptive counselling model which could be used for that purpose.

Design and methods: A theoretical and clinical approach was used in the development of the contraceptive counselling model. Previous models about contraceptive counselling along with theories regarding health behavior were studied to find out the essential conceptual elements of value for the development of the model. The conceptual developments regarding sexual- and reproductive health over the years were also taken into consideration. Furthermore, the model is based on extensive clinical practice in providing contraceptive counselling to women and couples of reproductive age.

Results: The new model of contraceptive counselling is named TO CHOOSE. The counselling process is based on five pillars. They are Client focus, Collection of information, Choices, Choosing one method and Compliance. The counselling process is influenced by possible facilitators and barriers. The process is further influenced by factors pertaining to the client and his relationship such as mutual responsibility, equality, self-esteem, self control and special needs. Also, the process is influenced by factors related to the competence of the counsellor in regard to confidentiality, well-being, cooperation and integration of sexual and reproductive health issues into the contraceptive counselling. The decision-making regarding contraceptive use depends on the counselling process but also how well the barriers and facilitators are being explored with the client and how well the client-focused issues and counsellor-focused issues are attended to.

Conclusions: Oftentimes, in clinical practice, provision of contraception is a technically-oriented short time process instead of being counselling oriented, which is theoretically based. This new model can be used in clinical practice but needs to be tested to find out if it is effective in contributing to improved compliance.

P164

Contraceptive counselling improves LARC uptake and continuation

F. Chaudhry¹, D. Smith²

¹Leeds Student Medical, Leeds, UK, ²Princess Royal Hospital Contraception and Sexual Health Service, Huddersfield, UK

Objective: Long acting reversible contraception (LARC) is highly efficacious and cost-effective. Early reversal due to nuisance side-effects is often avoidable if patients are adequately counselled and managed. Contraceptive continuity rates and satisfaction are improved by robust counselling. Tolerance to nuisance side effects is greater if women are adequately counselled. Lack of confidence, experience and time are frequently cited as obstacles to optimal counselling. Our objective was to develop and offer training to health care professionals to help improve counselling skills and ultimately lead to better choice being offered to patients.

Method: In the UK a group of experts in this field, including the authors, formed an advisory panel to promote optimal counselling. This was then delivered in a series of workshops across the UK to health care professionals with an interest in sexual and reproductive healthcare. The objective was to share best practice.

Contraceptive counselling needs to address relevant medical history or co-morbidity to ensure patient safety.

The patient's lifestyle, expectations, cultural and religious beliefs need to be taken into consideration.

Discussion should include the mode of method, efficacy, reversibility and duration of use.

An explanation of the LARC fitting procedure including associated risks needs to be discussed. Documentation of this discussion constitutes evidence of informed consent. A sexual health risk assessment should be performed and screening offered as appropriate as part of the pre-fitting assessment for IUCDs.

Counselling thoroughly regarding side-effects of the method is essential. This requires the health care professional to be confident in their knowledge of potential side-effects and the potential bleeding profile associated with the method.

Clinicians involved in the provision of contraceptive services should familiarise themselves with treatment options for dealing with nuisance side-effects such as unscheduled bleeding.

Results: The CHOICE study in the USA showed favourable uptake and continuation of LARCs where patients received objective unbiased standardised information regarding all contraceptive options.

Our General Practice serves a population of 38,000. On auditing our continuation rates we achieved 84% for intra-uterine system at one year and 96% for subdermal implant at six months.

Conclusions: Counselling is essential to successful provision of LARCs and needs to be unbiased, realistic and appropriate. Training to improve counselling facilitates patient choice and enhances patient satisfaction with improved continuation rates. Women are more tolerant of nuisance side-effects if adequately counselled and are more likely to persevere with the method.

P165

Factors influencing non-compliance with combined hormonal contraceptives: Results from the Motivos de Incumplimiento Anticonceptivo (MIA) study

T. Martínez-Astorquiza Ortiz de Zarate¹,
T. Diaz Martin¹, J. Osset Lladonosa², F. Beligotti³

¹Hospital de Cruces, Barakaldo, Spain, ²Merck Sharp & Dohme, Madrid, Spain, ³Merck Sharp & Dohme, Rome, Italy

Objective: The MIA study in Spain assessed compliance to one of three combined hormonal contraceptive (CHC) methods: the daily pill, weekly skin patch or monthly vaginal ring. This subanalysis aimed to identify factors associated with non-compliance in the MIA study population using a multiple regression model.

Design and methods: The MIA study evaluated questionnaires from 8762 women using one of three CHC methods: pill, patch or ring. The effects/factors were assessed using logistic models using non-compliance with treatment as the dependent variable (Yes/No). A noncompliant user was defined as one who had missed or delayed taking/using her contraceptive method at least once since her last visit.

Results: For the multiple regression model, data from 7926 women were included. The probability of non-compliance depended on the method used. The use of the pill increased the probability of non-compliance compared to use of the ring, odds ratio (OR) = 4.2 (95% CI 3.7–4.7), and compared to the patch, OR = 2.5 (95% CI 2.1–3.0). The probability of non-compliance was also greater for the patch compared to the ring, OR = 1.6 (95% CI 1.4–2.0). The duration of treatment increased the probability of non-compliance (OR = 1.006) per month of

treatment. Less information or understanding of the method being used also increased the probability of non-compliance. Likewise, the probability of non-compliance increased if the user was not concerned about pregnancy, did not have support from her partner or if she felt she had not participated in deciding which method to use. Having an established routine for taking/using or removing the contraceptive decreased the probability of non-compliance. Problems associated with taking/using or removing the contraceptive were important indicators of non-compliance. Problems remembering during weekdays (Monday to Friday) or on weekends increased the likelihood of non-compliance, OR = 6.2 (95% CI 5.0–7.7) and OR = 3.4 (95% CI 2.9–3.9) respectively. The probability of non-compliance increased, OR = 2.1 (95% CI 1.9–2.5), if problems occurred while on holiday, or if problems occurred after going out the night before, OR = 2.1 (95% CI 1.4–2.0). In general, age, level of education, occupation, being in a stable relationship and knowledge of other contraceptive methods were not significant factors for non-compliance.

Conclusions: The contraceptive method used, understanding contraceptive information and simple forgetfulness all influenced the probability of non-compliance with the three CHC methods tested. Knowledge of these factors may lead to improved counselling methods and compliance for all methods.

P166

The impact of contraceptive information on non-compliance with combined hormonal contraceptives: The Motivos de Incumplimiento Anticonceptivo (MIA) study

T. Martínez-Astorquiza Ortiz de Zarate¹,
T. Diaz Martin¹, J. Osset Lladonosa², F. Beligotti³

¹Hospital de Cruces, Barakaldo, Spain, ²Merck Sharp & Dohme, Madrid, Spain, ³Merck Sharp & Dohme, Rome, Italy

Objective: The MIA study assessed compliance with the pill, patch, and ring and reasons leading to non-compliance with combined hormonal contraceptives (CHCs). Findings in 9367 women demonstrated that a higher proportion of ring users were compliant

compared with patch and pill users. This subanalysis of the MIA study investigated the impact of contraceptive information on non-compliance with CHCs.

Design and methods: Cross-sectional, multi-centre, epidemiological study conducted in public and private gynaecology centres in Spain. Women aged 18 to 28 years were enrolled if they were current users of the pill, patch or ring and had used their method for <2 years. Data were collected through a self-administered questionnaire. Non-compliance was defined as missed/delayed use of the method at least once since the last visit. Level of contraceptive information received by the user, source of contraceptive information, understanding of information and instructions, and knowledge of other methods were evaluated.

Results: A total of 57.1% of ring users stated that they were well informed about their method, compared with 37.4% of patch users and 40.3% of pill users ($p < 0.0001$). The main source of contraceptive information for all three methods was the doctor/gynaecologist (ring, 76.8%; patch, 65.3%; pill, 68.5%; $p < 0.0001$). The majority (77.0%) of ring users stated that they had 'completely' understood their contraceptive information compared with 53.2% of patch users and 59.8% of pill users ($p < 0.0001$). Almost all (99.1%) of ring users had knowledge of other methods, compared with 95.6% of patch users and 94.3% of pill users ($p < 0.0001$). Non-compliance was higher among those who felt 'not very informed' compared with women who felt 'very informed' (80.1% vs 40.8%; $p < 0.0001$), and among those who had received information from a nurse/pharmacist (66.6%) or from friends (68.7%) compared with those who received information from a doctor/gynaecologist or a family planning clinic (50.3%, both comparisons $p < 0.001$) or from the internet (54.1%, $p = 0.087$). Non-compliance was also more frequent in those who felt they did 'not understand a lot/anything' compared with those who felt that they had 'almost'/'completely' understood information and instructions (82.1% vs. 50.4%, $p < 0.0001$), and among women who had no knowledge of other methods (79.4% vs. 50.8%, $p < 0.0001$).

Conclusions: Non-compliance with CHCs was higher in women who felt uninformed, obtained information from sources other than the doctor/gynaecologist or family planning clinics, felt they did not understand information or instructions or had no knowledge of other contraceptives. Healthcare providers could improve compliance with contraceptives by providing more information on the available options.

P167

Knowledge and attitude of male and female students before and after studying on the family planning course at Karaj Azad University

P. Ashkvari, M. Cheraghi, K. Neisi

Nursing and Midwifery Faculty, Karaj/Alborz, Iran

Introduction: Family planning is in fact the most effective programme to control population crises all over the world. Undoubtedly every form of planning in this aspect requires contribution of the people in the same country, if they are educated enough in Family planning.

Objective: The purpose of the present study was to evaluate the knowledge and attitude of girl and boy students. In Karaj Azad university before as well as after they pass the family planning course.

Materials and methods: The study was carried out during 2006 to 2007 in 200 students, 100 girls and 100 boys randomly by giving questions to all selected students. On the basis of students responses data were collected and statistically analysed.

Results: The results of the study proved significant differences regarding students attitude before and after their participation in the family planning course ($p < 0.05$) our results showed no significant differences in different ages, occupations and their marital status ($p > 0.05$). No significant differences among girls and boys students were found in this aspect ($p > 0.05$) There was no significant differences for the lectures being different as well as being in different colleges.

Conclusion: This investigation proved that the family planning course had a very positive effect on the students attitude, therefore, we suggest to start teaching this important subject earlier in secondary school.

P168

A survey on information channels for oral contraceptive pills after physicians' prescription in Korea

A. Choi, H. Jin Cheong, E. Sil Lee, I. Soon Lee

Gynob Women's Clinic, Seoul, Republic of Korea

Objectives: Oral contraceptive pills (OCPs) were OTC medicine in Korea. However, two kinds of OCPs which

contained drospirenon became ETC medicine in 2007. This survey aims to know information channels for OCPs after prescription by physicians in South Korea.

Method: The survey was conducted by 612 women from age 15 to 49 who took ETC-OCPs over three consecutive packs and intended to take them in the future. The information was collected by online surveillance with multiple response questionnaires.

Results: The most common information channel for OCPs was the internet (68%), followed by physician (65%), friend (41%), pharmacist (35%), newspaper/magazine (5%), and family (4%).

The most reliable information channel for OCPs was physician (54%), followed by internet (22%), pharmacist (11%), friends (9%), and newspaper/magazine (2%). The most expected information channel in the future was physician (69%), followed by the internet (57%), pharmacist (41%), friends (31%), newspaper/magazine (30%), sex education in school (11%), and spouse/sex partner (10%).

The main awareness channels of OCPs were physician (76%) for ETC-OCPs and pharmacist (39%) for OTC-OCPs.

The most demanded information from hospital counselling for OCPs was about their effects on future pregnancy (45%), followed by management of side-effects of OCPs (42%), information about skipped OCPs (34%), non-contraceptive benefits of OCPs (29%), possible side effects of OCPs (26%), and safety of OCPs.

Conclusions: The most common information channel for OCPs was the internet in South Korea. However, physicians were proved to be the most reliable and expected information channel for OCPs after they became able to prescribe ETC-OCPs in 2007. Therefore, the increased rate of prescriptions and counselling of OCPs by physicians will be necessary to provide reliable information and increase safe use of OCPs in Korea in the future.

P169

Analysis of counselling centres for youth reproductive health in Nis, Serbia from 2007 to 2012

L. Mrdakovic Todorovic, O. Sulovic,
K. Milenkovic, J. Mladenovic, G. Antic,
M. Djordjevic, M. Djordjevic, A. Popovic

The Health Centre, Nis, Serbia

Introduction: Counselling for youth at The Health Center in Nis was founded in 2002 under the auspices of UNICEF.

Aim: A different approach to educating young people about contraception, through workshops with professional persons and multidisciplinary approach with an emphasis on youth education.

Method: Access to a database of youth counselling.

Results: During the period 2007 to 2012 15 workshops a year were organised involving doctors, gynaecologists, paediatricians, dermatologists, psychologists and social workers. Each group of children visited the counselling courses three times a week for three weeks. Three workshops a week were organised. Overall, the workshops have included about 230 students who were educated by peer educators. Over five years the 1400 high school students have been educated. Parallel lectures were held on the ground in elementary schools. In the last five years of teaching these were held in 30 schools and included about 3000 children.

Discussion: Each year, increasing numbers of children have attended the workshops. The Department of Gynaecology at The Health Center of Nis, reported that not only the number of adolescent users of oral contraceptives increased, but also the number of young girls who came for advice.

Conclusion: The continued existence and further development of counselling centres for youth reproductive health are important.

P170

How to provide contraceptive counselling: Results and data

L. Tossichetti, A. Rossi, C. Clarette

Private Counselling Center, Ascoli Piceno, Marche, Italy

Objective: We studied the women attending our Counselling Center for choosing contraception methods.

Materials and methods: We carried out an epidemiologic study at our Counselling Center in 100 patients, subdivided on the basis of their request and age. The mostly common advice sought was first about hormonal contraception which is the most effective contraceptive method because it causes ovulation to cease and it is possible to

personalise the method on the basis of each woman's own needs: (a) weekly contraception with patch; (b) daily, with pill; and (c) monthly, with the vaginal ring.

Second was the intrauterine device which has good contraceptive effectiveness and it lasts from three to five years depending on the type of the device.

Results: The type chosen gave the following results: Monthly contraception in women aged from 30 to 45 (48%); Weekly for girls from 22 to 28 (40%); and the intrauterine device only in foreign citizens and in pre-menopausal age (12%).

Conclusions: The data analysed showed most women are comfortable with the choice of monthly contraception as it avoids the gastrointestinal tract, thus is effective also against vomiting and diarrhea.

TOPIC 12: NEW DEVELOPMENTS AND FUTURE OF CONTRACEPTIVE TECHNOLOGY (INCLUDING RESEARCH)

P171

A randomised non-inferiority crossover controlled trial of the functional performance and safety of new female condoms: An evaluation of the woman's condom, FC2, va w.o.w. and Cupid

M. Beksinska¹, G. Piaggio², J. Smit¹, J. Wu³, Y. Zhang³, J. Pienaar¹, R. Greener¹, Z. Ying³

¹MatCH, Maternal Adolescent and Child Health, University of the Witwatersrand, Durban, South Africa,

²Department of Medical Statistics, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK,

³Department of Epidemiology and Social Science on RH of SIPPR, Fudan University, Shanghai, China

Objectives: New female condoms (FCs) have been developed to lower cost and/or improve acceptability. New FCs differ in design and materials. To secure regulatory approvals, including WHO prequalification, manufacturers must conduct clinical studies to verify the performance of new FC

designs. The objectives of this research were to assess functional performance, safety and acceptability of the Woman's Condom, VA w.o.w. and Cupid female condoms as compared to the FC2 device (control). This abstract presents the functional performance and safety data.

Methods: Four-period crossover, randomised non-inferiority clinical trial enrolling 600 women in South Africa and China. Primary non-inferiority endpoints were total clinical failure and total FC failure. Non-inferiority of component events: clinical breakage, non-clinical breakage, total breakage, slippage, misdirection, and invagination were assessed also. Safety and acceptability were assessed for conventional superiority. Women were randomised to condom type order and women were asked to use five of each FC type and interviewed after use of each type. Frequencies and percentages were calculated by condom type for each failure mode and differences in performance of the four FCs using FC2 as reference, with 95% CIs, were estimated using GEE models.

Results: A total of 600 women were enrolled in the study (300 in each country). In total, 572 women completed the study (300 in China and 272 in South Africa) with each woman using at least one condom of each of the four condom types. These women comprise the main analysis population. Chinese participants were older (mean age = 36.3) than their South African counterparts (mean age = 27.9). Total female condom failure for both countries combined was FC2: 3.43%; Woman's Condom 3.85%; VA w.o.w. 3.02% and Cupid 4.52%. Non-inferiority was demonstrated for all condom functions for the three condoms Cupid, VA w.o.w. and WC with respect to FC2, within the margin of 3% difference in mean failure, at the 5% significance level, in each country and for the two countries combined. Overall, the occurrence of adverse events and medical problems was very low.

Conclusions: Results from this study show that all the three new FCs function comparably to FC2 and these data are being used as clinical evidence to support manufacturer dossiers for UNFPA/WHO pre-qualification of new FC designs. Since the study completion, one of the study products, Cupid, has been prequalified. This will increase the choice of FCs available to public sector programmes for family planning and HIV prevention programming.

P172

A long-term study on the intra-vasal contraception with RISUG and its functional success of reversal by DMSO and NaHCO₃ in rats

A.S. Ansari, M. Hussain, S.R. Khan,
I. Alam, N.K. Lohiya

Centre for Advanced Studies, Department of Zoology
University of Rajasthan, Jaipur, India

Objectives: A long-term study on the success of functional reversal, following intra-vasal contraception with RISUG, using DMSO and NaHCO₃ was carried out in adult Wistar albino rats.

Method: The study was divided into seven groups containing ten animals in each, viz., sham operated control (group I), vas occlusion with RISUG for 90 days (group II), vas occlusion for 90 days and reversal by DMSO (group III), vas occlusion for 90 days and reversal by NaHCO₃ (group IV), vas occlusion for 360 days (group V), vas occlusion for 360 days and reversal by DMSO (group VI), and vas occlusion for 360 days and reversal by NaHCO₃ (group VII). Animals were subjected to bilateral vas occlusion using 5–7 µl of RISUG in each vas. Animals were subjected to vas occlusion reversal following 90 days and 360 days vas occlusion, respectively, with 250–500 µl of DMSO and 500–700 µl of 5 % NaHCO₃.

Results: Ejaculated spermatozoa of RISUG injected animals and initial intervals following reversal exhibited necrospermic status. In groups II, III, IV and VI 100% sterility was recorded at all post-injection mating intervals, whilst a gradual decrease in per cent fertility was detected in groups V and VII which was found zero per cent following 90 days of vas occlusion. Fertility test in DMSO reversed animals indicated 100% sterility in group III at 15th day mating which was gradually improved from 30–100% following 30th day to 90th day post-reversal. Group VI showed 70% fertility resumption at the first mating and eventually completely restored on the 45th day post-reversal. Reversal carried out by NaHCO₃ in group IV also exhibited a similar trend, indicated gradual fertility restoration from 80–100% following 30th day to 90th day post reversal. In group VII, however, fertility restored to 80% on the 15th day post-reversal, which was resumed to 100% in all other mating intervals. After 90 days and 360 days of

vas occlusion with RISUG, the lumen of the occlusion site showed eruption of epithelium at certain places which regained completely and patency of the vas was evident by day 90 post-reversal in all groups. The F1 progeny of reversal group animals showed normal fertility index. All other parameters remained unaltered.

Conclusion: The functional reversal with DMSO and NaHCO₃ is feasible and safe upto F₁ generation.

P175

Efficacy and safety of two low-dose levonorgestrel intrauterine systems according to women's age: A global, multicentre, open-label, randomised 3-year Phase III Pearl Index study

A.M. Kaunitz¹, S. Dermout², M. Tuppurainen³,
J. Jensen⁴, K. Rosen⁵, K. Gemzell-Danielsson⁶

¹University of Florida College of Medicine, Jacksonville, USA, ²Gynaecologisch Centrum Dermout & Albicher, Alkmaar, The Netherlands, ³Kuopio University Hospital, Kuopio, Finland, ⁴Oregon Health and Sciences, Portland, USA, ⁵Bayer HealthCare Pharmaceuticals, Inc., Montville, NJ, USA, ⁶Karolinska Institutet, Karolinska University Hospital, Stockholm, Sweden

Objectives: To evaluate whether women's age affected the efficacy and safety of two experimental levonorgestrel intrauterine systems (LNG-IUS12 and LNG-IUS16).

Methods: Nulliparous and parous women aged 18 to 35 years with regular menstrual cycles (21–35 days), requesting contraception, were randomised to LNG-IUS12 or LNG-IUS16 (initial *in vitro* levonorgestrel release rates of 12 and 16 mcg/day).

Results: A total of 1432 and 1452 women had an LNG-IUS12 or LNG-IUS16 placement attempted and were included in the full analysis set to evaluate efficacy and safety; 39.2% were aged 18 to 25; 60.8% were aged 26 to 35.

For women aged 18 to 25 and 26 to 35, respectively, the unadjusted Year 1 Pearl Indices (PIs) (95% CIs) were 0.22 (0.01–1.22) and 0.52 (0.14–1.34) for LNG-IUS12 and 0.21 (0.01–1.18) and 0.13 (0.00–0.71) for LNG-IUS16; 3-year unadjusted PIs (95% CIs) were 0.36 (0.10–0.92) and 0.31 (0.11–0.67) for LNG-IUS12, and 0.17 (0.02–0.60) and 0.40

(0.17–0.79) for LNG-IUS16; 3-year Kaplan-Meier estimated cumulative failure rates were 0.010 (0.004–0.027) and 0.008 (0.004–0.019) for LNG-IUS12 and 0.005 (0.001–0.019) and 0.012 (0.006–0.025) for LNG-IUS16.

Expulsion, perforation and PID rates were analysed for LNG-IUS12 and LNG-IUS16 combined. Expulsion risk was low in both age categories but was slightly higher in women aged 18 to 25 than 26 to 35; 3-year cumulative probability of expulsion was 4.78% versus 3.61%, respectively. Risk of expulsion was greatest in the first 12 months, regardless of age. Risks of uterine perforation and PID were very low regardless of age; one partial perforation was reported overall; two (0.2%) and ten (0.6%) cases of PID were reported in women aged 18 to 25 years and 26 to 35 years, respectively. The incidence of ectopic pregnancy during the 3-year study was similarly low for both age groups; two cases each in the LNG-IUS12 and LNG-IUS16 groups (0.17 and 0.18 per 100 women-years, respectively) in women aged 18 to 25; 1 and 5 cases in the LNG-IUS12 and LNG-IUS16 groups (0.05 and 0.25 per 100 women-years, respectively) in women aged 26 to 35.

Premature discontinuation rates over 3 years owing to AEs were 22.6% and 19.2% for women aged 18 to 25 years and 26 to 35 years, respectively. The most frequent AEs leading to discontinuation were vaginal haemorrhage (3.3%), expulsion (2.8%) and pelvic pain (2.4%).

Conclusions: The efficacy of LNG-IUS12 and LNG-IUS16 was high and unaffected by age (95% CIs for PIs in both age categories overlapped). Both LNG-IUSs were associated with low rates of expulsion, perforation, PID and ectopic pregnancy, regardless of age. Continuation rates were favourable for both LNG-IUSs and both age groups.

P177

Clinical performance of two LNG-releasing contraceptive implants during the first six months of use

V. Halpern¹, S. Combes¹, V. Brache², D. Taylor¹, M. Wang¹, L. Dorflinger¹, M. Steiner¹

¹FHI 360, Research Triangle Park, North Carolina, USA, ²Biomedical Research Department, Profamilia, Santo Domingo, Dominican Republic

Objectives: To evaluate the contraceptive effectiveness of Sino-implant (II) (Shanghai Dahua Pharmaceutical, China) and to compare blood concentrations of levonorgestrel (LNG), safety and acceptability of Sino-implant (II) with Jadelle (Bayer HealthCare, Germany). Here we present the results of the first interim analysis of the pooled data entered in the clinical database through 1 June 2012.

Design and methods: This randomised two-arm blinded trial started in October 2011. Target enrollment is 650 women randomly assigned at a 4:1 ratio to Sino-implant (II) or Jadelle. Women are followed at 1, 6 and 12 months after insertion, semiannually for three more years, and quarterly during Year 5. Levonorgestrel levels were assayed by a high-performance liquid chromatography coupled with tandem mass spectrometry.

Results: As of 1 June 2012, approximately 429 women were screened and 381 enrolled; 321 and 86 women completed 1- and 6-month visit, respectively, contributing a total of 67.7 women-years to this analysis. Participants were young (median age = 23). Nearly all (97.4%) have previously been pregnant. Pills or mini-pills were previously used by 74.2%, condoms by 75.0%, injectables by 62.9% and implants by 13.2% of the study participants.

Providers considered the contraceptive implant insertion procedure easy with the median insertion time of 33 seconds. No pregnancies have been reported to-date. Mean LNG levels at month 1 ($n=350$) and month 6 ($n=86$), pooling treatment arms, were 495.2 pg/mL (95% CI: 434.5–556.0) and 324.9 pg/mL (95% CI: 297.8–352.0), respectively, with lighter women having higher LNG levels on average. Overall, 15 women (3.9%) discontinued early, mainly due to bleeding disturbances. A total of 62 adverse events, most frequently dizziness, headache and menstrual irregularities, were reported by 21 participants.

Conclusions: Both implants appear to be easy to insert, safe and effective during the first 6 months of use among the studied population. The mean LNG levels at 6 months are comparable to the published mean LNG levels for Jadelle at 6 months. Because blood concentrations alone are not predictive of individual pregnancy risk, pregnancy remains the only definitive and clinically relevant outcome.

P178

Acceptability of new female condom designs among women attending an urban reproductive health clinic in Durban, South Africa

J. Smit¹, M. Beksinska¹, C. Joanis², G. Piaggio³, C. Ngoloyi¹, G. Rasi¹, J. Pienaar¹, R. Greener¹, Z. Mabude¹

¹MatCH (Maternal, Adolescent and Child Health), Department of Obstetrics and Gynaecology, Faculty of Health Sciences, University of the Witwatersrand, Durban, South Africa, ²Joanis Consulting, 120 Chastain Road NW, Unit 1305, Kennesaw, Georgia, USA, ³Department of medical statistics, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK

Objectives: The availability of new female condom (FC) designs, which may improve FC acceptability and affordability, will increase the choice for couples who choose to use FCs as their contraceptive and/or disease prevention method. The acceptability of three new FCs (Woman's Condom, Cupid, VA w.o.w.) compared to the currently available FC2 was evaluated as part of a trial assessing the functional performance of the three new FCs. Here we present the acceptability results of the trial from the South African site.

Design and methods: This randomised, comparative cross-over clinical trial of four FCs was conducted among 300 women in an urban reproductive health clinic in Durban, South Africa. Interviewer-assisted surveys were employed during four follow-up visits to gather data on comparative acceptability. Numbers and percentages of women in each category of acceptability were calculated. Ordinal acceptability endpoints were compared across condom types using GEE to assess differences between the distributions.

Results: In total, 272 women (91%) completed the study using all four FC types. Mean age was 28 years and 14% had previously used FCs. Although there were some variations between the four FCs for most features aside from ease of insertion, over 80% of women either liked them 'very much' or liked them 'somewhat'. For individual features there were minimal differences between the condoms with no significant differences between women in the liking of FC length, lubrication, scent, colour and overall fit. In regard to FC appearance, there was a significant

difference ($p < 0.0019$) with 66.4% women reporting they liked the appearance of the Woman's Condom 'very much' compared to Cupid (57%), FC2 (55.9%) and VA w.o.w (53.7%). Similarly for ease of use, women liked the Woman's Condom better than VA w.o.w., however no differences were found with the other FCs. For ease of insertion women found the Woman's Condom, FC2 and Cupid easier to insert than the VA w.o.w. Overall, women preferred the Woman's Condom.

Conclusions: Results from this study show that although women expressed preferences for different FCs overall, acceptability for a number of features was high. This is a good indication that new FCs are as acceptable as the currently available FC2. A greater range of FCs will provide women with a choice of available methods of protection, and potentially increase demand for FCs in contraceptive and HIV prevention programming.

P179

Ulipristal acetate may contribute to contraceptive action by its effects on tubal function

H.W.R. Li¹, S.B. Liao¹, W.S.B. Yeung¹, E.H.Y. Ng¹, W.S. O², P.C. Ho¹

¹Department of Obstetrics and Gynaecology, The University of Hong Kong, Queen Mary Hospital, Hong Kong, Hong Kong, ²Department of Anatomy, The University of Hong Kong, Hong Kong, Hong Kong

Objectives: Ulipristal acetate (UPA), a selective progesterone receptor modulator, has been shown to be an effective drug for emergency contraception. We hypothesised that it would have modulatory effects on ciliary beat frequency and muscular contraction frequency of human fallopian tube, which might contribute to its contraceptive action. This study aimed at confirming these effects.

Design and methods: This was an *in-vitro* study using human fallopian tubes obtained from six women who underwent hysterectomy for benign gynaecological conditions not involving the tubes. The tubal epithelium and smooth muscle layer of the collected tubes were stripped into small pieces. These tissue strips were cultured overnight in standardised medium containing oestradiol 100 pmol/l and progesterone

10 nmol/l resembling the physiological early luteal phase. The different tissue strips were then treated with UPA (HRA Pharma, France) at graded concentrations of 0, 20, 200 and 2000 ng/ml. These experimental concentrations were chosen based on the peak serum concentration after a pharmacological dose of UPA in human, which is around 200 ng/ml. The ciliary beat frequency of the treated tubal epithelium was measured using the photometric method. Strips of tubal smooth muscle were connected to a force transducer, and the mean contraction frequency was measured after treatment at different UPA concentrations. The different treatment groups were compared by Kruskal-Wallis test.

Results: We found an overall dose-dependent suppressive effect of UPA on ciliary beat frequency at all concentrations studied ($p < 0.001$ for each treatment group comparing to control (0 ng/ml) and comparing among each other). Muscular contraction frequency after treatment with UPA at 20 ng/ml did not differ from control (0 ng/ml) ($p > 0.05$), but was significantly reduced after treatment with UPA at 200 and 2000 ng/ml respectively ($p < 0.05$).

Conclusions: UPA treatment inhibits ciliary beat frequency and muscular contraction frequency of human fallopian tube at the pharmacological dose. These may contribute to post-ovulatory mechanisms for its contraceptive action.

P180

Blockade of calcium channels – a perspective of male contraception?

D. Driak

Faculty of Medicine of Charles University and Hospital Bulovka, Prague, Czech Republic

Objective: Besides condoms and vasectomy with their own limitations, no other reliable methods of contraception are available to men at the time. Ion channels play a key role in maturation, capacitation and acrosome reaction of sperms.

Design and methods: PubMed and Cochrane Library databases with key words male contraception and calcium channels were searched.

Results: Gossypol, extracts of *Tripterygium wilfordii* as well as extracts of other plants traditionally used in ancient medicine in China, India, Persia, etc. are

effective compounds blocking T-type calcium channels. In the 1990s, transient sterility was observed in men treated with 1,4-dihydropyridins for hypertension. Blockade of calcium channels as a mechanism of reversible male contraception was patented in 1996 by Dr Benoff.

Conclusion: Blockade of calcium channels with pharmacological inhibitors or compounds isolated from plant extracts seems to be one promising mechanism of male oral contraceptives in future.

P181

Hysteroscopic tubal occlusion (Essure®). Results and complications

J.F. Garrido, P. Deulofeu, M. Gatell

Hospital Municipal de Badalona, Badalona, Barcelona, Spain

Objectives: The Essure® method for tubal occlusion has been shown to be safe, effective and irreversible. Currently in the market the third generation methods have been easier to use in the insertion technique. Their successful results are supported by international papers, and randomised prospective multicentre studies agree on safety, minimal trauma and immediate recovery. In this communication, we review our results and the circumstances of the few complications in the insertion of the devices.

Material and methods: We started using this technique in July 2006. We performed 147 indicated occlusions and excluded two cases (an unsuspected malformation and a patient with anxiety). In seven cases we had to repeat the procedures. We divided the patients into three groups over time and statistically compared their results and need of medication.

Results: We successfully concluded the method in 133 cases (91.7%). The main reasons for failure at first attempt were tubal spasm (73.7%) followed by pain at distension (21%) and a uterine malformation (5.3%).

There were two patients who failed the radiological control. A total of 22 cases (16.5%) needed an exam by hysterosalpingography, and two of them showed tubal patency (device migration in one case). We had one case of tubal perforation confirmed by laparoscopy and one patient with an uneventful pregnancy and delivery. Counting the unconcluded procedures with all these complications as failures, the

final number of hits was 89%. The results and need of medication statistically improved over time, getting better with the increasing team experience.

Conclusions: Our results and complications are similar to those reported in the literature and most of them happened at the start of the series, since in the last 41 the successful cases were 95.2%, confirming the safety of the procedure. The complications were very few and all of them are described in this paper.

TOPIC 13: PRECONCEPTIONAL CARE (INCLUDING FERTILITY)

P182

Introducing the Reproductive Life Plan in midwifery counselling – a randomised controlled trial

J. Stern, M. Larsson, T. Tydén

Uppsala University, Uppsala, Sweden

Objective: Many women have insufficient knowledge of reproduction, including health promoting life-style prior to conception, and postpone childbearing until ages when their fertile capacity has started to decrease. The aim of our study was to investigate if the usage of the Reproductive Life Plan in midwifery counselling increases women's knowledge of reproduction and particularly knowledge of folic acid intake prior to pregnancy.

Design and methods: The study had a randomised controlled design with one intervention group (IG) and two control groups (CG1, CG2). All groups received standard care and in addition, the IG received the intervention based on the Reproductive Life Plan (RLP). The intervention consisted of a semi-structured discussion with the midwife and a brochure with information about reproduction and the RLP. A total of 299 Swedish-speaking women (mean age 23) were recruited at a Student Health Centre when they came for contraceptive counselling, Chlamydia testing or Pap smear. Participation rate was 89%. The IG and the CG1 filled out a baseline questionnaire in the waiting room before the visit. All groups were followed up with a structured telephone interview two months after inclusion; 262 women participated.

Results: After the intervention, the IG scored higher on the knowledge questions than before the

intervention; a mean knowledge score changed from 6.4 to 9.0 out of a maximum of 20 ($p < 0.001$). A higher proportion of the women in the IG were able to mention folic acid intake among things to do when planning to get pregnant after the intervention than before ($p < 0.001$). There was no difference over time in CG1, and no difference between CG1 and CG2.

Conclusions: The RLP-intervention increased women's knowledge of reproduction including knowledge of folic acid intake prior to pregnancy. A midwife initiated use of a RLP seems to be a feasible tool for promoting reproductive health and can be used by all health care professionals working with aspects related to reproduction. Further studies will be needed on how to target men and also to investigate the effect on health behaviour.

P183

Preconception care in women and men seeking fertility treatment: An exploration of current knowledge and behaviour

K. Waters, J. Shawe, J. Stephenson, J. Harper

University College London (UCL), London, UK

Objectives: The aim of this study was to assess preconception care knowledge, attitudes and behaviour of people attending a fertility clinic for Assisted Reproductive Therapy (ART). People seeking fertility treatment may be particularly receptive to preconception care since they are actively planning pregnancies. Although the benefits of preconception care among the general population are well established, research concerning preconception care among the ART population is scarce.

Design and methods: Women and their partners attending a fertility clinic in London were invited to complete a self-administered questionnaire. Data were analysed using Statistical Package for Social Sciences (SPSS) to produce descriptive and inferential statistics. The study was part of a wider investigation of preconception health and care in England with funding from the Department of Health's Policy Research Programme. Views expressed are not necessarily those of the Department.

Results: A total sample of 236 participants, 141 women and 95 male partners, completed questionnaires. Results showed that participants received inconsistent preconception information. Overall,

men accessed significantly less preconception care information than women: 90.8% of women compared to 67.4% of men ($p < 0.001$).

GPs provided preconception care information on referral to fertility services to 51.5% of women. Significantly fewer women received information by health professionals including fertility specialists ($p < 0.001$), family and friends ($p = 0.022$) and other sources such as media and the internet ($p < 0.001$).

Preconception care engagement was varied: 92.2% of women were shown to take folic acid supplementation. Many participants also engaged in lifestyle modifications in the preconception period: 65.7% of women and 45% of men were found to have had an STI check in the past six months. 78.4% of women regularly undertook physical activity, 78.1% of women who had taken medications in the past three months had received a review of these medications. Only 51.1% of women and 29.4% of men in the study abstained from consuming alcohol and 7.8% of women and 19% of men had continued to smoke in the three months prior to questionnaire completion.

No demographic factors were found to influence engagement with services; although being given information about weight, STI and immunisation checks, from health professionals, was followed by behaviour change.

Conclusion: The ART population is receptive to preconception care, yet current provision and uptake remain sub-optimal. Information provision by health professionals was inadequate, yet preconception counselling can promote behaviour modification. Targeted preconception care interventions should be initiated and carried out during GP and fertility consultations.

P184

Don't forget partners in reproductive healthcare! Also partners of pregnant women smoke and drink less in relation to pregnancy

C. Aarts¹, J. Stern¹, A. Berglund², A. Rosenblad⁴, M. Larsson³, T. Tydén¹

¹Department of Public Health and Caring Sciences, Uppsala, Sweden, ²Västmanland's County Council, Västerås, Sweden, ³Department of Women's and Children's Health, Uppsala, Sweden, ⁴Center for Clinical Research, Västerås, Sweden

Objective: To examine if partners of pregnant women diminish smoking and alcohol consumption in relation to pregnancy.

Method: This is a cross sectional and comparative study at 15 ante-natal clinics in mid-Sweden. Partners were recruited when they accompanied their women to the first visit at the antenatal clinic. The study was performed between November 2011 and February 2012. Midwives asked Swedish-speaking partners of pregnant women to participate, 139 partners were included. Partners answered a questionnaire about lifestyle before pregnancy and their lifestyle at the first antenatal visit as well as demographic data. Lifestyle questions included smoking habits and intake of alcohol. Paired t-test, Chi-Square Tests and Spearman's rank correlation were used to compare smoking and alcohol habits before pregnancy and at the first ante-natal visit.

Results: The results showed that more than half the partners who smoked three months before the pregnancy had stopped smoking at the first ante-natal visit, 19.4% versus 8.6%, $p < 0.001$ and 8% had diminished smoking. Alcohol consumption had decreased, mean 3.6 (SD 2.95) versus 2.2 (SD 2.18) standard glasses per week, $p < 0.001$. There was no association between reduction of smoking and demographic data. A correlation between age and reduction of alcohol consumption was found; those who were younger drank less than before.

Conclusions: Partners of pregnant women had reduced smoking and alcohol consumption at the first ante-natal visit compared to three months before the pregnancy.

Clinical implications: Women's health and lifestyle is in focus before and during pregnancy for good reasons as the health of the offspring depends on the health of the mother. Partners' health and lifestyle might also influence the health of the women and the offspring, so this is an important field to focus on in reproductive healthcare.

P185

Medical students' intentions and attitude toward parenthood in Ukraine

I. Mogilevkina¹, D. Melnyk¹, T. Tyden², J. Stern²

¹Donetsk National Medical University, Donetsk, Ukraine, ²Uppsala University, Uppsala, Sweden

Objective: To investigate female and male medical students' intentions and attitudes to future childbearing, their awareness regarding female fertility.

Design and methods: A 28-question survey administered in class of randomly selected student groups at the Medical University with total 858 female and 407 male participants. The questionnaire with mainly multiple choice questions and verbal rating scales from previous Swedish study was translated, adapted, pilot tested and applied. The t , X^2 and Pearson tests were used to analyse responses.

Results: The mean age was 20.5 (SD 2.5) for females and 20.4 (SD 2.4) for males. A total of 94.5% of females and 93.9% of males were born in Ukraine. Females more often than males (47.8% versus 41.0%, $p = 0.024$) reported to have a stable relations whilst 7.5% of females and 5.2% of males had a pregnancy experience either by themselves or by their partner ($p < 0.0001$): childbearing, abortions and miscarriages. Most responders had positive attitudes towards parenthood and wanted to have one or two children at the age of 24.4 (SD 2.4) for female and 26.8 (SD 3.4) for males ($p < 0.0001$), whereas 17.1% of females and 25.1% of males declared they would not like to have children in their life. A total of 12.4% of females and 23.6% of males when answering a hypothetical question about an on-going pregnancy indicated that they would have a pregnancy termination, whilst 43.7% of females and 38.8% of males considered that parenthood will partly or completely mean a 'worse position at the labour market' and 78.6% of females and 68.3% of males thought they would have 'less time for work and career'. The main reasons for decision to become a parent were: to have a stable and secure relationship and a good enough living accommodation for women and to have a permanent employment, good personal finances and a good enough living accommodation for men. Students markedly overestimated a woman's capacity to become pregnant, both in their life span, and at the time of ovulation. They have considered some decline in female fertility starts at 36 years with pronounced decline at 45. Among reasons affecting women's fertility, age was ranged by responders as the last option.

Conclusions: Male medical students had more negative attitudes towards parenthood and desired to postpone childbearing. Personal economic stability was one of the most important factors affecting the decision to become a father among medical students. Information on fertility, especially among those who intend to postpone parenthood, should be part of family planning counselling.

P186

Preconception care: An exploration of current knowledge and behaviour of men attending antenatal clinics in three London hospitals

J. Shawe, E. Howden, A. Copas, J. Stephenson

University College London (UCL), London, UK

Objective: Good maternal and paternal health before and at conception can shape a child's life course. Upward trends in obesity, diabetes and delayed childbearing underline the potential for preconception care to lead to significant health gain. This study examined men's knowledge of pre-pregnancy health and care both for themselves and for their partners, the sources of this knowledge, when the knowledge was obtained and whether men made any pre-pregnancy behaviour changes in preparation for their partner conceiving.

Design and methods: Partners of women attending routine antenatal appointments in three London hospitals were invited to complete a self-administered questionnaire in the waiting room. The questionnaire asked about their health, knowledge of pre-pregnancy care, and any experiences relating to pre-pregnancy care that they may have had. Data were analysed using the Statistical Package for Social Sciences (SPSS). The study was part of a wider investigation of preconception health and care in England. Funding was from the Department of Health's Policy Research Programme. The views expressed are not necessarily those of the Department.

Results: Questionnaires were fully completed by 527 partners and partially by 46, whilst 49 (8.5%) partners declined to complete the questionnaire.

Just 17% recalled being given pre-conception health advice for themselves from general practitioners or health professionals; 41% recalled advice from friends, family or other sources (including finding out for themselves). Just over half (53%) stated they had not received advice.

When asked if they did anything to improve their health in preparation for the pregnancy, 27% ate more healthily, 6% sought medical or health advice and 10% reported taking other actions such as taking more exercise, whilst 57% reported doing none of these.

Of those who had reported ever smoking, 49% smoked in the three months prior to conception, 48% stated they had given up before the pregnancy or because their partner might get pregnant and 30% were still smoking. Of those who had reported ever drinking alcohol, 92% were drinking in the three months prior to conception and 84% were drinking at the time of questionnaire completion.

Conclusions: Targeted interventions are needed to increase men's knowledge of preconception to raise their awareness of its value and increase motivation to change behaviour that will improve pregnancy outcomes.

P187

A pilot study on pregnancy planning and lifestyle prior to conception and in early pregnancy among Danish women

M.G. Backhausen¹, M. Ekstrand³, T. Tyden⁴,
B.K. Magnussen⁵, J. Shawe⁶, J. Stern⁴,
H.K. Heegaard¹

¹The Research Department Women's and Children's Health, Section 7821 The Juliane Marie Centre for Women, Children and Reproduction, Copenhagen, Denmark, ²Department of Gynecology and Obstetrics, Roskilde University Hospital, Roskilde, Denmark, ³Department of Care Science, Malmö University, Malmö, Sweden, ⁴Department of Public Health and Caring Sciences, Uppsala University, Uppsala, Sweden, ⁵Knowledge Center of Reproductive Health and Family Forming, University College Nordjylland, Aalborg, Denmark, ⁶Institute for Women's Health, University College London, London, UK, ⁷Institute of Gynecology, Obstetrics and Pediatrics, Faculty of Health, Copenhagen University, Copenhagen, Denmark

Objectives: To investigate to what extent Danish women have planned their pregnancy, and the association to their intake of folic acid, smoking habits and alcohol consumption prior to conception and to the 16th week of gestation.

Method: A cross-sectional survey among 258 women attending for antenatal care. Main outcome measure: intake of folic acid, smoking and alcohol consumption. Pregnancy planning was assessed by the 'London Measure of Unplanned Pregnancy' and Swedish Pregnancy Planning Scale.

Results: More than 70% said their pregnancy had been planned. Having planned the pregnancy was associated with intake of folic acid ($p < 0.001$), lower alcohol consumption ($p = 0.024$) and not smoking prior to conception. Pregnancy planning was also associated with lower frequency of binge drinking ($p = 0.003$) in early pregnancy. Approximately half of the women with a planned pregnancy took folic acid prior to conception. One out of four had been binge drinking in early pregnancy.

Conclusion: Pregnancy planning was associated with a healthier lifestyle prior to conception and in early pregnancy, but still half of the women with a planned pregnancy need to improve their lifestyle according to folic acid intake and alcohol consumption. This raises the question of whether preconception care in Denmark should be strengthened.

P188

Pericentric inversion of chromosome 9 in couples with repeated spontaneous abortions

I. Boronova¹, J. Bernasovska¹, I. Bernasovsky²

¹University of Presov, Presov, Slovakia, ²Institute of Romany Studies, Presov, Slovakia

Background: Etiology of repeated spontaneous abortions is a complex problem affected by many factors. The most common abortive factor of repeated miscarriages are chromosomal anomalies.

Objective: The aim of the study was to analyse the results of cytogenetic examination of 135 couples (270 individuals) with repeated spontaneous abortions in the Prešov region (1998–2012) with attention on the evaluation of the pericentric inversion of chromosome 9.

Methods and results: The chromosomal analysis using standard G-banding and C-banding techniques revealed a total of 7 (2.6%) findings of pericentric inversion of chromosome 9 [(inv(9)(p11q12); inv(9)(p12q13)], this type of chromosome rearrangement was observed in 1.5% of females and 3.7% of males. Despite the fact that pericentric inversion of chromosome 9 is considered to be a paraphysiological variant of normal karyotype, in the literature the association with subfertility,

recurrent abortions and abnormal clinical phenotypes is described.

Conclusion: The significance of pericentric inversion of chromosome 9 findings requires further molecular genetic analysis. Detailed molecular characterisation of chromosomal regions of points breaks is necessary for subsequent identification of genes and elucidation of molecular mechanisms involved in the pathogenesis of spontaneous abortions. Chromosome analysis is an important part of etiological investigation of couples with repeated spontaneous abortions, often revealing the etiology of reproductive failure.

P189

Heterochromatine variants in human male infertility

J. Bernasovska¹, I. Boronova¹, I. Bernasovsky²

¹University of Presov, Presov, Slovakia, ²Institute of Romany Studies, Presov, Slovakia

Background: Chromosome anomalies have been postulated to be one of the principal genetic factors in male infertility. Chromosome variants are expressions of morphological variability of chromosomes that are known to contain heterochromatin.

Objective: The aim of the study was to determine the frequency of heterochromatin variants in human male infertility.

Methods: We analysed the results of cytogenetic analyses (C-banding) of 431 infertile men in the Prešov region (2000–2012) in Slovakia.

Results: Heterochromatin variants were detected in 21.6% of subjects. The most frequent heterochromatin variant detected in 4.4% of study survey individuals was Yqh-. The results of our study confirmed the higher frequency of heterochromatin variants in infertile man. It is suggested that heterochromatin variants should not be ignored by clinicians. Molecular cytogenetics may detect of new forms of polymorphisms in human genome unidentified by previous methods.

Conclusion: The results of laboratory tests (cytogenetic examination, DNA analysis) are very important, however, complete genetic examination with detailed and aimed familiar case-taking is irrecoverable and often leads to proper identification of infertility reasons.

P190

Pregravid training of women with idiopathic epilepsy

E. Tsallagova, V. Generalov, A. Orekhov, I. Ushakova, Y. Kazakova, T. Sadykov, E. Amcheslavskaya

Research Centre for Obstetrics, Gynecology and Perinatology Ministry of Healthcare of the Russian Federation, Moscow, Russia

Objectives: In order to increase the number of positive pregnancy outcomes, we must ensure adequate pregravid preparation. This becomes particularly relevant in women with epilepsy taking antiepileptic drugs. If planning a pregnancy a woman should be prepared in advance to minimise the risk of adverse effects of drugs on the foetus and seizures and recurrent seizures during pregnancy and the postpartum period. Currently, the gold standard for treatment of idiopathic generalised epilepsy considered derivatives of valproic acid. Given the right dose of medication, patients achieve long-term remission, but have to take medication for life. However, according to the literature, it is on the background of valproate in pregnant women which has the maximum frequency of foetal malformation. One of the recommendations contained in gidlaynah for managing pregnancy in women with epilepsy is the 'optimisation' of the anticonvulsant drug substitution towards a 'more secure, less teratogenic' or lower dosages used tools. Usually, patients should change medication or reduce the dose that can cause failure of remission. According to the literature, the occurrence of regular epileptic seizures can lead to the emergence of foetal malformations, and in spontaneous abortion. To address this issue, we carried out a retrospective study on pregnancy outcomes in women with idiopathic epilepsy in remission for a long time who took the drug valproic acid.

Methods: We studied a total of 127 medical records of women (mean age 28.7 + 0.4 years). Disease duration was 17.3 + 0.9 years. Duration of therapy with valproate was 6.4 + 0.5 years. All the women were divided into two groups, depending on the tactics of their activities. Group 1 included 74 patients whose therapy had not been changed. Group 2 included 53 women in whom the therapy had been withdrawn or given a reduced dose of valproate less than 15 mg/kg.

Results: The emergence of clinical episodes of epilepsy with the onset of pregnancy in group 1 was 6.8% and in group 2 it was 50.9%. Spontaneous abortion in group 1 was 4.1%, in group 2 it was 33.9%. In 25.6% of women of group 1 decreased concentrations of valproic acid in the 2nd to the 3rd trimester of pregnancy, more than 30% of the original pre-pregnancy, accompanied by rise of the index paroxysmal epileptic activity VEEG necessitated an increase in dose.

Conclusions: Cancelling or valproate dose reduction in long-term remission of epilepsy in idiopathic generalised epilepsy in a large percentage of cases leads to recurrent seizures, which increases the risk of spontaneous abortion.

TOPIC 14: PREVENTION OF UNSAFE ABORTION – A GLOBAL CHALLENGE

P191

Medical termination of pregnancy. Observational study in France, the aMaYa study

I. Nisand, K. Bettahar, Investigators of the aMaYa study

CHU Strasbourg, Gynaecology department, Strasbourg, France

Objectives: Since WHO recommendations in 2003, the use of medical termination of pregnancy (MToP) becomes wider in Europe, particularly in France where it concerns more than 50% of ToP. However, there are still different practices according to various guidelines or drug approvals, and it was decided to assess the compliance of French physicians with the recent update of French recommendations (December 2010).

Design and methods: An observational study was set up in France in 2011 in centres dealing with abortions. The main objectives were to describe the procedures used, including drugs, dosages, route for administration, as well as the efficacy of the procedures. The first 30 patients attending the centre for termination of unwanted pregnancy and for whom a drug regimen including mifepristone was decided, were recruited, and information was recorded from the centre and through the patients' auto-questionnaire.

Results: A total of 1587 women (mean age: 27.66.8; minor: 3.3%) were included at 48 centres, and 32.5%

of these women had a history of termination of pregnancy (ToP). At inclusion time, when women were given mifepristone, the term of pregnancy was 49 days of amenorrhea (DA) for 71.7 % of patients and > 49 DA for 28.3%, with > 63 DA for 2.1%. Most of the time (95.3%), pregnancy dating was performed using ultrasound. The most frequently used protocol was the one recommended by the French Authorities (mifepristone 600 mg-misoprostol 400 g oral) and concerned 35.4% of patients. But other protocols were used (mifepristone 600 mg or 200 mg in association with misoprostol 2 x 400 g per os) for respectively 23.4% and 13.5%. Gemeprost prostaglandin was used by 1.4% of patients only.

Over 80% of patients attended the follow-up visit three weeks after inclusion. There was no ongoing pregnancy, but 10% of patients were lost to follow-up. Successful abortion rate was 94.4%, 5.6% of patients requiring a secondary surgical procedure. Over 90% of patients were satisfied with the procedure. Safety was good, with only 16 major bleedings (1%), and 1 endometritis (0.1%) reported as serious adverse events.

Conclusion: Although a relatively wide range of therapeutic strategies in MToP were used, this study emphasises a satisfactory success rate of 95% strongly consistent with the literature.

P192

Reproductive choice: Doctor's position. Progress against stereotypes

D. Kochev, G. Dikke

Pentcroft Pharma, Moscow, Russia

Purpose: To determine the typical stereotypes, myths and mistakes concerning unwanted pregnancy, abortion and contraception, and improve the quality of medical care in connection with the termination of pregnancy.

Methods: A survey of 720 obstetricians obtained through an automated system of operational knowledge control during interactive lectures.

Results: The most typical stereotypes are: an abortion cannot be safe (58%), because abortion is an operation 'maiming' women's health, leading to infertility and complications that affect the course and outcome of subsequent pregnancies, and is the reason of high

maternal mortality. A total of 17% of the doctors did not consider counselling necessary, and 87% believed that it was possible to change a woman's decision in favour of the child's birth, using the technique of 'psychological counselling', including a demonstration of ultrasound and listening to the foetal heart. The doctors did not consider VA to be a safe method (81%) and believed that the rate of complications in VA is higher than in MA (46%), with the intravenous anesthesia the most appropriate method of narcosis. Some common myths exist: confidence that the availability of MA increases the number of abortions and reduces fertility; MA must be performed under strict control (in the hospital); the use of reduced dose of mifepristone decreases its efficiency; MA is not used for non-developing pregnancy. A total of 40% of the doctors carried out Doppler investigation and 20% of them chose instrumental revision. Just over half (53%) recommend oral contraception at the time of control inspection (10 to 14th day of induced menstrual cycle).

At the same time, the analysis of a number of medical organisations, where staff training was carried out, demonstrates increased use of MA (40–45%) and reduces the number of mistakes and complications to 1–2%.

Conclusions: There are persistent stereotypic perspectives among obstetricians. They were formed under the influence of information on the high frequency of abortion complications and maternal mortality rates; they are based on statistical data of past years and on the results of inconclusive studies. There is a lack of modern reliable information on this matter and the vocational training programme was not sufficient to change attitudes.

P193

First experience of pregnancy termination with Mifepristone reduced dose in combination with Misoprostol in an outpatient practice in St. Petersburg (Russia)

D. Kochev¹, G. Dikke¹, F. Kutueva²

¹Pentcroft Pharma, Moscow, Russia, ²Women consultation #22, S. Peterburg, Russia

Objectives: To study the acceptability of MA with 200 mg of mifepristone in combination with misoprostol (400 mg) when aborting early pregnancy (up to 63 days of amenorrhea) outpatients.

Materials and methods: A total of 11,542 women seeking to terminate an early unwanted pregnancy were observed in 2003 and 2011. Of them, in 8461 the pregnancy was terminated by vacuum aspiration (group 1), in 3081 by medical intervention. In 2003 to 2007 600 mg of mifepristone was used for MA (group 2, $n = 1063$), and since 2007, 200 mg of mifepristone was used (group 3, $n = 2018$).

In 2011 the complication rate after MA (0.9%) was lower compared with vacuum aspiration (1.5%). It is shown that a decrease in the dose of mifepristone has no effect on the efficiency of MA, and improvement of the quality of its implementation leads to a reduction of complications (2.2% in 2007 to 0.9% in 2011, respectively). It is shown that the medical abortion efficiency check in control terms is possible using the definition of β -hCG by a quantitative method instead of a routine ultrasound.

Conclusions: (1) In 2011 MA was 42.8% in the structure of abortion methods, it corresponds to that in developed countries and is 10 times higher than the nationwide rate. (2) The complication rate after MA was less than after vacuum aspiration. (3) Reducing the mifepristone dose from 600 mg to 200 mg did not affect the efficiency of MA, and improving of the quality of its implementation leads to a reduction of complications. (4) The use of medical abortion is acceptable in an outpatient setting with up to 63 days of amenorrhea in line with international guidelines. (5) Medical abortion effectiveness check in the control term (in 14 days) is possible using the definition of β -hCG by quantitative method instead of a routine ultrasound.

P194

Knowledge and attitudes about termination of pregnancy among youth in rural areas of the Limpopo Province of South Africa

T. Maluleke

Human Sciences Research Council, Pretoria, South Africa

Background: This paper is based on a study that was initiated in preparation for the 15th Birthday celebration of the well acclaimed South African Choice of Termination of Pregnancy (CTOP) Act No 92 of 1996, which gives women of any age access to abortion services upon request during the first 12 weeks in some cases up to

20 weeks pregnancy. However, negative debates at its introduction had an impact on its implementation and accessibility of information and services related to termination of pregnancy.

Objectives: The aim of the study was to explore knowledge and attitudes of rural youth in school and out of school regarding termination of pregnancy. The objectives were to assess knowledge of rural youth about CTOP; to determine rural youth's attitude towards termination of pregnancy.

Methods: The study was quantitative with a self-administered questionnaire used for collection of data. Although this was a quantitative study purposive sampling was used to select the five villages to ensure that the most remote villages participate in the study. Simple random sampling was used to select the 680 respondents.

Results: The ages of the respondents ranged from 15 to 25 years, both males ($n=220$) and females ($n=460$). Almost 80% were aware of the existence of the Act and the media was the major source of the information. Less than 50% of the respondents (mainly males) were against termination of pregnancy, 37% were in support of the services and the rest were not sure. The grounds for being against termination of pregnancy were moral and religious reasons. However, more than 60% were willing to advise someone to terminate her pregnancy. There was increase support for termination of pregnancy for medical background and rape.

Conclusions: Although young people in rural areas had some knowledge of the existence of the ACT, they had limited knowledge of the vital content of the ACT that is important to access the services. The attitude towards termination of pregnancy changed with medical and rape as an indication for the termination. Termination of pregnancy as a choice that a woman has was viewed as immoral.

P195

Medical students' opinion on abortion issues in a country where termination of pregnancy is illegal. A study from Buenos Aires, Argentina

B. Provenzano Castro², S. Oizerovich¹,
B. Stray Pedersen²

¹Faculty of Medicine, University of Buenos Aires, Buenos Aires, Argentina, ²Hospital and Institute of Clinical Medicine, University of Oslo, Oslo, Norway

Objective: To assess the knowledge and attitude of students from the Faculty of Medicine towards the present abortion legislation. Voluntary termination of pregnancy (TOP) is illegal in Argentina. However, there are some exceptions where abortion is not punishable according to the Penal Code:

- If performed to avoid danger to the life or health of the mother,
- If pregnancy is the result of rape or an assault to a mentally retarded woman.

Nevertheless, even in these cases, significant barriers exist for women to get an abortion in the public health system. Each year, between 370,000 and 460,000 abortions are performed, which stands for approximately 50% of births in Argentina. The majority of abortions are performed under insecure conditions. Maternal mortality rate has not declined during the last decade. In 2010, unsafe abortions caused 23% (68 maternal deaths) of the maternal mortality.

Design and methods: A self-administered, anonymous survey was applied, during 2011, assessing knowledge, practices and attitude towards family planning and abortion legislation, to 600 Argentinian first year medical students. For the analysis, SPSS 15 was used.

Results: Abortion was considered to be always illegal by 25.9% of the students, 55.7% thought that it was not punishable under certain circumstances and 17.8% did not know. When asked in which cases abortion was not punishable, the answers were: risk of mother's life 74.4%, rape of a mentally retarded woman 60.3%, rape 54.8%, fetal malformations incompatible with life 33%, mental health risk 18.6%. As regards their personal opinion about abortion, 20% replied that it should always be legal, 56.3% only in some cases and 16.7% never. Concerning the cases in which abortion should be permitted, students stated: rape 90%, risk of mother's life 75%, fetal malformations incompatible with life 61%, mental health risk 31%. Half (50%) of the students reported they knew someone who had terminated their pregnancy.

Conclusions: Although half of the students recognised that there are situations in which abortion is not punishable, most of them could not identify them. Students disregarded mental health as a component of health. Undergoing unsafe abortion is, at present, the main cause of maternal death, these results should raise awareness of the need of addressing this issue in the university.

P196

The role of the regional programme of free medical abortion in reducing maternal mortality from illegal abortions

N. Artymuk¹, E. Zelenina²¹Kemerovo State Medical Academy, Kemerovo, Russia,²Kemerovo Public Health Department, Kemerovo, Russia

Objectives: The objectives of this study were to reduce the incidence of illegal abortions and maternal death rate from illegal abortions in the Kemerovo region by implementing a programme of free medical abortion.

Design and methods: It was an operative quasi-experimental study. Population of women in reproductive age of the Kemerovo region were included in this study. We evaluated the rates of abortion, illegal abortion and the common level of maternal mortality and maternal mortality rate from illegal abortions in the region before the intervention (1998–2008), and after the intervention (2009–2011). The intervention was the introduction of medical abortion with mifepristone and misoprostol in the programme of government guarantees in the Kemerovo region. It was introduced from 2009.

Results: Illegal abortion in the Kemerovo region was the main cause of maternal mortality and it was 28.3% of the total maternal deaths in the period 1998–2008. The abortion rate in the region gradually reduced from 59.3 cases per 100,000 women in reproductive age in 2006 to 42.9 in 2011. At the same time we found out an increase in the number of medical abortions from 256 cases in 2005 to 4549 cases in 2011. The effectiveness of medical abortion up to 63 days delay was 97.3%. Efficiency does not depend on the dose of mifepristone. In the case of the application of 200 mg of mifepristone it was 97.5%, 400 mg – 97.1%, 600 mg – 96.0%. The proportion of medical abortion in the total number of abortions for the period of 1998–2008 was 0.9%, for the period 2009–2011 it was 12%. The proportion of medical abortion in 2011 was 19%. The number of illegal abortions in the period 1998–2008 was 67 cases per year, after the intervention in 2009–2011 it was 8 cases per year. Maternal deaths from illegal abortions have been absent in the region since 2009.

Conclusions: The results of this study showed that access to safe abortion methods does not lead to an

increase in the number of abortions. This intervention allows to increase medical abortions share in the total number of abortions, contributes to reducing the number of illegal abortions, the total maternal deaths and maternal mortality from abortion.

P197

Mid-trimester pregnancy termination – comparison of vaginal misoprostol and intraamniotic prostaglandin F_{2α}

D. Driak, B. Sehnal, K. Hurt, M. Dvorak, O. Sottner, J. Zahumensky, I. Svandova, D. Stejskal

Faculty of Medicine of Charles University and Hospital Bulovka, Prague, Czech Republic

Objective: Operative and pharmacological methods for mid-trimester pregnancy termination have been discussed for several decades. Pharmacological methods using prostaglandins have a significant benefit for women who undergo the procedure, however, none excludes undesirable side-effects and complications. The retrospective analysis of 287 mid-trimester pregnancy terminations was carried out with aim to compare outcomes of two methods of medical abortion.

Design and methods: Within 10 years, from 2002–2011, more than 400 mid-trimester (13–26 weeks) pregnancy terminations were performed at our clinic. In 200 cases, we used dilapans followed with amniopuncture and instillation of prostaglandin F_{2α}, 80 patients underwent vaginal administration of misoprostol tablets. Parameters of induction-to-abortion time, blood loss, complications, length of hospitalisation and previous pregnancy history were evaluated.

Results: Higher numbers of side-effects and longer mean induction-to-abortion time were registered in the misoprostol group. Our data also indicate that usage of dilapan with amniopuncture of prostaglandin F_{2α} could be a method of choice more convenient in older and parous women for second trimester pregnancy termination, because it shortens induction-to-abortion interval in this cohort of patients.

Conclusions: This study showed that misoprostol is not unambiguously superior to usage of osmotic dilator prior to amniopuncture of prostaglandin F_{2α} for mid-trimester pregnancy termination. We registered higher number of side-effects and longer mean induction-to-abortion time in the misoprostol group.

Our data also indicate that use of dilapan with amniopuncture and instillation of prostaglandin $F_{2\alpha}$ regimen could be a method of better choice for older and parous women, while it shortens induction-to-abortion time in this group.

P198

Feasibility and acceptability of using the DUO-test after medical abortion in rural India- Findings from a pilot study and qualitative interviews

M. Paul¹, K. Iyengar³, K. Gemzell²,
M. Klingberg-Allvin¹

¹Uppsala University, Uppsala, Sweden, ²Karolinska Institutet, Stockholm, Sweden, ³ARTH Udaipur, Udaipur, India

Objectives: The purpose of this pilot study was to evaluate the feasibility and acceptability of using the DUO-test for self-assessment of medical abortion outcome at home among rural women in Rajasthan, India.

Method: The pilot was conducted at the four health facilities of Action Research & Training for Health (ARTH), Udaipur, India. The villages in their field area are characterised by scattered habitation, poor road connections and widespread poverty as well as a low literacy rate among women (17.4%). Estimated 500 women receive induced abortion services from ARTH annually, where 400 women opt for medical abortion. A total of 69 women were enrolled in the pilot (intervention $n = 33$, control $n = 36$). The pilot was run to test tools and logistics for an RCT planned to evaluate efficacy and acceptability of self-assessment after medical abortion. Primarily the intervention arm was tested, women were recruited when fulfilled inclusion criteria and an informed consent was taken before proceeding. The DUO-test, a pregnancy test with one high-sensitivity and one low-sensitivity measure, was explained by demonstration with a prototype and a pictorial instruction sheet. They were instructed to do it two weeks post initiation of abortion and time and place for follow-up by a research assistant was agreed upon. Additional in-depth interviews were conducted with a two women in the intervention arm to further assess acceptability of the test and

checklist. Moreover, women were enrolled in the control arm, where standard medical abortion procedure as recommended by the WHO guidelines was employed.

Results: Findings indicate the feasibility of the DUO-test among rural women in Rajasthan. Majority of women enrolled in the pilot had no education and were illiterate. However, the acceptability of using the DUO-test was high and all women except two were capable of doing and interpreting the pregnancy test correctly, however the checklist was mainly used as a guide, not a checklist. Majority of women in the intervention arm would prefer a self-assessment at home with the DUO-test at the occasion of a repeat abortion. Some women were initially reluctant to whether they could do it or not, but after explanation and demonstration no woman refused to use the test.

Conclusions: According to the findings from this pilot study, the DUO-test is feasible and acceptable among rural illiterate women in India, after explanation and provision of a pictorial guide explaining the interpretation of the test as well as any danger signs.

P199

Backstreet (unsafe) abortion in rural communities in Cameroon

A. Pelagie Yotchou Tzudjom, A. Togue Fetue,
S. Manga

Cefap-Ladies Circle, Cefap-Ladies Circle, Cameroon

Background: An estimated 19 million unsafe abortions occur worldwide each year, resulting in the deaths of about 70,000 women. Legalisation of abortion is a necessary but insufficient step toward improving women's health. High risks associated with unsafe abortions in Cameroon don't deter women and girls here. Economic, social, legal and religious pressures – combined with a lack of information about and access to reproductive health services – often override fear of health risks.

Objectives: This paper aims to address the issue of unsafe abortion and get out some new and efficient strategies to prevent unsafe abortion and its consequences, mostly in rural areas in Cameroon where women and young girls don't even have

access to quality health services, nor access to reproductive care and contraception. Ensuring women's access to safe abortion is essential and making abortion safe in our communities.

Methods: We'll design the situation in Cameroon with the experience of some young women to make the presentation interactive so that participants can also contribute and bring out some new approaches that we can use to avoid unsafe abortion and make abortion safe and available in our grassroots communities.

Socio-economic Factors Push Women and Girls in Cameroon to Seek Backstreet Abortions

In Bandjoun, Cameroon – Carine, 24, says that when she was 21, her friend told her that she was pregnant. The friend's boyfriend deserted her when she told him. *'We thought we were securing her future, but she could have lost it all. Women should only get pregnant when they are ready for babies.'*

'Even though we realized it wasn't a proper clinic, my friend was still determined to go through with the termination', she says. 'She had no choice. She had been bleeding for two days. She was bleeding excessively. A pad or sanitary towel could not help the situation, so she sat on a pail to contain the bleeding, but when my friend went to a clinic for medical attention, it was discovered that she had another baby growing in her', she says. 'Apparently she was pregnant [with] twins and [the] doctor only succeeded in terminating one'.

Conclusion: In conclusion, I would like to call anyone here to get involved in our project to make safe abortion a reality in our rural communities. If we remain silent, we will lose thousands and thousands of women and young girls.

P200

Social factors determining the method of unwanted pregnancy termination in Russia

G. Dikke

Russian People's Friendship University of Moscow, Moscow, Russia

Background: Childbirth regulation is an essential need of a modern society. A total of 1,054,820 abortions were registered in Russia in 2010, only 39,012 (4.9%) of them were medical abortions (MA).

Aim: To study the social factors determining doctor's choice of abortion method.

Material and methods: Results of the survey of 124 obstetrician-gynaecologists, made with the help of a questionnaire and 198 made through interactive voting by automated questioning system. The data obtained as a result of the research 'Strategic assessment of policies, programs and services in the field of unplanned pregnancy, contraception and abortions in the Russian Federation' conducted by and with participation of WHO experts (2009).

Results and discussion: The main factors affecting the choice of pregnancy termination and adherence of the safe abortion conditions in Russia are:

- Legislation and law application (need in special Orders allowing usage of the MA, restrictions in use of international recommendations and expediencies),
- Main features of the service delivery to women in the state medical organisations (maintenance of pregnancy and abortion refusal through psychological counselling and exaggerating the health harm, need in hospitalisation in the terms of over 6 weeks),
- Lack of training modules of modern abortion technologies in the programmes of post-graduate education of doctors,
- Nature of medical provision to the medical establishments (centralised purchase of medication for hospitals, lack of medication provision at outpatient clinics).

State statistical registration with only quantity based criteria, and no quality indicators applied.

As a result of the mentioned peculiarities, the MA is used rarely (4.9%), the main abortion method is dilatation and curettage –D&C (65%), vacuum aspiration is used in 39% cases and only up to 6 weeks of pregnancy, qualitative service provision is recorded in 18% of medical organisations (the research data obtained in Chuvash Republic, 2008), doctors training is made on alternative basis, 600 mg of Mifepistone is used in MA schemes (and only in 2012 there started introduction of 200 mg scheme after the official registration of the Instruction for use to the medication Mifepristone No.1 by the Russian Ministry of Health), up to 58% of doctors make mistakes in the MA rehabilitation period assistance.

Conclusion: Social factors determine the low commitment of obstetrician-gynaecologists to the modern methods of pregnancy termination. And that reduces the quality of medical assistance provided to women in the issues of their reproductive choice.

P201

Introducing medical abortion in Turkey: Perspectives of nurses/midwives

A. Akin¹, S. Mihciokur², B. Guciz Dogan³, S. Bahar Ozvaris⁴

¹Department of Public Health, Medical faculty, Baskent University, Ankara, Turkey, ²Department of Public Health, Medical Faculty, Baskent University, Ankara, Turkey, ³Department of Public Health, Medical faculty, Hacettepe University, Ankara, Turkey, ⁴Department of Public Health, Medical Faculty, Hacettepe University, Ankara, Turkey

Objective: To better understand the knowledge, attitudes and perspectives of nurses/midwives in Turkey on medical abortion.

Methods: The study was conducted in four provinces of Turkey. Structured pre-tested self-administered questionnaires were completed by 464 nurses/midwives.

Results: Of the nurses/midwives 76.3% have heard of medical abortion. Even though medical abortion is not yet available in the routine reproductive health services in Turkey, 12.5% of the nurses/midwives said they had assisted medical abortions, most commonly using misoprostol alone. Over 15.1% of them have assisted surgical abortions. More than half of the nurses/midwives (56%) thought that medical abortion should be offered in the country in the future.

Conclusions: Nurses/midwives in Turkey are aware of medical abortion. The majority supports its wider use. However, some of them have concerns about the method and show an incorrect understanding of its potential risks and complications, which may explain their reluctance for MA services. Therefore, even before the formal introduction of medical abortion in Turkey, these issues should be covered in their training programmes, while advocacy efforts continue to press for registering mifepristone and misoprostol for medical abortion in Turkey.

P202

Kenya's constitution: Counting the gains, realising the role of health professional associations in strengthening advocacy for reproductive health rights

L. Buyanza, J. Maina

National Nurses Association of Kenya, Nairobi, Kenya

Background: The Constitution brings forth a new chapter in the provision of sexual and reproductive health services in Kenya including access to comprehensive abortion care as permitted by the law. On this basis, the government is mandated to ensure quality healthcare services as stated in the Constitution the Bill of Rights, Articles 26 and 43 on right to life. Despite this provisions of the law, a general ignorance of lack of information on if, and by whom termination of pregnancy can be carried out continues to impede access to women attaining reproductive health rights including safe abortion services.

Objective: To collaborate with partner agencies in strengthening advocacy for sexual and reproductive health rights for nurses and midwives through a professional association.

Method: The National Nurses Association of Kenya (NNAK) has provided a window of opportunity for midlevel providers to undergo training in values clarification; reproductive health rights; and advocacy to leverage the provision of safe abortion services to the fullest extent of the law as guided by the Kenya Constitution and World Health Organization Guidelines. The trainings have been customised from the IPAS training manual to help providers have an in-depth understanding of the political, socio-economic issues surrounding unsafe abortion that contribute to high bed occupancy in the health facilities within the country.

Conclusion: NNAK with partner agency in four years have conducted trainings on civic education on the constitution, values clarification and attitude transformation to Nurse Managers, Public Health Nurses and Midlevel providers. This has been in light of providing knowledge on advocacy skills in provision of comprehensive abortion care and documentation by providers. The health regulatory bodies through funded support have aligned their legislative documents for midwives/doctors to expand the scope of practice in reproductive health

care. Further to this the Division of Reproductive Health and the Ministry of Health with partner agencies have developed a standard guideline on unsafe abortion in accordance with World Health Organization standards. This is a major step towards reduction of morbidity in women presenting with abortion-related issues.

P203

Fear of abortion and post-abortion contraception plan

A. Kostic, V. Vukotic Pavlovic, B. Zivaljevic, A. Krivokapic, Z. Petrovic, M. Milenkovic, S. Vasiljevic

¹Medical Center, DR Simo Milosevic, Belgrade, Serbia,

²Medical Center Stari Grad, Belgrade, Serbia, ³Po, Biljana Zivaljevic, Belgrade, Serbia, ⁴Medical Center Gnjilane, Gnjilane, Serbia, ⁵Po Merida, Belgrade, Serbia

Introduction: In the 21st century, abortion is still a method of family planning. The desire to terminate pregnancy is sometimes stronger than fear, both from medical intervention and its consequences.

Aim: To find out the number of women who are afraid of abortion and its possible side effects as well as how many women are planning to use available post-abortion contraceptive method options (IUD, pill, condom).

Material and methods: The figures are based on the survey among 214 patients aged 18 to 44 who decided to have an abortion.

Results: The question 'Are you afraid of abortion and its consequences?' was answered 'Yes' by 142 (66.3%) patients, 'No' by 54 (25.2%) patients and with 'I don't know' by 18 (8.4%) patients.

The question 'Are you going to use safe contraceptive methods after abortion (IUD, pill, condom)?' was answered with 'Yes' by 128 (59.8%) patients, with 'No' by 50 (23.3%) patients and with 'I don't know' by 36 (16.8%) patients.

Discussion: One third (33.6%) of the women surveyed said that they were not afraid of abortion, intervention itself as well as its consequences. The reason might be the lack of information about the risks this intervention might pose.

Post-abortion contraception planning also gives pessimistic results since 40.1% of the patients said they

were not going to use or were not sure whether to use safe post-abortion contraceptive methods.

Conclusion: The risks and consequences associated with abortion as well as the promotion of safe contraceptive methods must be a continual process. The process must include sex education in schools, Youth Advisory Center, gynaecologists, paediatricians, GPs and mass media. The aim of this process is also health promotion which includes safe contraceptive methods.

P204

Prenatal sex selection in Georgia

N. Tsuleiskiri, S. Gabrichidze, G. Shelia

Association HERA-XXI, Tbilisi, Georgia

Objective: The purpose of this research was to evaluate the basis of the socio-gender balance violation of newborns in Georgia, identify specific problems and develop the recommendations to review the policies at legislative level in the area of reproductive health and gender rights based principles.

Methods: The research has been conducted using a combination of qualitative and quantitative methodologies.

Focus group discussions in four cities (Tbilisi, Kutaisi, Senaki and Akhaltsikhe), with four homogeneous groups (married women aged 20 to 29 years, married women aged 30 to 45 years, married men aged 20 to 45, medical providers), and interviews (questionnaire was used as instrument) with married women in the 20 to 45 age group, were conducted for collection of primary data. Target population was married women aged 20 to 45, who already had one child.

Secondary data was collected via international online databases, through applying established search terms. Identified studies were reviewed and inclusion criteria were applied. Selected studies were analysed.

Results: In total, 1600 women were interviewed in four cities of Georgia. This research found, number of families having male children was more than those with female children. This finding suggests that male children are preferred.

Correlational analysis of the recorded interviews showed respondents implicitly pay substantial attention on sex of the future offspring. Demand on abortion

increases with desire of having male offspring. Women experience the influence of stereotypical pressure of tradition, hence it follows demand of prenatal sex selection.

As a consequence there is significant evidence of prenatal sex identification practice. Additionally to existing stereotype, technological innovations and disseminated information about modern family planning methods resulted determination of number of children, identification of sex of foetus by women. This behavior is not inhibited by service providers.

Conclusion: The population has limited understanding on the issues of gender equality, reproductive health and human rights. Inexistence of studies indicates that the country does not pay adequate attention to the prenatal sex selection and related selective abortion. In Georgia this was a pilot study on prenatal sex selection issue, conducted by NGO HERA-XXI.

For future improvements, encouragement of research on public policy and legislation related to the prenatal sex selection issues and raise awareness on reproductive health, gender rights principles of general population by strengthening informational educational component in country. Taking into account the role of media and non-governmental organisations we need to be aware of the tradition of prenatal sex selection and its long lasting negative results. Assistance from international donors is important.

TOPIC 15: REPRODUCTIVE HEALTHCARE WITH LIMITED RESOURCES

P205

HIV and sexual and reproductive health in border districts affected by migration in Tanzania

J. Obel¹, M. Larsson¹

¹Hvidovre Hospital, University of Copenhagen, Dept of Obstetrics and Gynaecology, Copenhagen, Denmark, ²Lund University, Division of Global Health and Social Medicine, Malmoe, Sweden

Objectives: Overall HIV prevalence rate in Tanzania is 5.7%. The epidemic shows clear geographic disparities with high prevalence rates in border areas reaching 19%, making these areas hot-spot zones for

HIV transmission and sexual and reproductive health (SRH) challenges. This study was conducted in collaboration between International Organization of Migration and the Tanzanian Government to inform relevant authorities about the planning and prioritisation of HIV and SRH interventions within border areas.

Methods: The target populations were border populations (transient or permanent) and uniformed staff working at borders aged 15 to 49 years. The study was conducted in three geographical areas with high border mobility. A combination of the following three techniques was employed; (1) A standardised questionnaire allowing comparison of results with the National HIV and Malaria Indicator Survey 2007/08 (total $n = 145$: 93 males (M), and 52 females (F)); (2) Gender segregated focus group discussions and social mapping exercises analysing mobility patterns, sexual networks and service delivery points (10 male groups $n = 47$ and 10 female groups $n = 51$); and (3) Semi-structured interviews with public and private service providers (total $n = 37$) to assess availability of SRH services.

Results: The mean number of sexual partners within the border community was 21.9(M)/4.2(F) compared with 6.8(M)/2.4(F) in the general Tanzanian population. A total of 56% of males reported currently having two or more sexual partners compared with 17.9% in the general population. Within the group of men practising multiple concurrent partnerships 58% did not use a condom at last sexual encounter. Transactional sex was common with 53% of male respondents claiming to ever have paid money for sex and 46% of women reporting to have ever received money for sex.

On all questions of knowledge about HIV prevention and transmission knowledge levels in the border population were comparable to the levels within the general population.

Access to SRH services (HIV testing and treatment; contraceptive; STD, ANC and delivery services) was consistently found to be limited with long distances, high direct and indirect costs for services and frequent stock-outs of contraceptives.

Conclusion: The study found that whereas HIV knowledge levels among border communities corresponded to those of the general population; sexual risk-taking behaviours were considerably higher. The study suggests that efforts to reduce HIV and improve SRH in the border areas should be directed towards gaps in service-provision rather than on traditional educational- and awareness-raising activities.

Additionally, poverty alleviation and job creation are imperative for reducing poverty-driven unsafe transactional sex.

P206

Is 'infertility treatment seeking behaviour' playing a major role in reproductive health care? A comparative analysis in India

R. Ambarish

International Institute for Population Sciences, Mumbai, Maharashtra, India

Background: It's a natural desire of every couple, to have their own biological children. The effects of infertility for couples, especially women, are seen socially irrespective or sexually challenging. Infertility affects a relatively large number of couples at some point in their reproductive span globally by 50 to 80 million, with having variety of biological and behavioural determinants (Biennial Report 1992-93; WHO, 1994). Major initiatives taken by ICPD 1994, in which one of the specific component was infertility as a part of reproductive health. Many developing countries which are, although facing the problem of infertility, have not included in their programme, this components for services (Barer, 1999). Although many effective programmes are running in India for covering the reproductive- and maternal health-related issues, but till now, the infertility is not taken as an essential component in those programmes, and it is surprising to note that the issues related to the infertility or childlessness do not find any place in either recently declared National Population Policy 2000 document or National Health Policy 2002 of the Government of India.

Objective: To understand the differential in infertility treatment seeking behaviour among developing and developed states by their different background settings, and its respective outcome in limited resources of treatment in India.

Methods: District Level Household Survey-3, a cross sectional data in India covered 643,994 ever married women. For the first time it had a special section of Infertility that covered problems and treatment seeking for infertile ever married women of 15 to 49 years of age. This study has quantitatively analysed

by using bi-variate analysis by considering the background characteristic of those ever married women, having at least three years of marital duration, living with their husbands and having problem in conceiving, and those reported as seeking treatment of their infertile status or not.

Results: Result of this study shows that proportion of overall infertile women is higher in developing states (83.93%) compare to developed states (78.57%). The result of the treatment is also in favour of developing states. In developed states only 78.6% of infertile women are seeking the treatment and getting pregnant by 61.5%, while in developing states out of 83.9% of treatment seeking women 78.54% are being able to conceive.

Conclusions: As concluded by our study, we find that lower socio-economic status has greater threat of infertility along with potential to being cured if properly treated rather than developed one.

P207

Characteristics of the well women clinic attendees of Family Planning Association of Sri Lanka: A descriptive study

Asanka Pathiratne, Sumithra Tissera, Achini Jayatilleke, Menaka Wimalaratne, Pubudu Guruge, Udari Palandage

The Family Planning Association of Sri Lanka, Colombo, Sri Lanka

Background: Understanding the importance of full body screening of women can be important when planning interventions to reduce the prevalence of heart diseases such as hypercholesterolaemia, diabetes mellitus (DM), major organ dysfunctions, osteoporosis and common cancers like breast, ovarian and cervical cancers. This study aimed to examine the effectiveness of well women screening for early detection of diseases of women in a clinical setting.

Methods: We included all the well women clinic attendees of the Family Planning Association of Sri Lanka between 1 January 2011 and 31 December 2011. Descriptive statistics were analysed using SPSS version 16 statistical software.

Results: Of all ($n = 170$), 3.7% of the women were between 20 to 30 years, 24.2% were between 31 and 40 years, 39.1% were between 41 and 50 years and

33% were above 50 years. Of all, 10.7% had no children, 18.1% had one child, 37.7% had two children, and 33.5% had more than three children. Menopause was seen in 37.2%. The analysis of BMI showed that 72.35% within normal range of BMI, 18.23% were overweight and 9.41% were obese. Prior to the screening, 64.7% were not detected as having any chronic illness. After screening, 7% were diagnosed as having hypertension compared to 3.7% of known hypertensives prior to screening. In the same way, after screening 19% were diagnosed as having DM compared to 5.1% of known diabetics. The majority (79.9%) had haemoglobin levels more than 12 g/dl. The majority had normal findings in respiratory system examinations (99.5%), abdominal examinations (97.7%), breast examinations (98.6%) and per vaginal examinations (93%) clinically. Of all 6.5% were referred for specialised care with abnormal findings at the screening.

Discussion: The well woman screening can be effective to detect chronic diseases such as hypertension, DM, etc. Also, well woman screening provides an opportunity to detect abnormal physical findings early and refer the people in need for better care facilities.

P208

Nurse intrauterine contraceptive device training

E. Chaudhry

Leeds Student Medical Practice, Leeds, UK

Objectives: There is great concern regarding the future of reproductive healthcare provision within the UK given the increasing pressure on resources. Delivery of care by nurses is established as both cost-effective and popular with high levels of patient satisfaction reported. Within Contraceptive & Sexual Health Clinics as well as GP practices in the UK contraceptive services are often provided by the nursing team. For delivery of high quality care there needs to be provision of robust well-structured training for nurses. In particular, this is true for intra-uterine technique training where the training required is more extensive. Theoretical teaching can address most aspects of the training required for intrauterine contraceptive devices (IUCDs). However, it is challenging to deliver training regarding the physical fitting technique in this setting. Traditionally this is achieved through live-patient fittings.

Method: I designed and subsequently delivered an IUCD theory training course targeted at nurses. Teaching about fitting techniques is achieved through model training. I complemented this by writing slides describing the fitting procedure for various models accompanied by photographs showing the various steps and stages in the fitting procedure.

I attempted to produce photographs with as much information and clarity as possible. The photographs were also included in the course material to keep for future reference and revision of IUCD devices and fitting techniques. Trainees were all encouraged to handle the devices and practice in a safe supported environment. They were also provided with the opportunity to practice on Haptics equipments simulating real patient fitting during the course of the day.

Results: This training programme has been running successfully for two years and I am delighted to have been awarded 2nd Best Practice in Women's Health by a national journal in women's health in the UK for the photography I performed to produce the slides. I am in the process of attaining university accreditation for this course to count towards a higher qualification in nursing.

Conclusions: The desired outcome was achieved which was to empower the trainee to approach live patient fitting with confidence having achieved understanding and familiarity of fitting techniques before this crucial stage in the training. This in turn should translate into a more positive experience for the patient as well as the trainee. Having nurses trained in these techniques is popular with patients and cost-effective. This is also rewarding for nurses who wish to extend their role.

P209

Barriers and opportunities in utilisation of reproductive health services in the most populous state (Uttar Pradesh) of India: Evidence from District Level Household Survey-3

P. Kumar

International Institute for Population Science, Mumbai, Maharashtra, India

Objectives: Reproductive Health Awareness and utilisation is a holistic approach to reproductive health and one of the key factors enabling women to be

conscious of their rights and health status in order to seek and use appropriate health services. This paper attempts to explore the factors affecting women's awareness of various reproductive and child health programmes and also to find out the extent of utilisation of reproductive health services across different regions of Uttar Pradesh.

Methods: The basic data used in this study have been taken from the most recent round of national representative District Level Household Survey conducted in 2007 to 2008 which collect information on various aspects of health care utilization for Reproductive & Child Health (RCH) services. The analysis is based on information collected from ever married women (EMW) aged 15 to 49, who are aware about above running government health programs (for 1st objective) and Currently married women (CMW) in the 15 to 44 age group are the respondents who receive reproductive health services (for 2nd objective). Bivariate, multivariate techniques and logistic regression with three sets of models have been used for proposed study.

Results: The findings reveal that awareness about immunisation and family planning is almost universal in all regions. Friends and relatives are the main source of information about spreading awareness about ANC, institutional delivery and family planning whereas role of health professionals and electronic media comes at second and third position. Health professionals are most important source of media while spreading awareness about immunisation followed by print media.

Only 3.3% full ANC (which include at least three visits for Antenatal check-up, at least one TT injection received and 100 + IFA tablets/syrup consumed) have been received by CMW in Uttar Pradesh but it is comparatively low in western region. Adjusted effect depicts that women's educational attainment has a strong significant effect in utilisation of full ANC. Only one quarter of the CMW received institutional delivery (25%) and it is highest in southern region (29%). Higher education, women mobility, and self efficacy emerge as important predictor in effective utilisation of ANC and institutional delivery in the state. Unconsciousness, casual approach while check-ups, rough condition of roads, distance from the health facility, inappropriate referral facilities and unavailability of transport facility in rural setup of health institution emerge as the main barriers in this study.

Conclusion: Concerted efforts are required to ensure sustained use of these services.

P210

Innovative, environmentally safe, cost effective and easy-to-use device for menstrual blood collection

A. Shihata, S. Brody, B. Linderoth

Scripps institution of Medicine and Science, Del Mar, CA, USA

Objectives: (1) To develop a unique, cost effective, environmentally safe, and re-usable device for menstrual blood collection. (2) To enhance safety, convenience, reproductive health, and thus, quality of life for women during their menstrual cycles. (3) To prevent uncontrolled leakage and spillage of menstrual blood.

Background: Women have endured the inconvenience of managing their menstruation since the beginning of time. In developing countries, women resort to the use of rags which are almost always re-used and may be contaminated. Even in the western world, some young women may be confined at home during menstruation, despite the availability of disposable pads, tampons, and re-usable menstrual cups. In response to the lack of cost effective, environmentally safe options and to enhance the quality of life for women during their menstruation, we developed a unique, re-usable menstrual collection device called the FemmyCycle. The FemmyCycle was cleared by the U.S. Food and Drug Administration and is in conformance with the European requirement for medical devices. It is wineglass-shaped and made of compressible material to facilitate its insertion into the vagina. It has the capacity to collect and hold one ounce of menstrual flow and can be re-used for several years. This device has resilience and a memory that restores it to its original shape once inserted into the vagina. It has a unique, funnel-shaped lid that directs the blood into the receptacle and prevents it from spilling during removal. It also has a removal ring that facilitates its removal by a single finger.

Method: Forty women, aged 20 to 45 years, used the FemmyCycle for three menstrual cycles. These women were then asked to compare and rate their experience using the FemmyCycle with prior experiences using pads, tampons and/or menstrual cups.

Results: Among all participants, 84% preferred the FemmyCycle over their prior methods of menstrual hygiene management and rated the FemmyCycle much higher than their prior methods.

Conclusions: The FemmyCycle will enhance the quality of reproductive health for all women, particularly women with limited resources. This is due to the longer duration of protection (12 hours), as well as lack of leakage, and thus, enhanced convenience. The FemmyCycle will fill a major void in menstrual hygiene and reproductive health worldwide.

P211

Knowledge, attitude and early initiation of breast feeding in the obstetric wards among postnatal mothers

A. Pathiratne

The Family Planning Association of Sri Lanka, Colombo, Sri Lanka

Background: Despite its known advantages, breastfeeding rates are low world over. A large number of factors affects breastfeeding. The aim was to study maternal and neonatal factors that affect early initiation of breastfeeding in the perinatal period and to evaluate the knowledge, attitude and practice of postnatal mothers for early initiation of breast feeding in the obstetric wards.

Methods: A cross sectional study carried out from October 2012 to November 2012. Study conducted in 105 post natal mothers from the maternity wards of a primary care hospital, and mothers were randomly selected using a simple random sampling technique from those fulfilling the inclusion criteria. Mothers were interviewed within seven days after the birth of the child. Data was collected using a structured questionnaire with some open- and close-ended questions and data was analysed by SPSS statistical software version 16.

Results: The demographic profile of the mothers who delivered at the hospital were with the mean age of 26 years. The majority were Buddhists (73.33%) and had received secondary education (65.71%) and were house wives (78.09%). The majority (77.14%) had an income of less than 20000LKR. Primi parous mothers accounted for 65.71% of cases. The perception of mothers with regards to food for their newborn showed that the majority thought that breast feeding is the best food for new borns (91.42%) and that it is superior to other top up milk (82.85%) and that the most important reason to avoid top up feeding is that

it does not support proper growth (54.28%). The majority of the mothers had the perception that breast feeding is sufficient for initial months (61.90%). The majority of the mothers had fed within 1 hour of delivery (69.52%) and the most common reason for not feeding within 30 minutes was fatigability (67.61%) followed by separation of the baby (21%). The rate of mothers initiating breastfeeding early was higher in literate mothers as compared to illiterate mothers. In post natal mothers, attitudes and beliefs were significant predictors (both $p < 0.001$) of initiation of breastfeeding.

Conclusion: Effective educational efforts require knowledgeable health professionals to promote breastfeeding and instigate changes in individual behaviour.

P212

Knowledge and attitude regarding breast feeding in mothers attending antenatal clinics in Colombo, Sri Lanka: A cross sectional study

A. Pathiratne

The Family Planning Association of Sri Lanka, Colombo, Sri Lanka

Introduction: Breastfeeding incidence is declining in almost all parts of the world despite all its nutritional and immunological benefits. The current study is designed to explore the knowledge and attitude towards breastfeeding among antenatal mothers and factors that determine them. This descriptive study was carried out in the antenatal clinics conducted by MOH Rathmalana and MOH Dehiwala in Colombo, Sri Lanka.

Methods and materials: A cross sectional study was carried out between 1 October 2012 and 30 November 2012. A total of 225 women with a POA of more than 20 weeks from two areas in Colombo, Sri Lanka were randomly selected and interviewed. Information regarding participants' demographics, knowledge and attitude towards breastfeeding was collected using a pretested semi structured open and close ended questionnaire. Scoring of the responses to questions was done and the data was analysed using Statistical Package for Social Sciences.

Results: Their age ranged from 20 to 40 with an average of 26 years. Among the mothers 6.66% had only completed primary school or less while 10.22% of them were graduates. The majority of the mothers (58.22%) were housewives. Most of the mothers (65.33%) belonged to families that had a per capita income of less than 20000LKR. The majority of the mothers (72.44%) hailed from joint families. Primiparous mothers accounted for 56.44% of cases. Majority of the mothers (67.11%) did not receive any advice on breastfeeding during antenatal period and only 8.44% received advice from health care workers. Breast examination during antenatal check-ups was lacking in antenatal clinics (4.88%). Most mothers were found to know the importance of breast milk as being nutritious (89.33%), healthier for children (68.88%), protecting their children from disease (29.77%), promoting bonding between mother and child (100%) and being cheaper than buying supplements (100%). The knowledge of the mothers was inadequate in areas of time of initiation of breastfeeding (46.66%), colostrum feeding (53.77%), duration of exclusive breastfeeding (75.11%), knowledge on expressed breast milk (61.33%) and continuation of breastfeeding while baby is sick. Better scores correlated significantly with higher maternal age, better maternal education, higher socio-economic status and having received antenatal care from private practitioners.

Conclusion: There is still a need for programmes, which support and encourage breast-feeding particularly at a primary care level, focusing more on younger, less well-educated women and those from lower socio-economic class.

P213

Characteristics of women seeking fertility treatment at the subfertility clinic of Family Planning Association of Sri Lanka: A cross sectional study

Asanka Pathiratne, Sumithra Tissera,
Achini Jayatilleke, Menaka Wimalaratne,
Udari Palandage, Pubudu Guruge

*The Family Planning Association Sri Lanka,
Colombo, Sri Lanka*

Background: Understanding the characteristics of women having difficulties conceiving can be important

when planning interventions to reduce the prevalence of subfertility in a country. This study aimed to examine the reproductive factors of women seeking fertility treatment in a clinical setting.

Methods: This study included all the women who attended the subfertility clinic of the Family Planning Association of Sri Lanka between 1 January 2011 and 31 December 2011, using the standard definitions of subfertility. Descriptive statistics were analysed using SPSS version 16 statistical software.

Results: Of all ($N=147$), 42.9% of the women were between 20 and 30 years, 51.7% were between 31 and 40 years, and 5.5% were above 40 years. Primary subfertility was seen in 88.4%. Majority (69.4%) had menstrual symptoms in the form of dysmenorrhoea, menorrhagia, irregular menstruation, etc. Of all, 84.4% had not used any contraceptive method previously. Polycystic ovarian syndrome was seen among 20.4%. Tubal patency was assessed in 52.4% ($n=77$) by means of hysterosalpingographies or laparoscopy and dye tests; of them 7.8% had left tubal occlusions, 3.9% had right tubal occlusions, and 15.6% had bilateral tubal occlusions. Of all, 72.5% showed unsatisfactory follicle maturation. After taking Clomiphene Citrate, 67.1% showed mature follicle between 18 and 24 mm. All (100%) had sufficient endometrial thickness (>6.5 mm).

Discussion: The majority of women seeking fertility treatment at FPASL had several reproductive factors that can reduce the fertility of a woman. Of them, unsatisfactory follicular maturation was the most prominent factor; in majority of women, this condition improved with administration of Clomiphene Citrate. Prospective studies need to investigate how these reproductive factors affect the women's outcome of pregnancies.

TOPIC 16: ROLE OF GENDER (INCLUDING SEXUAL BEHAVIOUR)

P214

Are Belgian students being tested for sexually transmittable infections, and why (not)?

G. Kayaert¹, S. Van den Eynde²

¹KHLeuven, Leuven, Belgium, ²Sensoa, Antwerpen, Belgium

Objectives: This research investigated to what extent students are being tested for sexually transmittable infections (STIs). We also explored their motivations for getting tested (or not), as well as knowledge and attitudes regarding STI-testing.

Method: An online questionnaire was completed by 2274 students, mostly between 19 and 23 years old, following a bachelor education in Leuven, a middle sized Belgian town. The results were analysed using ANOVA tests.

Results: The majority of the students (77%) had had sexual intercourse without a condom, during the six months prior to the study. Within this group, a minority of 31% had been tested for STIs at least once in their lifetime. There was a significant positive relationship between worrying about having contracted an STI and undergoing an STI-test, but also within the subgroup of students who do sometimes worry about this (16%), the proportion that has ever been tested for STIs, constitutes a minority (36%).

The majority of students did consider it 'likely' they could contract an STI when having unprotected sex with a new sex partner. They also expected having an STI to be painful, shameful, and even 'terrible'. Most students would like to have more information on different aspects of STI-testing.

There were significant differences between men and women in what they perceived as key disadvantages of getting tested on STIs. Young women were relatively more concerned about embarrassment during the test, and reported more aversion towards situations like the doctor inspecting their genitals and/or asking questions about their sex life. Female respondents also attached more importance to the gender of the doctor, whom they generally preferred to be a woman.

Young men gave relatively more weight to practical issues, like the time and money they expect to spend getting tested for STI. They were also more likely to consider STI-testing as not necessary as long as they do not have symptoms and/or trust their partner.

Conclusions: We conclude that a substantial proportion of the students that would benefit from an STI test, do not get themselves tested. This in spite of the fact that they don't seem to underestimate either the severity of having an STI or the risk they have for contracting an STI. It seems that they mainly need more support to overcome practical and emotional barriers against STI-testing. There was a gender difference observed in the kind of support needed.

P215

Prevention of gender-based violence and integration of gender aspects amongst children in nursery and primary schools in Yaounde, Cameroon

S.N. Hakoh Mbufung, D. Minkeu

Renata, Yaounde, Cameroon

Background: Following a study conducted by RENATA and GTZ in 2009, 5.2% of women and girls are raped in Cameroon making about 500,000 victims among whom 18% are victims of incest. Also 9% of the victims were raped by more than one rapist, a practice known as 'gang rape' and 11% were raped more than twice. The survey also reveals that 12% of these victims were 10 years and below when they were raped while 3% were above 45 years of age. Rape is on the rise and is evolving in an exponential manner in all age groups. Rape and incest account for 8% of cases of early and unwanted pregnancy among teenage mothers.

Objectives: Laying on the fact that most of activities carried out in our communities were not directly addressed to children from 0 to 10 years old and regarding the fact that children of this age represented up to 10% of rape victims, we decided to carry out a project focus on them. The pilot project on the prevention of sexual abuses and the integration of gender aspects amongst children aims to protect them against gender-based violence, sexual violence and promoting domestic and social roles so as to prepare children to recognise gender from the basic.

Methods: Activities were organised in the form of training workshops, official ceremonies with government partners, sensitisation sessions (8 sessions of 30 minutes) with children in schools. Earlier, a study was done in order to have an idea on the perceptions these children already have. Flipchart, images, etc. were used for the sensitisation in school.

Results:

- Children are able to recognise that their body belongs to them
- Children are able to denounce any attempt of sexual assault or sexual harassment
- Children are aware on how to protect themselves from perpetrators

- Children are aware that boys and girls have the same role and function both at home and in the society
- More than 200 school teachers were trained and sensitised on how to handle issues on gender-based violence with their pupils.

Conclusions: This experience was a very rich one to both RENATA and the various beneficiaries of the project known as the children, teachers and parents. We've come to realise from the revelations we got that many children are exposed in our communities and a lot has to be done to stop them becoming victims.

P216

Association between alcohol consumption and experience of sexual coercion among Ugandan university students

D. Mehra, A. Agardh, M. Stafström,
P.-O. Östergren

*Division of Social Medicine and Global Health,
Department of clinical sciences, Lund University,
Malmö, Sweden*

Objective: Sexual coercion is common in Sub-Saharan Africa and is a risk factor for unintended pregnancies, STIs and mental health problems. Alcohol consumption is one of the risk factors that increases the vulnerability to sexual coercion among university students. The aim was to study the association between alcohol consumption and experience of sexual coercion among Ugandan University students.

Method: In 2010, 1954 students at Mbarara University of Science and Technology in southwestern Uganda participated in a cross-sectional study. A self-administered questionnaire was used to assess, socio-demographic factors, alcohol consumption, mental health and sexual behaviours. Multivariate logistic regression analysis was used for the analysis. The data was stratified by sex.

Results: Out of the 1954 students 27.6% reported that they had ever had an experience of sexual coercion and 16.4% stated that they had a recent experience of sexual coercion. Individuals who reported frequent consumption of alcohol (OR adjusted 2.29, 95% CI 1.40–3.72) and those who reported having often consumed alcohol in relation to sexual

intercourse (OR adjusted 2.78, 95% CI 1.56–4.97) were found to have an association with recent experience of sexual coercion. This association was significant even after adjusting for sex, age, area of origin, educational level of the head of the household and mental health. A synergistic effect was found between poor mental health and frequent consumption of alcohol in relation to sex in its bearing on recent experience of sexual coercion.

Conclusion: There is an association between alcohol consumption and experience of sexual coercion among Ugandan university students. Therefore, universities should consider policies mandating intervention and programmes on alcohol and unwanted sexual contact. This could be done through providing them with protective behavioural strategies before and throughout the drinking situation that can reduce the chances of a sexual coercion.

P217

Does male participation in maternal health ensure achieving millennium development goals in India? Evidence from the National Family Health Surveys

P. Kumar, S.K. Singh

*International Institute for Population Science,
Mumbai, Maharashtra, India*

Objective: Male's involvement has been recognised as a key facilitating factor in women's reproductive health. Over the years, there has been a growing consensus among policy makers, programme personnel, researchers and health practitioners across the globe that male's involvement has been a key facilitating factor in women's reproductive health. The UN Millennium declaration also outlined the universal access to reproductive health as the key strategy to achieve the MDGs. This paper analyses the individual, familial and contextual factors affecting male involvement in the maternal health of their wives in India and its region.

Methods: Data from National Family Health Survey (NFHS-3), 2005–2006 have been used for the present study which is treated as a DHS in India and is the third in the series of national surveys, covered all 29 states in India, which comprise more than 99% of India's population. NFHS-3 was

conducted under the stewardship of the Ministry of Health and Family Welfare (MOHFW), Government of India. The analysis is based on information collected from men aged 15 to 49, having a living child aged 0 to 35 months at the time of survey. Bivariate, multivariate techniques and logistic regression with three sets of models have been used for proposed study.

Results: The findings reveal that over half of such men accompanied their wife for ANC when they were pregnant with their youngest child. Increasing educational level (AOR = 2.32, $p < 0.10$) and exposure to mass media (AOR = 1.65, $p < 0.05$) are having significantly positive impact on male participation in ANC. However, increasing educational gap between husband and wife adversely affect the male participation in maternal health in India. Regional variation in male participation in reproductive health paints a consistent pattern where men in Southern and western regions are more likely to play a pro active role in maternal health than those living in north, central, east and north east regions.

Conclusion: Men in the central region need concerted efforts to develop positive attitudes and skills towards maternal health of their wives. IEC campaign should be more promoted at community level. With the help of local community leaders male involvement should be focus to ensure maternal health which may turn in result of achieving millennium development goals in the country.

P218

Relationship between cigarette smoking and health risk behaviours among Chinese adolescents: Findings from a national survey

W. Guo¹, X. Zheng¹

¹School of Social and Behavioral Sciences, Nanjing University, Nanjing, China, ²Institute of Population Research, Peking University, Beijing, China

Objectives: Due to their linkages in the social ecology of adolescents, adolescents' cigarette smoking involvement is correlated with other health risk behaviours such as unsafe sexual behaviour and nonsexual risk behaviours, which can damage their health and well-being. This study focuses on examining whether

socio-demographic factors and health risk and problem behaviours explain the prevalence of cigarette smoking among Chinese adolescents.

Method: Based on the data from the 1st National Youth Reproductive Health Survey in 2009, using binominal and ordered probit models with a Heckman's two-stage estimation procedure, this study examines the socio-demographic and health risk and problem behaviours explaining both cigarette smoking and its frequency, respectively.

Results: The results indicate that both the occurrence of cigarette smoking and the frequency of cigarette smoking are mainly associated with health risk and problem behaviours covering other nonsexual risk behaviours and sexual behaviour. The prevalence of smoking was highest among male, rural adolescents, and those with lower education, from one-child family, broken family, or lived in the west. When we adjusted for socio-demographic factors and health risk and problem behaviours, smoking was associated with having premarital sex, having multiple sexual partners, binge drinking, and porn-reading addiction among Chinese adolescent.

Conclusions: Unsafe sexual behaviours, binge drinking, and porn-reading addiction are correlates of cigarette smoking suggest clustering to form a risk behaviour syndrome among Chinese adolescents. It reflects an urgent need for further exploring the relationship between cigarette smoking and other health risk behaviours will be helpful for designing further tobacco control interventions among Chinese youth.

P219

Abortion in Georgia – trends, causes, women's attitudes to the problem of prenatal sex-selection

G. Shelia, A. Chavchidze

Tsereteli State University, Kutaisi, Georgia

Objective: To study the major causes of abortion and investigate the reasons behind 'skewed sex ratios' at birth in Georgia, where it is 111 boys for 100 girls.

Design and methods: A prospective study of 1600 women who were interviewed. The results of our study, official statistics data and GERHS10 were

compared. Statistical processing of the material was performed with SPSS program.

Results: The third nationally representative survey (GERHS10) suggests that the Total Induced Abortion Rate has been decreasing gradually from 3.7 per woman in 2002 to 2005. Between 2005 and 2010 the average abortion rate dropped significantly to 1.6 abortions per woman. Official statistic index considerably under reports the data received by the reproductive health survey and other sources. Our research shows that the exact number of abortions is not known. A total of 63% of the investigated women had undergone the procedure of first abortion, for 27% it was the second. From them 47% were within the age range of 14 to 20 years. The study identified the main causes of abortion as a socioeconomic situation in the family (about 58%), which includes: low income (43.1%), unemployment (28.7%) and poor living conditions (20.1%). Women interviewed believe that selective abortion is unethical and unlawful conduct. At the same time they openly said that many of their relatives and friends have had abortions because they do not want to have another girl. Analysis of the responses shows that the majority of respondents want to know the sex of the child before which they attributed to the fact that, traditionally, the family must have a son. So spontaneously or under pressure Georgian women decide not to give birth to daughters, who are considered as a burden for their family and unable to perpetuate the family lineage.

Conclusions: The artificial termination of pregnancy by interviewed women is socially conditioned. There is the practice of prenatal sex-selection with the termination of unwanted pregnancy in Georgia. Abortion is still the main method of birth control and Georgia has a great need for new policies that will expand the scope of contraceptive counselling.

P220

The effect of gender role attitudes of university students upon sexual myths

T. Ucar, Y. Aksoy Derya, S. Timur Tashan

Inonu University, School of Health, Malatya, Turkey

Objective: This study was descriptively conducted in order to determine the effect of gender role

attitudes of the university students upon believing in sexual myths.

Method: The study was conducted with the students who studied at midwifery and nursing school of a state university located in east Anatolian region of Turkey. The sample of the research was composed of 429 students who volunteered to participate in the study. The data were gathered using Personal Information Form, Gender Roles Attitude Scale (GRAS) and Sexual Myths Evaluation Form. The data were collected between November and December 2012 during non-class hours. The data obtained were evaluated using means, standard deviation, percentages and t test in SPSS for Windows 16.0 program.

Results: A total of 83.2% of the participant students were female students whereas 16.8% were male students. Students' mean score of GRAS was 140.77 ± 18.91 (max: 183, min: 76). It was found out that scores obtained from GRAS did not affect the sexual myths related to sexual desire, sexuality during pregnancy, sexual orientation and masturbation ($p > 0.05$). According to the GRAS scores; sexual myths which those with egalitarian attitudes did not believe in and which led to difference between them and those with traditional attitudes were as follows: 'Always men should start the sexual intercourse', 'All of the physical contacts should result in sexual intercourse', 'Men should not reveal their feelings', 'Every man should know how to excite each woman', 'Spouse of a man is innocent and sacred and more satisfactory sex should be attained with prostitutes', 'To reach orgasm is necessary to be a modern woman', 'Man directs sex and it is indecent for women to start sex', 'A big and erect penis is the key to a satisfactory sex', 'The aim of a good sex is penetration', 'Woman or man cannot say no to sex', 'The most natural position for sexual intercourse is man-on-top position', 'Sexual intercourse is tiring and exhausting', 'The size of male sexual organ is sexually important', 'It is an indicator to be successful in the first sexual intercourse for the sexual success in the future during lifelong' ($p < 0.05$).

Conclusion: Attitudes of the young people about gender roles causes them to believe in some myths related to gender, sexual function, sexual behaviour and sexual anatomy. It may be recommended that programmes should be made in order to provide university students with egalitarian attitudes about gender roles during higher education.

P221

The effects of socio-demographic characteristics on sexual myths among university students

Y. Aksoy Derya, T. Ucar, S. Timur Tashan

Inonu University School of Health, Malatya, Turkey

Objective: In this study; the aim was to determine the effects of socio demographic characteristics on sexual myths among the university students.

Methods: The study was designed in descriptive model. The population of the study was composed of 766 undergraduate students who studied at the Midwifery and Nursing School. No sampling was made and the all of the students were included in the study but 412 students accepted to participate in the study. The study was performed at a Health School of a state university between the 1 and 30 November 2012. The data were gathered using 'Personal Information Form' and 'Sexual Myths Evaluation Form'. For the statistical analysis of the data; means, percentages, chi-square test and t test were used.

Results: A total of 37.9% of the participant students were midwifery students while 62.1% were nursing students, 83.3% of the students were female students and 16.7% were male students. The rate of those who said they had a partner was 44.9% and the rate of those who had poor knowledge about sexuality was 16.3%. Students' information sources were friends, school, family, internet, media and health personnel in order. It was found out in the research that female students believed in sexual myths more as compared with male students ($p < 0.05$). Over half (59.5%) of the students believed in the myth of 'Homosexuality is a psychiatric disorder and should be treated' whereas 57.8% of the students believed in the myth of 'Sexual orientation is a voluntary choice and can be changed.' No significant difference was explored between these myths and age, gender, living place, family type, economical status and mothers' or fathers' educational status and employment status ($p > 0.05$). As the classes/degrees of the students increased, the rate of their agreement with the myth 'Homosexuality is a psychiatric disorder and should be treated' decreased significantly ($p < 0.05$). There was no significant difference between the myth 'Masturbation is disgusting and dangerous.' And age, gender, living place, family type, economical status and mothers' or fathers' educational status and employment status ($p > 0.05$)

but as the classes/degrees of the students increased, the rate of their agreement with this myth decreased considerably ($p < 0.05$).

Conclusions: As a conclusion; it was seen that nearly half of the students did not have enough knowledge on sexuality and did not use the correct information sources. In the study, it was noted that one's gender and the education acquired had an effect upon his/her believing in myths.

P222

Knowledge and practice related to the self breast examination of the female employees of the Adiyaman university

T. Sahin¹, A. Tevfik Ozan², D. Küçükkeleşçer¹, G. Erkus¹, S. Arslan¹*¹Adiyaman Üniversitesi, Adiyaman, Turkey, ²Firat University, Faculty of Medicine, Departement of Public Health, Firat, Turkey*

Background: Many medical organisations in the world and also in Turkey recommend breast self-examination (BSE) in early diagnosis of breast cancer.

Aim: This research has been used to determine the BSE knowledge and practice of the women working at the Adiyaman University.

Methods: The target population of this definitive study was 258 female staff of the Adiyaman University. All of the population were included in the study and 234 (90.7%) of them were reached. The data of the study was obtained by applying a face-to-face questionnaire technique with a survey consisting of 26 questions. The analysis of the data was conducted by using the Pearson χ^2 significance test and Statistical Package for Social Science. Half (50.4%) of the women who participated in the study were married, 80.8% of them held university or master diplomas, 45.7% were academic personnel and their average age was 30.0 (min: 20, max: 60).

Results: Most (81.6%) of the participants had information on BSE which they acquired from television (27.9%) and doctors (23.4%). Most (89.6%) of the women (173 people) practiced BSE and 49.0 % of these women made this examination once a month, 52.3% 5 to 7 days after menstruation, 90.6% considered BSE as an early diagnosis method. It was found

that 83.2% of the women use eye-check for BSE, 36.8% of them made the examination lying on bed and 69.7% by hand and standing. It was determined that 68.4% had not had a clinical breast examination by a physician. Research, higher education level, married-widowed-divorced women to have information about BSE and breast examination application rates was more. Women's work status and marital status information about BSE was found to have a statistically significant difference between conditions ($p < 0.05$).

Conclusion: In conclusion, it was determined that women did not have sufficient knowledge of BSE as desired. The importance of BSE should be recognised and the works to be done should be supported.

P223

Sexuality and the internet: A study on the perspectives of Turkish university students

T. Ucar¹, Z. Golbasi², A. Senturk Erenel³

¹Inonu University, School of Health, Malatya, Turkey,

²Cumhuriyet University, Faculty of Health Science, Sivas, Turkey, ³Gazi University, Faculty of Health Science, Ankara, Turkey

Objective: The purpose of this study was to identify the Internet use behaviours and attitudes of Turkish university students concerning sexuality.

Method: The study was conducted in two public universities in the Central Anatolia and Eastern Anatolia regions of Turkey. The sample was comprised of voluntary participants from these two universities. Out of the students who had been invited to take part in the study, 1330 students agreed to do so. The data were collected through a survey form developed by the researchers. The data were analysed on the computer via Pearson's Chi-Squared test.

Results: While 52.6% of the students were female, the remaining 47.4% were male. The average age of the participants was 22.21 (SD = 2.11). While 42% of the participants visited chat rooms, 18.9% of them had had a girlfriend or boyfriend they had met on a chat room. Approximately half of the students (51%) reported using the Internet to obtain information about sexuality. The students reported visiting erotic and pornographic websites, chatting on the Internet about sexuality and buying sexual products online by

30.5%, 21.1% and 9.3% respectively. When compared to the female students, the male participants statistically more often displayed such behaviours as obtaining sexual information on the Internet, online sexual shopping, online flirting, chatting on the Internet about sexuality and visiting pornographic and erotic websites.

An analysis of the views of the students about using the Internet concerning sexuality suggested the following findings. The female and male participants considered the Internet as an unreliable source of information about sexuality totalled 52.5% and 38.2% respectively ($p < 0.05$). Nearly two-thirds of the students (65%) agreed with the statement that 'young people find it easier to find about sexuality on the Internet'. Nearly the same percentage of female and male students (57.4% and 54.4% respectively) agreed with the idea that using the Internet for sexuality might have adverse impacts on young people both materially and morally ($p < 0.05$). More female students (72.4%) than male students (58.6%) agreed with the idea that young people might not be able to test the validity and reliability of information on the Internet about sexuality ($p < 0.05$).

Conclusion: The study concluded that male students in Turkey use the Internet concerning sexuality more often than female students. In addition, the latter have more negative attitudes towards using the Internet regarding sexuality.

TOPIC 17: SEXUAL PLEASURE AND SEXUAL HEALTH

P224

Nonsurgical treatment for vaginal introital laxity with radiofrequency thermal therapy: 12-month outcome data

M. Krychman¹, Y. Sekiguchi², Y. Utsugisawa³, Y. Azekosi², M. Kinjo², M. Song³, Y. Kubota⁴, S. Kingsberg⁵

¹Southern California Center for Sexual Health and Survivorship Medicine, Newport Beach, CA, USA,

²Yokohama Motomachi Women's Clinic LUNA, Yokohama, Japan, ³Women's Clinic Luna ANNEX, Yokohama, Japan, ⁴University Graduate School of Medicine, Yokohama, Japan, ⁵Case Western Reserve University School of Medicine, Cleveland, OH, USA

Objective: Vaginal childbirth may result in trauma to the pelvic floor and vagina with consequent laxity of the vaginal introitus. This distortion of introital tissues may alter genital sensation during sexual intercourse and reduce sexual satisfaction. To evaluate long-term effectiveness of a single procedure with nonablative radiofrequency (RF) therapy for tightening the vaginal introitus in women after vaginal deliveries.

Methods: Prospective, single-arm study to treat 30 Japanese women (21 to 52 y) with an office procedure using RF energy (90 joules/cm²) applied to the vaginal introitus. Follow up assessments were performed over 12 months.

Results: The linguistic validated Japanese versions of the Female Sexual Function Index (FSFI) and Female Sexual Distress Scale-Revised (FSDS-R) to assess sexual health; the vaginal laxity and sexual satisfaction questionnaires to discern changes compared to pretreatment were used. Sexual function improved significantly: the mean total FSFI score improved from a baseline mean of 22.4 ± 6.7 to a mean of 26 ± 5.8 ($p = 0.005$) at 6 months post treatment. In 22 of 30 subjects evaluable at 12 months, the mean was 26.0 ± 5.2 ($p = 0.055$). The orgasm and satisfaction domains of the FSFI also showed significant improvements from baseline means of 3.4 ± 1.5 and 3.6 ± 1.5 to 4.2 ± 1.3 and 4.2 ± 1.3 , respectively at 12 months ($p = 0.006$ and 0.047). Distress related to sexual activity reported on the FSDS-R significantly decreased: from a mean score of 15.8 ± 11.7 at baseline to a mean of 10.3 ± 8.7 ($p < 0.001 - 0.003$) at one month and was sustained through 12 months. Subjects perceived increased feelings of vaginal tightness within the first month after the procedure, from mean of 2.43 ± 0.9 to 3.3 ± 1.1 ($p < 0.001$), responses reached a peak at 6 months and effectiveness was maintained at this level out to 12 months, mean 4.2 ± 1.0 ($p < 0.001$) compared with pretreatment. No significant treatment-related adverse events were reported.

Conclusion: A single, low-dose RF treatment as a nonsurgical office-based medical procedure for vaginal introital laxity achieved significant and sustained 12-month improvements in reported tightness of the vaginal introitus and improved sexual satisfaction. Treatment was well-tolerated with no adverse events. This procedure had a positive impact on the bothersome condition of vaginal laxity and on sexual health in this cohort of Japanese women. Research supported by Viveve, Inc., Sunnyvale, CA.

P225

Changes in sexual life in overweight women with sustained weight loss

D. Stoian¹, M. Craina¹, M. Craciunescu²,
D. Anastasiu¹, D. M. Anastasiu¹

¹University of Medicine and Pharmacy 'Victor Babes',
Department of Obstetric Gynecology, Timisoara, Romania,

²University of Medicine and Pharmacy 'Victor Babes',
Department of Microbiology, Timisoara, Romania

Objectives: To evaluate the effect of losing excessive weight on sexual wellbeing in apparently healthy young women.

Method: A pool of 748 women, aged between 19 and 45 years (mean of 32.45 ± 4.7 years) assessed by the Endocrinology Unit from January 2010 to September 2011 for a weight loss programme.

Inclusion criteria: sexual active (733 cases), stable relationship longer than one year (675 cases), Compliance to the weight loss management programme (447).

Exclusion criteria: diabetes mellitus (15 cases), overt thyroid disease (58 cases), PCOS (63 cases), organic hypercorticism (3 cases), known depression (15 cases).

Prospective evaluation, period: 12 months after entering the study.

Intervention: weight loss programme, health coaching, monthly visit, FSFI and BESAQ questionnaires. The noncompliant group was considered as control.

Results: Study group: 293 cases, mean weight loss of 11.45 ± 4.7 kg (6 months), respectively of 15.4 ± 3.2 kg (12 months). With sustained weight loss, there was an increase in FSFI scores: desire, arousal, satisfaction and orgasm domain, starting in the 2nd and 3rd month

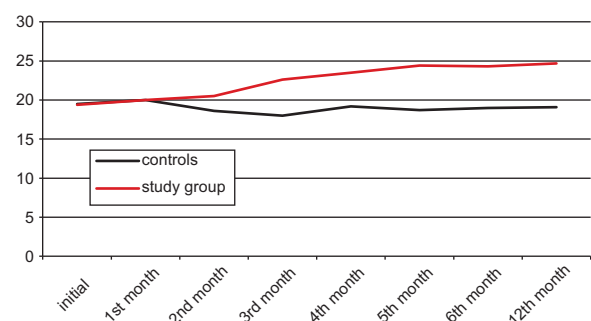


Figure 1.

Table 1

BESAQ score	1st month	2nd month	3rd month	6th month	12th month
Study group	71.5 ± 13.5	55.5 ± 12.5	51.4 ± 13.5	45.6 ± 12.5	44.5 ± 10.2
Controls	70.2 ± 12.5	65.5 ± 13.6	68.3 ± 12.5	70.3 ± 14.4	69.3 ± 15.5

Table 2

Evaluation	BESAQ-weight loss correlation		FSFI – weight loss correlation	
	R	p	R	p
1st month	0.38	0.31	0.21	0.28
2nd month	0.37	0.03	0.28	0.16
3rd month	0.47	0.012	0.31	0.03
6th month	0.56	0.012	0.37	0.019
12th month	0.65	0.012	0.42	0.015

of weight loss. The increase continued during the whole follow up period (Figure 1). BESAQ score decreased also after the 2nd month of evaluation, especially questions 2,4,6,8, 20 and 22b (Table 1). Increasing of FSFI score correlated with the weight loss in a smaller manner the BESAQ scores (Table 2).

Conclusion: Sustained weight loss ameliorates sexual interest and initiative. Self perception of the body appearance increases significantly (BESAQ questions 2,4,6,8), and also concern regarding weight decreases (BESAQ questions 20 and 22).

P226

Assessment of unprotected sexual practice and associated factors among people living with HIV at ART clinics of public health facilities of Debre Zeit Town, East Shewa, Ethiopia

E. Engedashet

University of Gondar, 3, Ethiopia, and Addis Continental Institute of Public Health (ACI-PH), 14, Ethiopia

Background: The magnitude of unprotected sexual practice among PLWHA is generally high in African countries. It can have a serious public health impact which is a potential of transmitting HIV to another individuals thereby increasing new HIV infections and exposing those people living with HIV/AIDS

(PLWHA) practicing it to new variant of HIV which can result in super infection and treatment failure. Understanding the practice in Ethiopia will have public health significance.

Objective: The aim of this study was to determine the magnitude of unprotected sexual practice and the associated factors among PLWHA at ART clinics of public health facilities in debre zeit town.

Method: Institution-based cross sectional study design with internal comparison was used and data was collected using a structured questionnaire. A total of 667 PLWHA were included in this study. A systematic random sampling technique was used. Analysis was done using SPSS for windows version 15. Univariate, bivariate and multivariate analysis were performed to see association between different factors and unprotected sex.

Results: The magnitude of unprotected sexual practice among PLWHA in the study area was found to be 22.2% with 95% CI: (19%, 25.4%). For this unprotected sexual practice four independently associated factors were identified. These were being female with AOR = 2.103 (1.135, 3.895), being divorced/widowed/separated with AOR = 4.892 (2.071, 11.558), length of stay with the current partner for ≥ 49 months with AOR = 3.255 (1.855, 5.714) and not discussing or partly discussing about safe sex and condom use with sexual partner with AOR = 17.105 (8.918, 32.808)

Conclusion and recommendations: Still high proportions of people living with HIV/AIDS were found to engage in unprotected sex. This will increase the chance of transmitting HIV/AIDS among the general population and also has risk of super infection, resistance and treatment failure for those practising it. Hence continuous counselling and health education by health professionals and counsellors on how to avoid unprotected sex and on how to enhance discussion about safe sex and condom use with their sexual partner should be given for PLWHA during their follow up care. Different health education materials like pamphlets, leaflets, posters and audio tapes and videos should be prepared and distributed to PLWHA in the study

area to make them aware of the problem of unprotected sex and ways of preventing it.

P227

Dreams of getting a perfect husband do not always come true: Gap between perception and behaviour of Indian husbands to the sexual rights of their wives

A. Siddhanta

International Institute for Population Sciences, Mumbai/Maharashtra, India

Introduction: Perception and behaviours are two conjoined aspects where the understanding of one should enhance the predictability of the other. However, reality has been different in most of the cases. In India, woman experiencing abysmal levels of violence is a commonplace since time immemorial. For instance, husbands are placed par the status of God, which has socially sanctioned control over their better halves.

Objectives: The major Research Question involved with this study was to enquire, what are the psychosocial and contextual factors affecting the gap between perception and behaviour about sexual rights of women in India. The broad objective of this paper was to see the gap between husband's perception and behaviour about sexual rights of their wives. Further, the study compares the behaviours across the HIV prevalent states to the national level. For empirical analysis of the study, the data of NFHS (2005–2006), is used.

Results: Most (90%) of Indian husbands had a positive perception about wife sexual rights, however, wide gap prevails between their perception and behaviours; evident from the figure that about 85 to 95% husbands of the victimised wife uphold a positive perception. Young, poor, Muslims, alcoholic and nonworking men have more propensity to break their own supportive ideals forcing their wives for unwanted sex. With increasing education (with reference to no education), husband's perception towards sexual rights is becoming better and wife's unwanted sexual experiences are becoming 85% less ($p < 0.01$). However, with regard to age and economic status, it is found the aged ($OR = 1.192$, $p > 0.01$) and poorest males have more propensities to commit crime of forced and unwanted

sex even though they perceive women's sexual rights in a positive manner.

With decreasing use of alcohol, the chance of performing unwanted sex with wife also decreases. The result shows that Muslim women are two times more likely to experience violence of unwanted and forced sex ($p < 0.01$) since their husbands are 27 times more likely to force for unwanted sex ($p < 0.05$). Women having good decision making power in the family and those who come from the richer section of the society along with working women are found witnessing less sexual exploitation ($p < 0.01$).

Conclusion: The result reveals that in India a wide gap prevails between the perception and behaviour of the males. However, in case of HIV prevalent states the gap is lesser which is due to the fact that their behaviour and perception are harmonised to an extent.

P228

Join sexual pleasure with health benefits: Are sex toys a response?

A. Pelagie Yotchou Tzudjom, A. Togwe Fetue, S. Manga

Cefap-Ladies Circle, Yaounde, Centre, Cameroon

Introduction: The popularity of sex toys is on a constant rise. More and more people are getting hooked onto the use of these toys and they are quite open about it. The immense and varied nature of choices means that there are sex toys to suit all kinds of interests and preferences. Now, a new dimension has been added to these sex toys. It's been noted that using sex toys can have important health benefits, as well.

Sex toys – not just about sexual pleasure anymore: There was a time when the use of sex toys was considered taboo. Slowly, and gradually their use began coming out of the closet and today they have become accepted in terms of mainstream usage. The days when people looked at you with surprise, shock or concern on their faces if you mentioned your use of a sex toy, are long gone. These days another feather has been added to the sex toys' cap. They are no longer just toys that offer sexual pleasure but are earning popularity for health benefits offered. It is increasingly being seen that the regular use of sex toys affects the body in a myriad of positive ways, both physically and psychologically. Sex toys are not just used for sex anymore

but are also devices that contribute towards improving the health of the user in many different ways.

Sex toys and health benefits – myth or reality:

Quite a number of sex toys that are available for men and women have a range of therapeutic benefits. Men suffering from erection problems or reduced penile sensation have benefitted from the use of specific sex toys. Women who use vibrators are essentially stimulating blood flow to that particular area. Apart from the sexual pleasure brought about by this action, it also improves the general health of the body by releasing feel good hormones during orgasm. Men and women, who suffer from decreased sexual desire, have seen their sex lives improve with the use of various sex toys.

Male sex toys in the form of prostate massagers help bring about a prostate orgasm. This helps flush out all the old prostate fluid that has accumulated in the prostate. These male sex toys also improve the circulation of this gland and improve the blood flow to the region. All these health benefits mean that sex toys definitely help develop the health of an individual.

P229

The responsibility of sex therapy in Islamic catecheses and its application in Islamic society

M. Ghorbani¹, M. Foroughi²

¹Mashhad University of Medical Sciences, Mashhad, Iran, ²Shahid Baheshti University of Medical Sciences, Tehran, Iran

Objective: Moslems represent more than one milliard of world population. However, they are arranged by multiracial, various affinities and subdivided distinct religion. This wide distribution has its own effect and influence on sexual relations.

Method: There is a bidirectional interaction between religion and intercultural issues. Misinterpretation of religious instruction about sex relationship causes different levels of sex disorders in these societies. So it is significant subject to recommend sex therapy be engaged in catecheses and educational topics.

Results: The aim of this study was to appraise the role of religious thought and behaviours in sexual disorder occurrences, durability, treatment and prevention.

The topics included were:

- (1) Prevalence of sexual disorders and their impression on distinctive Islamic societies.
- (2) Situation of sex therapy and sex health in Islam and other religions.
- (3) Comparison and adjustment of mentioned items between different religions.
- (4) Interaction between different races, cultures and Islamic instructions in prevalence, medication and prevention of these disorders.
- (5) Evaluation of scientific thought, Islamic physicians view about sex therapy in Islamic medicine.
- (6) Islamic viewpoints about health and sex hygiene, pros and cons with modern sex therapy.
- (7) Quality assessment of sex therapy centres in Islamic-based populations.

Conclusions: The ultimate goal would be to set up an inclusive style of sex therapy in consultant clinics in Islamic population.

P230

Novel polymer for diagnosis of bacterial vaginosis and trichomoniasis infections

A. Geva¹, H. Kessary Shoham², J. Sobel³

¹SBC Women's health centers of Lin Haifa, Israel, Haifa, Israel, ²Common Sense, Caesarea, Israel, ³Division of Infectious Diseases, Wayne State University, Detroit, Michigan, USA

Objective: Traditional methods for diagnosis of bacterial vaginosis (BV) and Trichomonas (TV) are subjective and some require expert personnel. As a result the diagnosis is often inaccurate and the treatment is frequently inappropriate. The association between BV/TV and serious health effect, including PID, cervicitis, postoperative infection, preterm delivery, and HIV infection are well documented. An accurate diagnosis will reduce those complications. Lately, a novel polymer indicator has been developed to improve these diagnoses. It comprises a mixture of polymer, plasticiser, wetting agent, ion-balance reagent and an indicator; applied on a substrate. The indicator changes colour from yellow to blue at pH > 5.1 and in the presence of vaginal watery discharge with buffer capacity lower than 20 mM at pH 4.3–5.1. The polymer is used as a swab impregnated within an indicator

for ob/gyn office (VS-SENSE PRO) and for home use (VS-SENSE OTC). The present study compared the results of this indicator to 'Gold-Standard methods'.

Design: A total of 236 women with abnormal vaginal discharge were enrolled in multi-centre studies and were examined with the VS-SENSE PRO. Amsel criteria and Nugent scoring were used for BV diagnosis, cultures for *Candida* species and InpouchTMTV for *Trichomonas*. The results were compared to the performance of VS-SENSE swab.

Results: The sensitivity and specificity of VS-SENSE were 91.8% and 92.9% (PPV = 91.8%, NPV = 92.9%), respectively.

Conclusion: VS-SENSE WAS found to be superior to traditional tests (Whiff Test, pH paper, speculum examination) in diagnosis of vaginal infections. The new polymer gives extra sensitivity in the diagnosing of abnormal vaginal discharge, and is beneficial for physicians and patients in fast and easy diagnosis of vaginal infection.

P231

Effects of hormonal contraception on women's sexual function: A cross-sectional study in a cohort of Danish women

S. Wåhlin¹, N.C. Læssøe¹, A. Giral di¹, E. Kristensen², A.T. Pedersen³

¹Department of Sexological Research, Psychiatric Center Copenhagen, Copenhagen, Denmark, ²Department of Clinical Medicine, Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark, ³Department of Gynecology, JMC Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark

Objective: To investigate the relationship between the use of combined hormonal contraceptives (HC) and women's sexual function, with special emphasis on type of progestin.

Methods: A questionnaire including Female Sexual Function Index (FSFI) and Female Sexual Distress Scale (FSDS) with additional questions on use of contraception was completed by a community sample of 259 healthy women aged 18 to 35 years.

The participants were divided into two groups: 152 users of HC (61.6%) and 107 non-HC users (38.4%). The HC group was further divided into two subgroups: 28 participants using combined HC

containing anti-androgenic progestin (AP-HC) and 124 participants using combined HC containing other types of progestin (O-HC).

Main outcome measures were FSFI, cut-off at 26.55 indicating Female Sexual Dysfunction (FSD) and FSDS, cut-off at 15 indicating Female Sexual Distress. Manifest FSD (MFSD) defined as FSFI score 26.55 and FSDS ³15.

Kruskal-Wallis test was performed comparing FSFI and FSDS scores. Chi-squared test was performed comparing the distribution around cut-off.

Results: Statically significant differences were found between users of HC and non-HC users in mean FSDS score ($p = 0.032$), as non-HC users had the highest mean FSDS score (12.4). No differences were found in FSFI score or MFSD.

In the subgroup analysis statistically significant differences were found between the users of AP-HC, O-HC and non-HC users in both FSFI score ($p = 0.013$), FSDS score ($p = 0.010$) and MFSD ($p = 0.005$). Users of AP-HC had the lowest mean FSFI score (26.5), the highest mean FSDS score (14.5) and had the highest rate of MFSD (40.7%).

Conclusions: In a cross-sectional setting we found a significant negative influence of combined HC containing anti-androgenic progestin on women's sexual function. HC users in general had less sexual distress than non-HC users.

P232

Adolescents' sex education using new digital media: The personal motivations and interactive experiences of young people online at Reddit.com

L. Simon

Uppsala University, Uppsala, Sweden

Objectives: As was predicted over ten years ago, studies now show that adolescents learn about sex online. Yet little is known about their motivations, qualitative user experience, and use of interactive new digital media.

Method: Reddit.com, a popular social news aggregator, was used for the recruitment of 15 adolescents who had confirmed experiences of sexual learning on the internet. These adolescents participated in in-depth online interviews about their history with and opinions on internet-based sex education.

Results: Participants revealed that they were motivated to seek sex information on highly anonymous and social websites, where users wrote about their diverse sexual experiences, where advice seemed unbiased, and where the adolescents never felt weird or alone. Although the participants used a diverse array of online sources to learn about sex, including Reddit.com, Twitter.com, YouTube.com, 4chan.org, Tumblr.com, pornography, podcasts, and even their mobile phones, they consistently demonstrated their internet literacy and self-reliance when navigating the web. Adolescents sought information about sexual acts and behaviours and kept looking until they felt satisfied with their own sexual learning. Furthermore, participants in this study discussed the satisfaction they felt when they could teach the information they had learned to others both online and offline. Although opinions were mixed, the participants in this study also stressed the substantial and positive role the internet has played in their sexual development.

Conclusions: This study provides novel evidence that young people value using new digital media for sex education, particularly in their personal sexual journeys.

P233

Unconsummated marriage in the Arab Islamic World: Tunisian experience

M. Rekik², W. Smaoui¹, M. Bouassida¹, M. Hadj Sliman¹, A. Koubaa¹, F. Zouari², R. Ben Hmid², K. Chabchoub¹, N. Rebai¹, M. Guermazi², M. N. Mhiri¹

¹Department of Urology, Habib Bourguiba Academic Medical Center, Sfax, Tunisia, ²Department of Gynecology and Obstetrics, Hedi Chaker Academic Medical Center, Sfax, Tunisia

Objectives: To identify the clinical features of unconsummated marriage couples, the etiological factors, the therapeutic approaches and to clarify the different evolutive aspects.

Methods: In this retrospective study, the files of 80 consecutive couples followed for unconsummated marriage between 2000 and 2010 at andrology consultation were reviewed.

Results: The mean age of husbands was 36 years (22 to 82 years), that of the brides was 28 years (17 to

57 years). The average length of marriage was 14 months (range 3 months to 7 years).

Couples had low knowledge about sexology. The sexual dysfunctions noted were: erectile dysfunction in 40% of cases, premature ejaculation in 5%, a combination of premature ejaculation with erectile dysfunction and decreased libido in 15%, vaginismus in 12.5% and the associated causes (erectile dysfunction with vaginismus) in 27.5%.

The first-line treatment was based on sexual education and sexual therapy associated, in some cases, with oral drugs (vasodilators drugs (yohimbine) and phosphodiesterase type V inhibitors in case of erectile dysfunction, tranquilisants and myorelaxants in case of vaginismus). The second-line therapy was based on intra cavernous injections of prostaglandin E1. After a mean follow-up of 5 months (range 1 to 15 months), the outcomes of treatment were:

- Good prognosis with consummation of marriage in 57 cases (71.25%)
- Failure with unconsummated marriage in 18 cases (22.25%)
- Not known in five cases (6.25%).

Conclusion: In our series, the unconsummated marriages were due to erectile dysfunction, premature ejaculation and vaginismus. Treatment was based on sexual education of youngsters and treatment of sexual dysfunctions for peoples who consult before marriage. Prognosis is good in most cases.

P234

A longitudinal qualitative study of the changes in sexuality during pregnancy and after childbirth as experienced by women

S. Bender, E. Sveinsdóttir, H. Friðfinnsdóttir

University of Iceland, Reykjavik, Iceland

Objectives: Previous studies of sexuality during pregnancy and after delivery have mostly been quantitative. This study was conducted in order to understand in more depth the experiences of women of the changes in their sexual lives during pregnancy and after childbirth which could contribute to service improvement.

Design and methods: A qualitative longitudinal study was conducted at six months and one year after

childbirth. Eight women, 24 to 43 years old, were randomly chosen from a group of women who had delivered at a University Hospital in the fall of 2011. A letter was sent to 332 women after their delivery during a defined period. There were 62 who replied and 26 of those were ready to participate in the study. The women who were chosen for the study were all in a steady relationship and two were having their first child. The interviews were tape recorded and transcribed verbatim. The text was thematically analysed.

Results: The three main themes that were identified were sexual relationship, sexual desire and sexual pleasure. The women generally reported that communication, trust, mutual respect and mutual decision-making regarding childbearing contributed to the balance in their relationships. Being preoccupied with the child and the breast being the property of the child also affected their sexual relationships. Women experienced reduced sexual desire during pregnancy and after delivery. During pregnancy it was affected by tiredness, pregnancy complications, changed body image and fear of hurting the unborn child. What influenced their sexuality after childbirth was breastfeeding, the mothering role and physical as well as emotional wellness. Most of the women had started to be sexually active six months after delivery although their sexual desire had not returned and some described this as a service to the man. During pregnancy and after childbirth the women experienced sexual pleasure by being intimate to the partner but did not necessarily desire to have sexual intercourse.

Conclusions: The results are in accordance with previous studies in regard to reduced sexual desire. This study gives in-depth information about the importance of keeping a balance in the relationship, the greater need for physical and emotional closeness to the partner and having the space to be a mother. During this experience women are in need for better information about changes taking place during this life experience in order to contribute to their sexual wellness and maintaining balance in the relationship.

P235

Women's sexual health and pleasure – still a lot to do

K. Pirker

Women's Health Center, Graz, Styria, Austria

Introduction: Women's sexual health and pleasure is increasing since the international women's health movement was born in feminism's second wave in the late 1960s in the USA.

Still there is a lot to do for women: Girls and women reclaim little self-esteem and body awareness. They lack basic information about their sexual organ, the clitoris. They need also information about all aspects of pleasure and lust: masturbation, arousal, orgasm, sexual satisfying partnership. Beyond that, they need elaborate and independent information about contraception, the pros and cons, especially the side effects of hormonal contraception. Especially girls and young women are suffering from sexual harassment and so-called domestic violence. All women and girls need support in learning to say 'No'. In today's widespread internet pornography we observe sexual habits and practices shown that do harm women such as e.g. anal intercourse without preparation. In general average porn sites don't show women's real pleasure and orgasms but violence and abuse. That has strong effects on girls and women's sexual life.

The women's health centre Graz, Austria offers specific services such as:

- workshops in schools, youth centres (for girls only)
- information about sexuality, sexual orientation, menstruation, contraception, pregnancy, abortion, emotional health, self assertiveness...
- talks about women's sexual health and pleasure at universities and public discussions
- publications and research on specific issues, e.g. women, sex and internet
- free pregnancy tests
- counselling and psychotherapy (low cost or free)
- e-mail counselling
- library: books, magazines and videos
- website

About the Women's Health Centre: International declarations and health reports of the World Health Organization (WHO) reinforce our work, such as the Ottawa Charter for Health Promotion 1986, the Madrid Statement – Mainstreaming Gender Equity in Health, 2001 and the Report on Health and Women, 2010. For more than 30 years, the women's health movement has sought to change the way women and their bodies are viewed, and to empower women to be actively involved in their health care. Many women's health needs are different from those of men. Pregnancy and childbirth, menstruation, menopause

are examples of health issues which are specific to women. We work with women of all ages and in all life situations regardless of race, ethnicity, sexual orientation, gender identity, socio-economic status, disability, body size, cultural heritage or religion. Regional, national and international networks work with political representatives, funding administrations, media, and the community.

P236

Continent urinary external diversion Mitrofanoff's procedure and female sexuality in Tunisia: A review of 45 cases

M. Rekik², W. Smaoui¹, M. Bouassida¹, M. Hadj Sliman¹, A. Koubaa³, F. Zouari², R. Ben Hmid², K. Chabchoub¹, N. Rebai¹, M. Guermazi², M. N. Mhiri¹

¹Department of Urology, Habib Bourguiba Academic Medical Center, Sfax, Tunisia, ²Department of Gynecology and Obstetrics, Hedi Chaker Academic Medical Center, Sfax, Tunisia, ³Department of Anaesthesiology, Habib Bourguiba Academic Medical Center, Sfax, Tunisia

Objectives: To study the impact of the continent urinary external diversion Mitrofanoff's procedure (CUEDM) on female sexuality.

Methods: A validated questionnaire the 'Female sexual function index' (FSFI) was performed in 45 women after completion of CUEDM during the period 1994 to 2010 in the urology department of the Habib Bourguiba Academic Medical Center, Sfax, Tunisia.

Results: The mean age at surgery was 25 years. After a mean of 11 years, continence was achieved in 100% of cases. The self-catheterisation was considered easy in 93% of cases. The postoperative complications were: neo bladder lithiasis (2 cases) and stoma stenosis (2 cases). Patients were divided into four groups: the first included two patients married 9 years after intervention, the second 24 single patients, the third 14 married before intervention and the fifth five widows. Sexuality was considered as well preserved in the third group with complete satisfaction. Four pregnancies were reported in this group. These patients reported a feeling of well-being following the disappearance of urinary incontinence with preservation of the integrity of their body image. In contrast, impaired sexuality

was felt among unmarried (70%), widowed (40%) and married for 9 years after the intervention (42.85%). The field of sexuality most affected was sexual satisfaction. These disorders are multifactorially related to the causal neurological pathology and family situation. The constraints charged to urinary diversion were considered troublesome in five cases.

Conclusion: The CUEDM improves quality of life and has little impact on the sexuality of women with a stable partner.

P237

Prevalence of sexual dysfunction in both men and women who seek treatment for sexual problems in the clinic of The Family Planning Association of Sri Lanka

A. Sanka Pathiratne, Sumithra Tissera, Achini Jayatilleke, Menaka Wimalaratne, Pubudu Guruge, Udari Palandage

The Family Planning Association of Sri Lanka, Colombo, Sri Lanka

Background: Sexual dysfunction is highly prevalent in men and women, although estimates vary depending upon the definitions and means of assessment used. Accurate estimates of prevalence/incidence are important in understanding the true burden of male and female sexual dysfunction. This study aimed to describe the characteristics of men and women seeking care for sexual dysfunction at the Family Planning Association of Sri Lanka (FPASL).

Methods: This study included all the men and women who attended the medical clinic of the Family Planning Association of Sri Lanka between 1 January 2010 and 31 October 2012 seeking treatment for sexual dysfunctions which were defined using the standard definitions. Descriptive statistics were analysed using SPSS version 16 statistical software.

Results: Of all (N = 153), 20.26% were women and 79.73% were men. Of all women, 9.67% were between 20 and 30 years, 25.80% were between 31 and 40 years, and 64.51% were above 40 years. Of all men, 9.67% were between 20 and 30 years, 25.80% were between 31 and 40 years, and 64.51% were above 40 years. According to the AFUD Consensus Definitions of Women's Sexual Disorders and Dysfunctions, 61.29% had vaginismus, 19.35% had

dyspareunia, 12.9% had hypoactive sexual desire disorder, and 6.45% had orgasmic disorders. Among men, the prevalence of erectile dysfunction, hypoactive sexual desire disorder and premature ejaculation was reported as 57.37%, 22.13% and 20.49% respectively. The prevalence of significant erectile dysfunction increased from 18.57% in men below 40 years of age to 81.42% in men more than 40 years. In the same age strata, the prevalence of significant ejaculatory dysfunction increased from 24% to 76%. The prevalence of hypoactive sexual desire disorder was similar in both the age groups.

Discussion: The majority of women seeking treatment for sexual dysfunction at FPASL suffered from vaginismus, while the majority of men had erectile dysfunction. A marked increase in the prevalence of sexual dysfunctions was seen among men above 40 years, when compared to men below 40 years.

P238

Safe sex to prevent HIV/AIDS and other STDs

A. Pelagie Yotchou Tzudjom, A. Sigha,
J. Nora Ebelle Ndemba

Cefap-Ladies Circle, Yaounde, Centre, Cameroon

What is the safest sex? The safest way to prevent HIV or STIs, of course, is abstinence, which is no sex at all. Next, the safest sex is sex that is shared between two people who are not infected with any STIs (including HIV), who only have sex with each other, and who don't use injectable drugs. If your partner is infected with HIV or another STI, or you don't know your partner's sexual history, the safest sexual activities include:

- Fantasising or having phone sex
- Touching your own body erotically (masturbation) or having each partner touch his or her own body (mutual masturbation)
- Caressing your partner using nonsexual massage
- Rubbing against your partner's body with clothes on
- Kissing

What is safe sex? Safer sexual intercourse carries some risk, but it is much, much safer than taking no precautions at all. In short, safe sex means not allowing

your partner's semen or vaginal secretions to get inside of your vagina, anus, penis, or mouth. It also means avoiding genital skin-to-skin contact. That's because some STIs are spread just by skin-to-skin contact. Safe sex also means taking precautions if you have cuts, sores, or bleeding gums; these can increase the risk of spreading HIV.

Safe sex is protected sex during each and every sexual encounter. It includes:

- Oral sex with a condom, dental dam, or plastic wrap
- Vaginal sex with a male or female condom
- Anal sex with a male or female condom

What if you and your partner are both HIV positive? You might think you don't need to practice safe sex if both you and your partner have HIV. But practicing safe sex will help protect you from other STIs. It will also protect you against other strains of HIV, which might not respond well to medication.

The guidelines below will help partners with HIV, as well as uninfected partners who want to avoid getting HIV or an STI.

Using condoms and other barriers for safe sex: Barriers work by blocking many viruses, bacteria, and other infectious particles. Male latex condoms are the most common barrier used for safe sex. If your partner refuses to use a male condom, you can use a female condom, which fits inside the vagina. These are more expensive than male condoms and take a little more practice to learn how to use.

P239

The effects of a sexuality assessment skill development programme for nursing students on sexuality knowledge, attitude and sexuality assessment skill

N. Tugut, Z. Golbasi

*Cumhuriyet University Faculty of Health Science,
Sivas, Turkey*

Objectives: This study was conducted in order to determine the effects of a sexuality assessment skill development programme applied to nursing students on sexuality knowledge, attitude and sexuality assessment skill.

Method: This study was conducted in Cumhuriyet University, Faculty of Health Science, Nursing Department as an experiment. The participants in the research were 2011 to 2012 academic year nursing department final grade students. The sample consists of 74 students who gave written confirmation for participating in the research. The students were randomly assigned to experiment (37 students) and control groups (37 students). Data was collected by the Personal Characteristics Questionnaire, the Sexuality Assessment Knowledge Test, Sexual Attitude and Belief Scale and Sexuality Assessment Skill Scale.

Before the programme, data collection forms were applied to students in both groups. The students in the experiment group attended the Sexuality Assessment Skill Development Programme. After the programme, the Sexuality Assessment Knowledge Test, Sexual Attitude and Belief Scale and Sexuality Assessment Skill Scale were applied to the students in both groups. Two weeks after the end of the programme, the Sexuality Assessment Knowledge Test, Sexual Attitude and Belief Scale were applied again. In the third month, which corresponds to the end of first semester, data forms were applied again to students in both groups. The obtained data is evaluated with percentage, frequency distribution, chi-square test, variance analysis in repeated measurements, t-test in dependent groups.

Results: It was observed that the sexuality assessment knowledge, sexual attitude and belief point averages of nursing students in the experiment and control groups were similar ($p > 0.05$). It was also observed that sexuality assessment skill total point average of students in the control group was significantly higher than the students in the experiment group. In the measurements made right after the programme, it was observed that sexuality assessment knowledge, attitude and skill point averages of students in the experiment group were significantly higher than the students in the control group. In the measurement made two weeks after and 3 months after the programme, it was also observed that sexuality assessment knowledge, attitude and skill point averages of students in the experiment group were significantly higher than students in the control group ($p < 0.05$).

Conclusions: It was determined that the Sexuality Assessment Skill Programme had a positive effect on the knowledge, attitude and behaviour of nursing students.

P240

Sexual dysfunction prevalence in Turkish married women and the relationship between sexual dysfunction and gynaecological complaints

Z. Golbasi¹, N. Tugut², A. Senturk Erener³, K. Eroglu¹

¹Cumhuriyet University Faculty of Health Science Nursing Department, Sivas, Turkey, ²Gazi University Faculty of Health Science Nursing Department, Ankara, Turkey, ³Hacettepe University Faculty of Nursing, Ankara, Turkey

Objectives: This cross sectional study was carried out in order to examine the prevalence of sexual dysfunction in Turkish married women attending the gynaecology outpatient clinic and the relationship between sexual dysfunction and gynaecological complaints.

Method: The sample of research consisted of 216 women who attended the gynaecological outpatient clinic between 24 September and 4 December 2012 due to various complaints or for control, who are married, who are over 18 year of age, who have not entered menopause, who are not pregnant and who orally confirmed that they are volunteering for participating in the research. The data was collected by the Individual Characteristic Form and Index of Female Sexual Function (IFSF) questionnaire. IFSF was developed by Kaplan et al. (1999) and is a scale which questions the sexual function of the woman in the previous one-month period and consists of 9 items. In cases where total point is ≤ 30 , the existence of sexual dysfunction is determined. One-Way Anova and chi square test were used in the statistical analysis of the data.

Results: The average age of the women was 33.95 (SD = 9.63). Less than half (46.3%) of the women had an education of 5 years or less and 81.9% of them were not employed. The average marriage years of the women was 13.41 (SD = 10.34). The IFSF point average of the women was 25.39 (SD = 8.67). The point average of women who came for gynaecological complaint was 23.76 (SD = 8.53), the point average of women who came for routine control was 25.51 (SD = 9.69) and the point average of women who came due to infertility was 30.12 (SD = 5.58). It was determined that there is a statistically significant difference between the point averages of the women ($p < 0.05$). According to the total points from the IFSF,

69.4% of the women had sexual dysfunction (IFSF point average ≤ 30). The sexual dysfunction frequency in women who came due to gynaecological complaints (78%) was found to be higher than women who came for control (61.5%) or for infertility (53.7%) ($p < 0.05$). No statistically significant difference could be found between period of gynaecological complaints of women and the frequency of sexual dysfunction ($p > 0.05$).

Conclusions: The results obtained from this study shows that sexual dysfunction frequency is higher in women who have gynaecological complaints.

P241

Associations between alcohol use and risky sexual behaviours: A cross-sectional study in Ugandan university students

V. Choudhry, A. Agardh, M. Stafström,
P.-O. Östergren

*Division of Social Medicine & Global Health,
Department of Clinical Sciences, Lund University,
Malmö, Skane, Sweden*

Objective: Research has indicated an increasing trend in sexual activity on university campuses in Uganda, which is reflected in the higher rates of STIs. It has been assumed that alcohol use contributes to risky sexual behaviour. However, this relationship has found mixed support in empirical research, possibly due to methodological issues. This study aimed to analyse the association between risky alcohol use and risky sexual behaviours at a global, situational, and event level among sexually active University students in Uganda.

Methods: In 2010, 1954 students at Mbarara University of Science and Technology in Uganda completed a self-administered questionnaire assessing socio-demographic factors, alcohol use and sexual behaviours. Bivariate and multivariable logistic regression was performed analysing associations at global, situational and event levels between alcohol use and risky sexual behaviours.

Results: The odds of having two or more sexual partners in the past year was statistically significantly associated with risky alcohol use at all (global, situational and event) levels for both male and female and the associations remained significant after adjusting for

confounders. The odds of inconsistent condom use with a new partner were statistically significant in males who often consumed alcohol in relation to sexual activity and this association remained significant after adjusting for potential confounders (OR= 1.75[1.01– 3.08]). The odds of inconsistent condom usage were two times more amongst female students who often consumed alcohol in relation to sexual activity though this association was not statistically significant (OR= 2.35[.91–6.08]).

Conclusion: The study supported the prior literature that alcohol consumption is associated with having multiple sexual partners. Also, inconsistent condom usage was associated with situational use of alcohol in relation to sexual activity and this relation also differed by gender. Interventions to reduce alcohol-related risky sexual behaviours should target males and females drinkers both and particularly sub groups of students who often consume alcohol in relation to sexual activity.

P242

A comparative study of, sexual pleasure, sexual health, and life satisfaction between women nurse night worker and nurse women not night worker in Shiraz city

S. Habibollah Kavari, K. Norozi

*University of Social Welfare & Rehabilitation Sciences,
Tehran, Iran*

Objectives: The research purpose was to compare, sexual pleasure, sexual health and life satisfaction between married nurse women night workers and non-married nurse women night workers in Shiraz city.

Method: Our sample comprised 60 married nurse women night workers and 60 non-married nurse women night workers, ranging in age from 20 to 45 who were selected through multistage cluster sampling and were tested with regard to, sexual pleasure, sexual health, and life satisfaction.

Results: The results showed significant between-group difference in terms of life satisfaction and sexual satisfaction among two groups which rated higher among married women, whereas, no significant difference was observed regarding marital commitment among the above-mentioned groups.

Conclusions: The results of this study showed that relationship between sexual pleasure, sexual health and life satisfaction with night shift work.

P243

Myths in sex

P. Weiss

Institute of Sexology, Charles University, Prague, Czech Republic

The presentation mentions some of the most common myths in human sexual behaviour, e.g. the phallic myth, myth about the simultaneous orgasm, myths about body proportions, penis size, about intercourse, falling in love etc. The author concerns also at the possible consequences of these myths in the real sexual behaviour and in the sexual emotions of men and women.

P244

Do young women get a fair deal when it comes to sex

A. Dias, D. Corrie, P. Blencowe

North West London Hospital NHS Trust, Harrow, UK

Objectives: To determine the barriers that prevent staff from enabling patients to discuss their sexual distress.

Method: A survey was done within our contraceptive service using a validated sexual distress scale. It showed that 19% of the young women suffered sexual distress. We developed an anonymised questionnaire to staff to ascertain how our service responded to this group and what barriers prevented identifying those women with sexual difficulties. The results would inform a service wide strategy to enable staff to identify and further manage these women. Of our three medical and 11 nursing staff, one Doctor and 10 nurses were surveyed. Three were excluded from the survey as they already held a sex therapy qualification, eight questionnaires were returned.

Results: The majority of staff felt that it was an important part of their role to talk about sexual

difficulties 62% (5) with 37% (3) not considering it as their role. We investigated clinical and personal barriers to doing this work. The survey found that 50% (4) of respondents identified a lack of confidence as a personal barrier, with timing and privacy the clinical barriers. A total of 75% (6) respondents stated that they would need training to enable them to manage these patients. This study showed that staff weren't confident in dealing with young women who experienced sexual distress. They felt that they needed more support and education to enable them to talk about sex. It also highlights that changes are needed to the clinic setting/environment to ensure privacy as well as staff needing support during busy clinics.

Conclusion: Multidisciplinary educational sessions during staff meetings will help raise awareness, but one-off training sessions are less likely to develop staff confidence. An ongoing Balint style group would provide the necessary support, advice and allow personal awareness and confidence to develop. The sharing of cases will also foster a team approach. In addition altering the clinic structure would further improve privacy and allow more time with the patient.

P245

Brazilian overweight women and their sexual function during pregnancy – preliminary results

M. Ribeiro, M. Torloni, R. Mattar, M. Nakamura, C. Guazzelli

Universidade Federal São Paulo, São Paulo, Brazil

Objectives: To evaluate and compare sexual function in overweight versus normal weight healthy pregnant women during the second and third trimesters of pregnancy.

Design and methods: Cross sectional study conducted between March and August 2012, involving 52 healthy pregnant women: 26 normal weight (prepregnancy BMI 18.5–24.9 kg/m²) and 26 overweight (BMI > or = 25 kg/m²) receiving antenatal care at a public teaching hospital. The Female Sexual Function Index (FSFI), a self-responsive questionnaire, was used. The Chi-square and Student's t tests were used to compare categorical and continuous variables between the two groups, $p < 0.05$ was considered significant.

Results: The main sociodemographic characteristics between the two groups were similar. Final FSFI scores were higher in normal weight women but differences did not reach statistical significance: 26.2 ± 8.3 vs 18.4 ± 11.3 in the second trimester, and 23.3 ± 6.8 vs 19.1 ± 8.8 in the third trimester, for normal weight vs overweight women, respectively. Scores for the desire domain were significantly higher in normal weight women in the second trimester (7.4 ± 1.8 vs 4.4 ± 2.5 , $p = 0.0028$) but not in the third trimester (5.2 ± 1.5 vs 5.1 ± 2.4 , $p = 0.9697$, for normal vs overweight, respectively). Although differences did not reach statistical significance, none of the normal weight women had sexual dysfunction symptoms.

Conclusions: Total sexual function scores did not differ significantly between normal and overweight women in the second or third trimesters of pregnancy. Desire was significantly higher in overweight pregnant women in the second trimester of pregnancy compared to normal weight women.

P246

Being overweight and having gestational diabetes: Does this combination affect sexual function in pregnancy?

Preliminary results

M. Ribeiro, M. Torloni, R. Mattar,
M. Nakamura, C. Guazzelli

Universidade Federal São Paulo, São Paulo, Brazil

Objectives: To evaluate and compare the sexual function of normal weight and overweight pregnant women with Gestational Diabetes Mellitus (GDM) during the third trimester of pregnancy.

Design and methods: Cross-sectional study conducted between March 2010 and August 2012 at the antenatal clinic of a public teaching hospital with GDM patients. A total of 34 normal weight (BMI $18.5\text{--}24.9$ kg/m²) and 35 overweight (BMI ≥ 25) women between 28 and 40 weeks' gestation were enrolled. Participants answered the Female Sexual Function Index (FSFI), a self-responsive test with 19 questions that assess five sexual domains. Chi-square and Student's test were used to analyse the differences between the groups; $p < 0.05$ was considered significant.

Results: Mean gestational age was 34.4 ± 1.8 weeks. Sociodemographic characteristics were similar and the mean final FSFI scores did not differ significantly between the two groups: 23.4 ± 5.4 vs 25.6 ± 7.9 , $p = 0.18$, for normal weight vs overweight women, respectively. A total of 16 normal weight women had symptoms of sexual dysfunction (FSFI score ≤ 26) compared to 14 overweight pregnant women ($47\% \times 40\%$, $p = 0.73$). The desire domain score was similar in both groups (5.4 ± 2.2 vs 5.9 ± 2.1 , $p = 0.34$, for normal weight vs overweight women, respectively). Almost half of the women in each group (44% normal weight $\times 43\%$ overweight, $p = 0.91$) had scores below the threshold that identified desire difficulties.

Conclusions: According to our preliminary results, being overweight does not seem to affect the sexual function of women with GDM in the third trimester of pregnancy, as measured by the FSFI questionnaire.

TOPIC 18: SOCIO-CULTURAL INFLUENCES (CULTURE, MEDIA, RELIGION ...)

P247

Social inequality and family planning: The use of contraceptives among female recipients of unemployment benefits in Germany

P. Buhr¹, L. Castiglioni²

¹University, Bremen, Germany, ²University, Mannheim, Germany

Objectives: With few exceptions, contraceptives are generally not covered by health insurances in Germany. Until 2004 women receiving social assistance could claim back their expenses for contraceptives. Since 2004's health reform and 2005's reform of social assistance introducing a new needs-based benefit for the unemployed (UB II), expenses for contraceptives are no longer refundable. Social associations warned that women receiving UB II would no longer be able to afford contraceptives. Two hypotheses will be tested: Do women receiving UB II use contraceptives less often than other women? (cross-sectional approach). Are there changes in the use of contraceptives among women when they start receiving UB II? (longitudinal approach).

Method: We used data from waves 1 to 3 of the 2008-launched German Family Panel pairfam ('Panel Analysis of Intimate Relationships and Family Dynamics'). Data are annually collected from a nationwide random sample of more than 12,000 persons of the three birth cohorts 1971–1973, 1981–1983, 1991–1993. We restricted our analysis to fertile, non-pregnant heterosexual women, who were not sterilised and whose partner was not sterilised ($N = 2484$). We used binary logistic regression (cross-sectional analysis) and fixed-effects logistic regression (panel analysis).

Results: The result of the binary logistic regression is that – controlling for education, age, having children, relationship status, labour force status, intention to conceive in the next two years, and sexual intercourse in the last three months – receiving UB II exerts a negative, albeit not significant influence on use of contraceptives in the last three months ($OR = 0.6563$, $p = 0.282$). The panel analysis confirms this result: Changing from non-receipt to receipt of UB II does not affect contraception practices significantly ($OR = 0.9525$, $p = 0.876$).

Conclusions: Neither our cross-sectional, nor our longitudinal analyses deliver evidence that UB II-recipients use contraceptives less often than non-recipients. This means that limited financial resources do not necessarily lead to a change in contraceptive behaviour. However, consistent with other studies, we find a strong negative effect of a lower educational level. One possible explanation could be that – in accordance with the uncertainty-reduction thesis of Friedman et al. – women with negative prospects in the labour market turn to the family sector and have a positive or ambivalent attitude towards pregnancy. Our results contribute to understanding the socio-economic determinants of contraceptive behaviour, an often neglected topic in European sociology.

P248

A multilevel analysis of factors affecting postnatal care in rural North-East India, 2007–2008

A. Singh¹, N. Tripathi², S. Pallikadavath¹,
A. Kumar²

¹University of Portsmouth, Portsmouth, Hampshire, UK,

²International Institute for Population Sciences, Mumbai, Maharashtra, India

Background: The coverage of postnatal care is still very low in North-East India. Given the high maternal mortality, much of which occurs in the postnatal period, it is important to adopt evidence-based strategies to increase the coverage of postnatal care especially in rural areas. The present study is an attempt to examine factors associated with the utilisation of postnatal care in rural North-East India.

Method: Using data from a nationally representative survey – District Level Household Survey – conducted in 2007–2008, we examined the utilisation of postnatal care among 21,544 currently married women aged 15 to 49. Multilevel logistic regression using a hierarchical approach was performed to analyse the factors associated with postnatal care utilization.

Results: Findings revealed that only about 36% women received postnatal care. The utilisation of postnatal care was found to be low among women who were poor, uneducated, Muslims and worked as labourers/farmers/agricultural workers. Multi-variable analysis suggested that though many community level and individual level factors were found to be significant, the effect of prenatal and delivery care remained particularly stronger than others. Antenatal care and delivery care increased the odds of using postnatal care by about 6 and 24 times, respectively. Wealth and education appeared to be effective only after a threshold. Women from Schedule Caste and Other Backward Classes were 25% more likely to use postnatal care. Similarly women working as professional/service/production workers were 30% more likely to go for a postnatal check-up. The distance to the nearest private and public health facility decreased the odds by 15% and 25% respectively. Women from the state of Meghalaya were twice as likely to use postnatal care compared to Sikkim while in other states, the odds were significantly lower.

Conclusion: The findings indicate that the poorest, uneducated, unemployed and tribal women are most disadvantaged in terms of receiving postnatal care. Women who delivered without any professional care and had no antenatal care were also less likely to receive care. Such vulnerable groups need special attention in order to reduce socio-economic differentials in postnatal care. Apart from that, health facilities (private and government both) also need to be made physically more accessible. Any public health intervention to increase the level of uptake of postnatal services should take the messages of this study into consideration.

P249

Cultural considerations in contraceptionF. Chaudhry*Leeds Student Medical Practice, Leeds, UK*

Objectives: Women are more likely to adhere to contraception where they actively participated in choosing the method. This choice is influenced by the patient's values and beliefs, which are in turn informed by her religious or cultural background. The UK is a multicultural society and awareness of these influences helps us to facilitate patient choice and improve continuation rates.

Method: When considering contraceptive options, the clinician's responsibility is to ensure safety. In the UK we are guided by the UK Medical Eligibility Criteria (UKMEC). We are also influenced by National Institute for Health and Clinical Excellence (NICE) guidance which promotes patient choice. In addition we consider non-contraceptive benefits such as improvements in heavy menstrual bleeding (HMB), dysmenorrhoea, endometriosis or endometrial protection. A patient's choice is influenced by a multitude of factors including lifestyle, acceptability of potential side-effects. However, culture and religion also influence decisions about contraception. Where pregnancy and life begins continue to be subjects of great moral and ethical debate within major faith groups. Common themes are the sanctity of life and of sperm, so the mode of action of a contraceptive method can be an important factor in informing choice. UK law defines 'established pregnancy' as the point of implantation. This occurs between six to twelve days after fertilisation. Hence modern contraceptives, including post-coital methods, are not considered abortifacient. The implications of bleeding should be recognised as having a significant impact on tolerability, particularly for certain religious groups. In Judaism this is relevant to Family Purity Laws and in Islam interferes with the observance of Ramadam and prayers.

Results: Tailoring contraceptive counselling and being sensitive to cultural considerations can assist women in choosing the most appropriate contraceptive method. Using add-back oestrogen to control irregular bleeding associated with long acting progestogen-only methods, or a progestogen-only pill if oestrogen is contra-indicated, can help continuation rates.

Conclusions: NICE guidance promotes 'woman-centred care' with good communication, providing information that is culturally appropriate and tailored to the woman's needs. Healthcare providers should remain sensitive, aware and alert to these considerations. Patient choice is an essential element of the successful consultation. Reproductive health is a gratifying area in which to work and provides an opportunity to practice patient-centred medicine. Assisting a woman in choosing the right contraception not only affords her control over her fertility, but can also have a significant positive impact on her quality of life.

P250

Representation of reproductive health and contraception in the Ugandan MediaJ. Stevens*University Hospital Lewisham, London, UK*

Objectives: Uganda has the highest rates of unsafe abortion in Africa, a large unmet need for contraception, cultural acceptance of domestic violence, intolerance of homosexuality and high HIV transmission rates. Previous internal and international interventions targeted at improving reproductive health have been largely ineffective. Newspapers dominate the public media, and have considerable influence on public opinion. The study aimed to analyse media representation of reproductive health and contraception, describe major themes of interest to the Ugandan public, and identify future targets for health intervention.

Methods: A quantitative thematic analysis of the 2010–2012 online archives of the five major national newspapers (*New Vision*, *Daily Monitor*, *Red Pepper*, *The Observer* and *The Independent*) was undertaken. Articles referring solely to HIV, without mention of sexual health or contraception were not included. Key word search criteria were used for initial identification of relevant articles ($N = 176$).

Results: Four main themes emerged: unsafe abortion (23%), early sexual activity (15%), fertility (11%) and female equity and empowerment (10%). Topic choice and method of discussion varied considerably between the tabloid and broadsheet press. Salacious and anecdotal evidence often overshadowed the available evidence base, but conclusions of WHO studies and press releases were widely disseminated.

Notably absent were articles concerning sexual assault, female authorship and issues surrounding homosexual sexual health.

Conclusions: The large number of articles meeting the inclusion criteria of this study highlights the Ugandan public interest in issues of reproductive health and contraception. Particularly promising were articles by male journalists promoting issues of female equity and positive coverage of international health campaigns. Further research is required to understand why gender-based violence is so poorly represented, and this area undoubtedly offers scope for future intervention.

P251

Factors associated with contraception use and methods in women with different immigration backgrounds in France

L. Poncet¹, N. Huang², W. Rei², Y.-C. Lin², C.-Y. Chen³

¹International Health Program, Institute of Public Health, National Yang-Ming University, Taipei, Taiwan, ²Institute of Public Health, School of Medicine, National Yang Ming University, Taiwan, Taipei, Taiwan, ³Division of Mental Health and Addiction Medicine, Institute of Population Health Sciences, National Health Research Institutes, Taipei, Taiwan

Objectives: The access to effective and affordable contraceptive services may help avoiding ill-timed, unplanned and unwanted pregnancies. The present study was aimed to investigate potential socioeconomic differentials in contraception use and contraceptive choices across three groups of women defined by immigration experience: immigrant, immigrant descendant and native descendant women in France.

Methods: We analysed data from the 2008–2009 survey ‘Trajectories and Origins: survey on the diversity of populations in France’. Chi-square tests and polytomous logistic regression models were employed to assess association estimates linking with contraception use and choice across women across three immigration groups.

Results: Recent utilisation of contraception among immigrant and immigrant descendant women was significantly lower than that of native descendant women. Lower education attainment, no participation in the

labour force, and lower household income were associated with reduced utilisation of contraception by 30 to 58% among immigrant and immigrant descendant women (e.g., no formal education in immigrants: adjusted Odds Ratio = 0.63, 95% confidence interval (CI) = 0.47–0.83). However, no such socioeconomic status-related association was found for native descendant women. For contraceptive choices, lower socioeconomic status appeared linked with the utilisation of oral contraception in native descendant women (e.g., no formal education: aOR = 3.82, 95 % CI = 1.06–13.67).

Conclusions: Socioeconomic factors appear to have differential association with contraception use and choice across women with different immigration experiences.

P252

The role of personal experience, values and beliefs in sexuality educators’ motivations to teach contraception in Uganda

B. de Haas¹, G. Timmerman², I. Hutter²

¹Rutgers WPE, Utrecht, The Netherlands,

²University of Groningen, Groningen, The Netherlands

Introduction/objective: Sexuality educators in Uganda generally prefer teaching abstinence-only to youth rather than including contraception. And when including contraception, their teaching may diverge from scientific knowledge by discussing cultural knowledge or myths. Therefore, it has been argued that sexuality educators should receive more training to increase their contraceptive knowledge. However, this research argues that despite scientific knowledge, sexuality educators may continue teaching abstinence-only or include cultural knowledge on contraception motivated by their personal experiences, values and beliefs regarding contraception in general and regarding the use of contraception by youth in specific.

Method: In-depth interviews were conducted with 40 secondary school teachers in an urban area in Uganda. The teachers gave sexuality education, for instance, as counsellor; patron of extracurricular clubs; or within their lessons of Biology, Christian Religious Education or HIV prevention. The interviews took around two hours and were transcribed verbatim.

The data were analysed using principles of Grounded Theory method.

Results: With regard to contraception, teachers distinguish natural methods, hormonal methods and condoms. In general, teachers feel students should abstain but advise sexually active students to use condoms, which is consistent with national HIV prevention policies. Teachers can experience internal conflicts between wanting to teach contraception, and contribute to students' well-being, and wanting to teach abstinence-only due to culture, religion, school regulations and their perceived role as moral educator.

Some teachers fear teaching contraception encourages promiscuity and premarital sex. For youth, they prefer teaching condoms over other methods because they protect against STIs; they are more reliable than natural methods; and, unlike hormonal methods, they lack side effects that are perceived to endanger young girls' fertility. However, some teachers think condoms are no fair option for youth because they are not easily obtained and not allowed in schools. Teachers worry that students are not able to use condoms consistently, which may result in pregnancies and interfere with students' education and future.

Teachers indicate that personal contraceptive experience helps to give factual information and to feel more comfortable in discussing and demonstrating contraception. On the other hand, personal experiences seem to confirm teachers' worries of consistent condom use and do not seem to weaken the belief that hormonal contraception jeopardises fertility.

Conclusion: Teaching of contraception is motivated by cultural knowledge, (lack of) personal experience and specific beliefs, values and goals sexuality educators have of the target group. This is important to be considered when training sexuality educators.

P253

Women's perception of health providers and its role on antenatal care attendance in the Andes of Peru

L. Huaman Ayala¹, C. Sarnquist², P. Blumenthal², H.R. Huaman Baquerizo³

¹Karolinska Institutet, Stockholm, Sweden, ²Stanford University School of Medicine, Stanford, California, USA,

³Cayetano Heredia School of Medicine, Lima, Peru

Objectives: Peru has the second highest rates of maternal mortality in South America, with many indigenous women still not seeking antenatal care (ANC). This qualitative study aimed to explore gestating women's perceptions of health providers and their role in their decision to seek antenatal care in the Andes of Peru.

Method: The study was conducted in a city of the Ancash province of Peru where most of women not receiving ANC reside. Open-ended, semi-structured interviews were conducted with 24 women utilising ANC (+) and 10 women avoiding ANC (-). The entry criteria for both groups were a confirmed pregnancy, study residence, and a minimum of 18 years of age. ANC- participants had to: (1) have no ANC or (2) have started ANC after the 8th month of pregnancy. The interviews assessed women's perceptions of previous care received at the health centers, level of trust in the health providers (HPs), and concerns regarding seeking ANC. Interviews were translated to English from Quechua and Spanish, transcribed, and analysed using Grounded Theory.

Results: *Trust in health provider not linked with trust in biomedicine's efficacy*

In both ANC groups, respondents stated not trusting the health providers due to their lack of comfort with them, despite their positive belief in biomedicine's efficacy.

Determinants of comfort with health providers

Women were more comfortable with an HP who was: (1) female, (2) not 'un-experienced, new, and young', and (3) known for good quality bedside manners.

Perception of health providers & link with ANC attendance

Although half of the ANC- women stated having an overall negative perception of the health providers of their local health centres, only two of them stated that this was the main reason for deciding against ANC. In the ANC+ group, only three women stated having an overall negative perception of the local health providers.

Conclusions: Women's perception of HPs was not dependent on their trust in biomedicine. Most women in the ANC+ group had an overall positive perception of HPs, while the opposite was true for the ANC- group. Although most ANC- women did not attribute their lack of ANC attendance to their negative perception of HPs, increasing women's comfort with HPs and enhancing their trust in them could be an encouraging factor in women's decision to seek antenatal care. Local health policy could focus on providing greater

access to female HPs and strengthening positive, culturally appropriate bedside manners among HPs.

P254

Sexual practices and contraceptive use among religious and secular women undergoing early induced medical abortion

S. Avraham, D. Seidman

Department of Obstetrics and Gynecology, Chaim Sheba Medical Center, Tel-Hashomer, Israel

Objective: To describe the demographics and contraceptive use characteristics of women undergoing early induced medical abortion in Israel, and to compare practices among religious and secular women.

Methods: A prospective comparative study in public and private hospitals that offer medical abortion in Israel. The participants were 303 women up to 7 weeks pregnant, who elected to undergo abortion using oral mifepristone and misoprostol. They were given multiple choice questionnaires on demographics, socio-economic variables and contraceptive use.

Results: Thirty five percent of the women identified themselves as religious, either orthodox (5%) or traditional (30%) and 65% proclaimed they were secular. This rate is similar to that reported for the general Israeli population by the Central Bureau of Statistics, 33%, for religious and religious-traditional. The mean age at first sexual intercourse was not significantly different in these groups; 18.2 and 17.9 years, respectively. There was also no difference in the incidence of regular use of contraception between the secular (47%) and religious (42%) women. The contraceptive methods used were similar. Religious women were significantly more likely to report on contraceptive use when inadvertently conceiving compared to secular women (44.8% and 30.2%, respectively, $p=0.02$), and were more concerned about unwanted pregnancy.

Conclusions: Sexual behaviour and contraceptive use is similar among self-proclaimed religious adolescent women undergoing early medical termination of pregnancy. Efforts should be made to improve our understanding of the educational needs of non-secular adolescents in regard to safe sexual practices and use of contraception. Sexual and contraceptive education should not be limited to secular schools.

P255

Importance of individual criteria in the contraceptive choice process

I. E. Blidaru¹, I. Catighera², M. Roman², R. Plesca¹

¹'Grigore T. Popa' University of Medicine and Pharmacy, Department of Obstetrics and Gynecology, Iasi, Romania,

²'Cuza Voda' University Maternity Hospital, Family Planning Unit, Iasi, Romania

Objectives: This study conducted in the Family Planning Unit of the University Maternity Hospital, during 2007–2011 aimed to obtain updated data on reproductive behaviour of women, particularly on the use of contraceptive methods in our area.

Methods: Our study included 20,174 visits of clients who have resorted to family planning services in five years, in order to choose a contraceptive method or simply for counselling, in the postpartum or post-abortion period.

Results: Our results revealed that the majority of women being in a stable relationship (75.8%) have used at least one modern contraceptive method (62.5%) and almost all of them have used a traditional one (96%). The level of contraceptive use for different methods depends mainly on the following criteria:

- Living environment; traditional methods are preferred in rural areas (54%) compared to urban areas where modern methods are preferred in 73%.
- Age; women in age groups 15 to 19 and 20 to 29 years have chosen modern methods in 85%, compared to 62% for those over 35. Combined pill is the method of choice for women up to 30 years (preferred by 44%), followed by condom (31%). IUD is the first contraceptive option for women over 35 (39%), followed by minipill (POP) (12%) and condom (11%).
- Education and economic status; 1/3 of our clients have joined the 'free contraceptives' governmental programmes and many others have chosen contraceptives at lowest prices.
- Religion; 92% of our clients are Christian Orthodox; addressability is much lower in the Catholics.
- A stable partner; condoms are used only in special circumstances, as diseases or other interference with treatments contraindicating medical contraception.

- Number of children of a couple has proved to be also a decisive factor, women with completed the family planning have chosen mainly for IUD (42%) and less for contraceptive pill or condom. Very few women undergo tubal ligation.
- History of present/past diseases; only a few of our clients (3%) were facing serious associated diseases which are absolute contraindications to the use of contraceptive methods, but the criterion is always important and influences the choice.

Conclusions: Our study has highlighted a 32% increase among users of modern methods of contraception, mainly due to doubling the number of COCs users and to an increase by about 40% of IUD users. Looking ahead, we estimate an increase in the use of modern contraceptive methods.

P256

Sociocultural misconceptions about contraception: A mixed study design in Korangi town, Pakistan

N. Nishtar

Aga Khan University Pakistan, Karachi, Pakistan

Background: Pakistan presently has one of the largest cohorts of young people in its history. Currently, the rapid population growth of the country is a major concern as it is leading to increased pressure on social and economic resources. One of the main reasons for high population growth is almost stagnant contraceptive prevalence rate (CPR) of 30% which the country has struggled with for at least two decades. The low CPR amongst youth could be due to sociocultural and religious misconceptions about family planning methods. For example, in Pakistani context, the husband and mother-in-law are the major family planning decision makers. Family planning could be one of the interventions helping in saving women's lives through proper spacing between the children.

Objectives: To explore the perceptions regarding sociocultural misconceptions of contraception among married youth aged 18 to 24 years in Karachi.

Methods: The study was conducted from July to September 2010 in two Union Councils (UC2 and UC3) of Korangi Town. An exploratory study with mixed method design was conducted. The qualitative

part included eight Focus Group Discussions (FGDs) with married youth and a quantitative part involved checking the frequencies of participants who had most of the misperceptions with education and ethnicities. Content analysis was used to interpret the textual information, whereas cross-tab was done for analysing the education status, ethnicities and sociocultural misconceptions.

Results: The study demonstrated that use of family planning methods amongst married youth was quite low. Main categories identified were general, education, cultural myths, religious and ethnicity-related factors leading to sociocultural misconceptions. A main misperception among male youth was that family planning is meant for females only. There was a common misperception that raw eggs, hot milk and dates prevent pregnancy. It was a common belief among male and female youth that hot medicine or hot things can also prevent pregnancy. Different misperceptions associated with different ethnicities also emerged, for instance, a few of the study participants shared the Punjabi method, that after doing coitus, let the woman drink a glass of warm milk with dates and it will help in contraception. The misperceptions were more prevalent among Focus Group Discussions participants with low educational status and with Sindhi and Bengali ethnicities.

Conclusion: Our findings suggest several sociocultural misconceptions about contraception. Major factors contributing to these misconceptions could be poor education, certain cultural and religious beliefs. There are some important policy implications like counselling of the couple through more educated peers practicing family planning methods.

P257

Family planning knowledge and attitudes in an urban clinic in Uganda

E. Baishnab

Barts and the London Medical School, London, UK

Objectives: Family planning knowledge and attitudes have been examined historically but there has been little recent research following widespread provision of family planning services. This article aims to describe current knowledge and attitudes in patients attending an urban clinic in Uganda.

Methods: This study was of mixed methods design, based on a questionnaire administered to 20 adult attendees of a primary care clinic. It comprised 12 questions, of which four were analysed qualitatively and reached thematic saturation.

Results: Respondents had a median of three children and mode of two, where the median number of desired children was four and the mode two. A total of 60% of respondents were currently using family planning, 90% of respondents had ever used family planning, with condoms (50%), the depot injection (40%) and the pill (30%) being the most popular methods.

Qualitative themes:

Reasons informing choice of family planning:

- Side effects:

‘I tried the pill but it caused vomiting’

‘The pill caused irregular bleeding. I just took it when I was having sex with my husband. I don’t have any problem with the injection now although some of my friends have irregular bleeding’.

- Myths/hearsay:

‘People say if you use the pill too long, you get abnormal kids that are ever sickly and have big heads.’

‘I had a neighbour who had the implant and it caused breast cancer...all foreign bodies can cause cancer.’

‘The injection injects ‘karinjin’....a normal human cannot withstand all this time without children therefore there must be witchcraft in the system.’

‘Western people are trying to reduce population of Africans with family planning... We feel as though choice is being taken away.’

‘The coil can cause infections. I heard about a child born holding the coil in its hand.’

- Efficacy:

‘My husband stopped using condoms after one came off.’

- Convenience:

‘It’s tiresome to keep taking the pill.’

- Autonomy

‘I will have more children if my husband treats me better. I use the injection because I want to work and not rely on him.’

Conclusions: Although the current fertility rate in Uganda is 7, the study population has and desires fewer children. A total of 90% of respondents have used family planning methods with condoms and the injection being most popular. Whilst family planning uptake has improved there remain significant barriers which may be approached

with education aimed at dispelling myths and further promoting methods such as the coil and implant.

P258

Empowered working women, freedom and lifestyle: increasing IUD use in the hilly areas of Bangladesh

F. Shabnam, A. Jamil Faisal, E. Themmen, S. Hasan, G. Md Rezaul Karim, M. Rahman, S. Sarker

EngenderHealth, Dhaka, Bangladesh

Introduction: The Chittagong Hill Tracts is located in south-eastern Bangladesh. They are comprised of three districts: Khagrachari, Rangamati, and Bandarban which are the home of 13 ethnic groups. Analysis of one-year national IUD performance (July 2010–June 2011) showed that two hill districts – Bandarban and Khagrachari – are performing quite well compared to other districts. Given the overall low IUD performance in the country, the USAID-funded Mayer Hashi project decided to explore the reasons for the higher IUD performance. During the review a number of constraints and service delivery barriers were also identified. It was then decided to undertake a comprehensive intervention to further strengthen positive factors and address the weaknesses.

Objective: Strengthen the quality of IUD services and increase uptake of IUD in the Chittagong Hill Districts through a comprehensive intervention.

Design and methods: All 124 Family Welfare Visitors (paramedics) received an IUD refresher training course and 68 were followed-up for on-the job coaching approach. Other initiatives included stakeholders meeting, orienting of field workers, issuance of a government circular to reinforce side effects management, distribution of IEC materials and measures to ensure logistics and supplies.

Result: The Directorate General of Family Planning MIS shows that IUD uptake has started to increase after the intervention. Provider knowledge and skills also improved. Providers were able to insert IUD as per standard guideline.

Conclusion: Most of the IUD users are tribal women and they are the head of the family. Many of the women go to the hills to cultivate far from their house for several months at a time. This is an important

reason why the women prefer a long acting method like the IUD. In addition, tribal life style makes women more independent and husbands were not found to be a barrier for the women in choosing and maintaining an IUD, a key barrier found in other parts of Bangladesh. Maintaining provider skills is always a challenge, however with special attention from central level staff this effort can be maintained and the women in these areas can continue to receive the method they prefer from qualified providers.

P259

Emergency contraceptive pills in Egypt: A challenging experience amidst a conservative culture

S. Hanna

DKT International, Cairo, Egypt

Objectives: Post-coital contraception is a sensitive issue to raise in conservative communities, especially when there are many cultural and religious restraints, very low awareness about emergency contraception (EC) among healthcare professionals and eligible clients, as well as widespread misconceptions that may have an immense negative impact on such an issue. Other challenges included the society *theoretically* refuses pre-marital intercourse; nevertheless such relations are *hidden*. Last but not least, Population Reference Bureau reported that unintended pregnancies in Egypt reach up to 15%. Introduction of EC pills amidst such an environment is challenging, and attaining unexpected results is definitely breathtaking.

Method: Introduction of EC pills in Egypt in 2007 by DKT International, based on a plan set after thorough market analysis. The key to the tough lock was called acceptable product positioning for the different target audiences. EC pills were positioned as an effective and last-minute-saving contraceptive method, suitable for couples (married women) who do not want to have children at the moment but did not use an effective contraceptive beforehand, or where the pre-coital contraceptive method failed.

- Communicated acceptable promotional messages to healthcare professionals via tailored promotional material, communicating messages to the different target audiences (Ob/Gyn, pharmacists, nurses in private Ob/Gyn clinics, & clients)

- Conduct training for DKT International's sales force on EC and EC pills, so as to promote to more than 4000 Ob/Gyn doctors and 5000 pharmacists
- Design and write the copy for the direct-to-consumer (DTC) campaigns (Arabic patient educational flier, radio ad, newspaper ad, women's magazines ad)
- Held eight stand-alone symposia throughout Egypt for Ob/Gyn, to educate doctors on the concept of EC, followed by demonstrating Levonorgestrel 0.75mg EC pills as 'the last-minute rescuer'.

Results: Results were overwhelmingly surprising. EC pills witnessed unexpected acceptance, especially from end users. In 2007, sales of DKT International's EC pills were 16,345 packs (doses). After only two years, sales were more than 113,000 packs (doses), thus helped in preventing thousands of unintended pregnancies in Egypt.

Conclusion: 'There is a need for EC in Egypt. However, a big gap in knowledge leads to nonuse or incorrect use of EC and negative attitude toward it. If health service planners and policy makers could fill this gap, a considerable decline in the prevalence of unwanted pregnancy may be achieved by using EC' (from: Shaaban OM., et al. EC in the context of marriage in Upper Egypt. *International Journal of Gynecology and Obstetrics*, 112 (2011), 195–199).

P260

Does consciousness play a key role in understating RCH services among ever married women in the most populous state of India to achieve millennium development goals: A regional analysis?

P. Kumar

International Institute for Population Science, Mumbai, Maharashtra, India

Objective: The paper analyses the factors affecting people's awareness to various reproductive and child health programmes, like Antenatal care, Institutional delivery, breast feeding, immunisation, and family planning in different regions of most populous state (Uttar Pradesh) of India.

Methods: The most recent District level Household survey-3 (third round) data has been used for

the present study. The analysis is based on information collected from ever married women (EMW) aged 15 to 49, who were aware about the above running government health programmes in India.

Results: The findings reveal that awareness about immunisation and family planning is almost universal in all regions whereas in the case of ANC, the level goes up to 85% and for institutional delivery and breastfeeding awareness have been reported to be more than 70%. Friends and relatives are the main source of information about spreading awareness about ANC, institutional delivery and family planning whereas the role of health professionals and electronic media come in at second and third position. But in the case of immunisation, health professionals are most important source of media who spread awareness, followed by print media. Electronic media is the main source of information about breastfeeding followed by friends and relatives. Awareness by different background characteristics depicts that ever married women of age group 25 to 29 were more aware about different government health programmes. Women having higher education, living in urban areas, belonging to upper wealth quintile are more aware than those who are less educated, living in rural areas and belonging to lower wealth quintile. Among caste groups, others are at advantage as compared to SCs, STs and OBCs. Despite being economically better-off, the western region lags behind in case of awareness about institutional delivery.

Conclusion: Electronic media and print media should be more promoted for enhancing awareness for ANC, institutional delivery and family planning. IEC campaign should be more promoted at community level with the help of local community leaders. Counselling sessions should be started at government health facilities in rural areas. For more effective utilisation of government health facilities health professional attitudes in government health facilities should be examined with frequent intervals.

P261

An empirical study on urban adolescent problem behaviours in China: Findings from a national survey

X. Zheng¹, W. Guo²

¹School of Social and Behavioral Sciences, Nanjing University, Nanjing, China, ²Institute of Population Research, Peking University, Beijing, China

Objectives: Under the context of accelerating urbanisation of youth population, Chinese urban youth cannot naturally comply with fast-changing social rules and norms, caused by a wealth of rapid transmission of information and multiple choices of lifestyle, and they are prone to conduct problem behaviours, such as premarital sex, smoking addiction and so on. However, previous related studies are based on area or regional samples that are not representative of Chinese adolescents. The absence of adequate national data has hitherto left a sizeable gap in our knowledge about the problem behaviours of Chinese adolescents.

Method: The data come from the 1st National Youth Reproductive Health Survey, conducted in late 2009, which examined the sexual behaviours of over 22,000 unmarried adolescents aged 15 to 24 from mainland China. A set of Binary Logit Models are used to analyse the factors influencing urban youth's occurrence of typical problem behaviours like premarital sex, smoking addiction, pornography addicts and the differences among the three types of problem behaviours.

Results: The results show that three types of problem behaviours occurred more among boys than girls and especially smoking addiction is a prominent problem behaviour in boys. Parents with higher education level, living with two biological parents, being a student, having siblings, and living in a developed eastern city are protective factors for problem behaviours among urban youth. The urban youth from high income families are more likely to conduct problem behaviours compared with their counterparts from low income families.

Conclusions: Our study points out that behavioural intervention for reducing problem behaviours in urban youth can be more effective when taking a comprehensive 'government-school-family' perspective.

P262

Identifying harmful cultural practices and its impact on sexual and reproductive health rights in Indonesia

P. Mishra, E. Nancia

Institute for Population and Social Research, Bangkok, Thailand

Introduction: This paper is an attempt to identify harmful cultural practices and their impact on sexual reproductive health and rights in Indonesia. The rapid pace of globalisation during the last century has generated intense debate over the universal applicability of human rights principles, specifically in relation to cultural practices and marginalised groups. The Commission on Human Rights in 2003 confirmed that sexual and reproductive health is an integral element of the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. In some part of the Indonesia these harmful cultural practices have been prevalent in the name of religion and culture. The article has clearly described harmful cultural practices (FGC, Early Marriage and *Sifon*) and its present implications for the field of sexual reproductive health rights, as well as future directions for public health policy and planning.

Conclusion: The document research indicates that Muslim communities support the continuation of FGC practice, because they perceive it as both a societal custom or tradition, and a religious duty. Unless there is a concerted intervention effort aimed at eradication, the continuation of FGC in Indonesia is assured since parents continue to support, demand, and buy these services for their daughters. Thus far, there has been no effort at prevention either in terms of attempts to change community values or to make the practice illegal. Religious leaders want the practice of FGC to be continued indefinitely, because of their interpretations of its religious significance. A review of national policies showed that Indonesia's Ministry of Health has not taken any firm action to prevent the *medicalisation* of FGC despite this fact.

Early marriage practices in Indonesia are influenced by the religion perspective such as to avoid premarital sex and unwanted pregnancy, and also may be to decrease the economic burden from a girl's family. Indonesian Marriage Law no.1/1974 is, indirectly, an enabling factor of early marriage due to the minimum age of marriage being 16 years old for female and 18 for male.

Sifon, the name for the male traditional circumcision which exist just only in specific tribes Atoni Meto in Timor Island, East Nusa Tenggara Province. The process of *sifon* became at risk because the men tend to have multiple partners and it can cause the spread of HIV transmission.

P263

An example from a rural area in Turkey: Traditional methods heard about, known and used to conceive by women

S. Simsek

Hacettepe University, Ankara, Turkey

Objective: This study has been conducted with the purpose of determining traditional methods heard about, known and used to conceive by women living in a rural area of Turkey.

Design and methods: This research was made descriptively in Melekli Town of Iğdır located in the east part of Turkey. Data were collected using a face-to-face interview method through questionnaire form. The questionnaire form applied to women who agreed to participate in this study in their own houses. Statistical sample was composed of 214 women. Frequency, percentage distribution and chi-square test were used to evaluate the data.

Results: A total of 42.1% of the women were between the ages of 31 and 50, 72.4% of them were housewives, 26.6% of them were graduates from secondary school. A total of 29.4% of the subjects had been married for between 1 and 10 years and 97.7% had children with 88.8% of them getting pregnant when they wanted. Of all, 89.7% of the subjects had heard about traditional methods to help conception, 85% of them knew how to use these traditional methods but only 11% of the women used them. The types of traditional methods heard, known and used by women to become pregnant were sitting over steam (in order of 68.6%, 64.0%, 7.4% of women), directly applied into the vagina (in order of 39.2%, 39.2% and 4.2% of women), applied to put on the pad (in order of 14.0%, 14.0% and 1.4% of women), applied to eat and drink mixture of variety plant (in order of 21.4%, 21.4% and 4.2% of women), heat application to the pelvic region (in order of 23.3%, 23.3% and 0.0% of them), cover pelvic region with variety of materials (in order of 7.9%, 7.9% and 0.0% of them). They indicated a lot of materials to create the steam such as mallow (81.6%), plantain (57.8%), daisy (26.5%), milk (26.5%) and parsley (24.5%).

Conclusions: In the light of the findings obtained in women in the rural area of Turkey, hearing about and knowledge level of the subjects regarding traditional methods to help conception was found to be high, but use of them was found to be low. Traditional

methods used by women to conceive do not constitute a threat to health.

P264

The effect according to the Roy Adaptation Model of education given to mothers on maternal sensitivity during the postpartum process

B. Erci, S. Öztürk

Inönü University, Malatya, Turkey

Objective: This research was carried out in order to find out the influence of education given to mothers on maternal sensitivity during the postpartum process according to the Roy Adaptation Model.

Methods: The population in the research consisted of mothers in postpartum who lived in the Şükürpaşa district in Erzurum and had given birth for the first time. A total of 110 mothers, 55 in the control and 55 in the experimental group were randomly selected by power analysis, constituted the sample of this research.

In the data collection process, mothers in the control and experimental groups in the first week after birth were applied a background knowledge form and in the test data collection process, they were applied newborn perception scale 1 and a self confidence scale. However four weeks after birth, mothers were applied the newborn perception scale 2, a self confidence scale and maternal attachment scale. Twelve weeks after birth, the Maternal Attachment Inventory, and the Self Confidence Scale were applied for the post-test data collection.

In the evaluation of the data, percentage distribution, Chi-Square, t-test, variance analysis repeated measurements and Pearson correlation analysis were used.

Results: The difference between the mothers in the control and experimental groups was found to be statistically insignificant ($p > 0.05$). But the difference between the mothers of control and experimental groups on the mean average for the 4th and 12th week self confidence scale was found to be statistically significant ($p < 0.05$, $p < 0.001$ respectively).

When the newborn perceptions of mothers were compared, 92.75 of the mothers in the experimental group perceived their babies positively whereas 85.5% of the mothers in the control group perceived positively but the difference between the experimental and control groups was not found to be statistically significant ($p > 0.05$).

When the maternal attachment mean score of the mothers in both groups was analysed, the mean score of the mothers in experimental groups was found high. The relationship between the mothers in control and experimental groups in terms of the mean score of Maternal Attachment Scale and Self Confidence Scale was not found to be statistically significant ($r = 0.144$, $p > 0.05$; $r = 0.233$, $p > 0.05$).

Conclusion: It was found that the education given increased mothers' self confidence and the level of maternal attachment but didn't affect the level of their baby perceptions.

P265

Mother health and helping to diminish school dropout rates among Mayan women

A. Leona Rosales Mendoza, J. Franzoni Lobo, M. Garciacano Contreras, G. Quiroz Mendoza, A. Luisa Flores Romero

Ipas Mexico AC, DF, Mexico

Objective: There are counties, in the states of Quintana Roo and Yucatan, with very high school dropout rates due to high poverty. The current work aimed to find the relationship between early pregnancy and school dropout in two counties promoting mother-child health and schooling among pregnant women and/or young mothers.

Material and methods: Young female students and dropouts from the Universidad Intercultural Maya were interviewed to identify the cause of dropout. Community interventions were carried out with the participation of local and state authorities, families, pregnant women, women without children and community promoters. Community promoters were trained to replicate a course in their communities. Topics covered: methodology for fieldwork, community health, community participation, leadership and networking, sexual and reproductive health, violence and conflict solving, among others. Sensitisation and training workshops were implemented for godmothers (counsellors with a Mayan perspective) to promote female dropouts returning to school, to motivate those who completed secondary school to take up open system high school and to counsel women on mother-child health issues.

Results: Pregnancy and child rearing were the main cause of school dropout. Women with a supportive social network (family, friends) could continue studying more easily than those lacking this support or those coming from gender-dominant role milieus (women at home, men at work) that were forced to leave school due to pregnancy. Four female groups were formed with women performing community and godmother activities such as weekly visits to open system students, supporting pregnant women in their visits to healthcare facilities and encouraging them to continue studying. An open high school system group was created with local broadcast support. Students from two universities completed their training as consultants for this group. Sixty students had signed up as of September 2012.

Conclusions: The project's greatest challenge was to make women understand their new community role due to cultural matters. The women participating in the project may act as guiders for other young women to modify some cultural issues to allow school completion. An important achievement of this project was the creation of a coed high school-attending group. Community interventions can be successful when there is support from local authorities and from committed teaching staff interested in improving community life conditions, particularly those of the women and children.

P266

The situation of childbirth among female scientists in Japan and its social environmental improvement

M. Arima

Tokyo Medical and Dental University, Tokyo, Japan

Objectives: What enables working women to get pregnant and rear child is the 'adequate knowledge for fertility and management for their physical and mental wellbeing', 'having support' and 'having a working environment that makes work and family to balance'. Especially for female academic professionals, the timing to develop their career overlaps with the timing of childrearing, therefore the timing of 'childbirth' and 'balancing work and family' is a crucial topic. This research introduces the childbirth situation of female scientists in Japan and proposes social environmental factors for the improvement for low fertility.

Method: Data from the 'Gender Equality Survey' in Japan was reviewed. Data about female scientists' situation about childbirth was selected. Furthermore, attitude survey was implemented among medical students about female reproductive age.

Results: The percentage of female academic professionals to all academic professionals consists of 13.0% in Japan, which is the lowest of all developed countries. The reasons are; 'having difficulty to balance work and family', 'having difficulty to get back to work after childcare leave', and 'lack of consideration for childrearing in the performance evaluation system'.

The two-thirds of Japanese female scientists have no child, and for those having children the average number of children is 1.0, and the average maximum number is 1.3. For scientists in their forties the average number of children is less than 1.0.

The number of children they want to have throughout their lifetime is 2.3, there is a gap between the reality and ideal. The feasibility of having 'ideal number of children' was denied by 60% of female scientists. The main reason is 'having difficulty of both developing career and rearing child', and 'working environment does not allow to have and raise children'.

Furthermore, an attitude survey was done for 90 medical students to see if they had knowledge of 'aging eggs (how eggs, fertility and age works)'. A total of 60% of medical students knew the mechanisms of 'aging eggs' with 5% answering that the maximum female reproductive age was fifties, and 10% answered during late forties.

Conclusions: As there is an age limit for childbirth and 'egg ages', to educate medical students to prevent from thinking 'I wished I had known it' is necessary. At the same time, the improvement of the working environment that enables them to get pregnant and rear a child is a must to nurture future scientists. By introducing them, we would be able to increase the fertility rate as well as construct family-friendly environments.

P267

Contraception methods requested by immigrant women

M.J. Durán¹, S. Paradelo¹, B. Valenzuela¹, A. Sancho¹, E. Yáñez¹, M.J. Sánchez²

¹Complejo Hospitalario Universitario, Vigo, Spain, ²Centro de Salud de Monteporreiro, Pontevedra, Spain

Introduction: As professionals dealing with demand for contraception methods, we need to ensure that our patients base their decision on accurate and up-to-date information about all available contraceptive options. Contraceptive advice should take into account age, medical factors and lifestyle, making a point of offering the different options to women at risk of social exclusion, i.e., immigrants. Attitudes to contraception vary greatly, depending on the sexual culture of each region or country, couple relationships and beliefs and myths surrounding contraception methods. Furthermore, an important element is the level of access to family planning services, with women working long hours, meaning they are kept away from health information, education, correct observance of contraception treatments, etc.

Objectives: The primary objective was to ascertain the demand for contraception methods within a group of immigrant women who had been living in our country for more than a year. The second objective was to determine the profile of these women. Regular contact was maintained with these women for the following 20 months.

Materials and methods: Observational and descriptive study: during the period between April and August 2010. The participants were 21 women of South American, Eastern European and African origin aged between 17 and 42. For data collection both computer and printed medical records were used.

The following variables were studied: age, gestations, country of origin, occupation, contraceptive usage history, chosen method, subsequent controls, any resultant problems and other queries raised.

Results: The average age of the women was 30.5. Four women who requested contraception methods hadn't been pregnant G/0, three women G2 P2 and three women G1 C1. The following occupations were recorded: homemakers, cleaning ladies, waitresses, students, one teacher, one pharmacist and one tourism technician.

Most of the women had used the emergency contraceptive pill, IUD or condoms, the remainder did not use any method, with the exception of two women, who used coitus interruptus and the Ogino method. The chosen methods were mainly Cu IUD, HOC and only gestogen methods.

During the monitoring of the patients the following issues arose: partner assault, STD in six women, five women were referred to a psychologist and a social worker, one woman requested the emergency contraceptive pill. These women went to other gynaecologist practices and other clinical specialities.

Conclusion: We understand that the Cu IUD was selected because it was available for free.

In matters of contraception, it is not sufficient to supply these women with different methods. Information and education also plays an important part.

P268

The most common reasons for abortion in Serbia

A. Kostic¹, V. Vukotic Pavlovic², Z. Petrovic³, B. Zivaljevic⁴, M. Milenkovic¹, A. Krivokapic¹

¹Medical Center Dr Simo Milosevic, Belgrade, Serbia,

²Medical Center, STARI Grad, Belgrade, Serbia, ³Medical Center Gnjilane, Gnjilane, Serbia, ⁴po Biljana Zivaljevic, Belgrade, Serbia

Introduction: Abortion is a very common method of birth control in Serbia. Consequences may be very serious, sometimes even fatal.

Aim: The aim of this study was to find out the most common reasons for abortion in Serbia.

Material and methods: The figures are based on a survey among the patients who decided to have an abortion during the period from 1 January 2012 to 30 November 2012. The patients were aged between 18 and 44 years of age. The figures were statistically processed. The patients could choose one or more of the suggested answers.

Results: A total of 214 patients gave 284 answers to the question 'What is your reason for having an abortion?':

- (1) I am done with childbearing/I don't want to have any more children – 68 (23.9%) patients.
- (2) I don't want to have children at the moment/Maybe I will have one in the future – 62 (21.8%) patients.
- (3) I would like to have a child but I don't have a permanent job and enough money – 66 (23.2%) patients.
- (4) I am too old for having a child/I am afraid of complications – 12 (4.2%) patients.
- (5) I am too young for having a child/I'll take my time – 18 (6.3%) patients.
- (6) I don't want a child with this partner – 22 (7.7%) patients.

- (7) My partner doesn't want a child – 16 (5.6%) patients.
 (8) I don't know – 20 (7.0%) patients.

Discussion: The most common reasons for abortions (70%) are that the patient is done with childbearing or that she doesn't want to have a child at the moment as well as some economic factors. A total of 30% of the patients said that they felt too old or too young for childbearing, their partner was a negative factor, and some of them didn't know the reason why they decided to have an abortion.

Conclusion: Regarding the large number of abortions, Serbia has the highest abortion rate in Europe. Despite the support and engagement of all social structures and availability of a full-range of cheap contraceptive methods, the abortion rate has not reached a satisfactory level yet.

P269

Specification of opinions of university students, with partners and without partners, on selection of spouses

Z. Caliskan, S. Timur Tashan

Inonu University School of Health, Malatya, Turkey

Objective: The aim of the study was to specify the opinions of university students with partners and without partners on selection of spouses.

Methods: The investigation is one that has been planned as a descriptive type. The investigation was carried out among senior students in 2009 to 2010 education years at various departments and high schools of Inonu University. The data was accumulated by means of the questionnaire form that was developed by the investigator. A total of 1491 students participated in the investigation. The data were evaluated with reference to the statistical program SPSS 13.0 for Windows. After getting the distributions of percentage and frequencies of the data, the Chi-square test and the t-test were applied to it.

Results: It has been specified in the investigation that university students with partners have mainly lived in large families and that their mothers' level of education was lower ($p < 0.05$). While students with partners (36.9%) stated that they were more inclined to decide upon their marriage together with their partners,

students without partners (61%) stated that they were more inclined to decide upon their marriage by themselves ($p < 0.05$). While most of the students with partners (59.8%) did not want their future spouses to be religious people, students without partners (51.6%) mainly want their future spouses to be religious people ($p < 0.05$). A meaningful relationship between students' having partners and their expectations about their future spouses' education, income, profession, physical attraction and healthiness has not been explored ($p > 0.05$). Moreover, the investigation shows that while 40.6% of students with partners do not regard denominational difference as a serious problem for their marriage, most of the students without partners (48%) regard denominational difference as a serious problem for their marriage ($p < 0.05$).

Conclusions: In this investigation, it was examined whether having partners is an important factor in university students' selection of spouses. The investigation shows that students with partners want to decide upon their marriage together with their partners; and that denominational and religious differences are not important in the selection of future spouses.

P270

Through the history of contraception

C. Anastasopoulos, C. Sofoudis, I. Boutas, M. Kalampokas, A. Koumoudis, T. Kalampokas, N. Salakos

2nd Department of Obstetrics and Gynecology University of Athens Aretaieion Hospital Family Planning Unit, Athens, Greece

Introduction: Contraception is defined as the implementation of methods to obstruct either the fertilisation of the ovum, or its implantation after fertilisation. Through the ages, men and women have tried to find the right method of contraception. A variety of methods have been tested, some of which had been painful, or convenient, while others had been effective or ineffective. In Greece, people used to drink copper ore, in Italy they used to drink tea made of willow leaves. In India, they used to take carrot seeds after intercourse, and in Africa they used foam powder.

Discussion: The first reference to contraception was given in the Book of Genesis, in the form of interrupted intercourse. 'Onan spilled his seed on the

ground'. The first medical prescription on papyrus, by Erbes, in 1550 BC, mentioned acacia leaves and dates mixed with cotton and honey. Acacia leaves made a drastic spermicide through producing lactic acid. In Ancient Egypt of 1220 BC they used special pessaries made of crocodiles' and elephants' excreta. In 100–200 BC Hebrews described certain substances in sponge form for the obstruction of the cervical os. In 1700 Casanova describes a contraception method that could be considered the predecessor of the cervical capsule. He would place half a squeezed lemon as a uterine cap. In 1840 the first rubber condom was made by Goodyear. In 1930 rubber was replaced by latex. American biologist Gregory Pincus discovered the ideal oral contraception, which was tested in Puerto Rico and Tahiti. In 1960 the first birth control pill was promoted in America. During the early 1990s latex was replaced by polyurethane, which doubled the endurance of condoms. New methods of contraception were created, such as female condoms and monthly injections. From 2000 up until now, the first transdermal patches, vaginal rings and new age contraceptives have appeared.

Conclusion: Today the methods of preventing an unintended pregnancy have a scientific background and are safer and more effective. Through the history of contraception and the understanding of the science of reproduction, people now have the ability to manage fertility issues.

P271

From religion to contraception: A systematic review of the literature

C. Sofoudis, I. Boutas, T. Kalampokas,
E. Kalampokas, A. Koumoussidis, N. Salakos

2nd Department of Obstetrics and Gynecology, University of Athens, Aretaieion Hospital, Family Planning Unit, Athens, Greece

Introduction: Religion consists of a set of established concepts and practices, which govern the relationship between human beings and God. However the influence of religion is not confined to this relationship between humans and God. Religion is the basic modulator of the culture of one nation, through the establishment of ethical standards and values. All the religions have specific answers to the basic

existential questions and determine a way of life, which guarantees a good fortune after death.

Discussion: The majority of the known religions were created at a time when survival was very difficult and mainly based on the numerous superiority of one group to another. This specific time, when the rates of perinatal mortality were high and survival difficult, people were encouraged to make as many children as they could. Furthermore, since these children inherit the property of their parents, they had to be born in a well defined family context, with specific proprietary rights to be passed on to future generations. These problems of reproduction and assignation of wealth to the next generation were solved with the existence of social principles and values that acquired legal significance, because they were expressed by religious law-teachers. In other words, in all religions could be found rules for reproduction and contraception. Some of them are in a wider basis and establish a general framework of values about the importance of marriage and childbearing. In some religions like in Islam, the creation of a family is strongly promoted and they are not in favour of the monasticism. In addition, other religions of the East do not focus on the creation of a family alone, but also encourage people to become a monk. There are other rules which are more specific, relating to sexual relationship, contraception and abortion. Especially on the matter of abortion, the controversy of every known religion begins from the status of the fetus, for example, whether this is an integrated human being or not, to conclude to the matter of the operation and if it should be allowed or not and under what conditions.

Conclusion: Religion in general is a tool, which represents simply a legitimising factor of human rules. That's why populations with the same religious origins perceive in different way the moral dimension of contraception and abortion.

TOPIC 19: OTHER

P272

Exploring women's experiences of domestic violence: Injury, impact and infant feeding

J. Keeling

University of Chester, Chester, UK

Objectives: This study involved 15 women who had experienced domestic violence in pregnancy. Findings from the general literature on this subject have illuminated many of the effects of domestic violence. There is, however, a gap in the literature on how this violence affects a woman's perceptions towards herself, and the resultant impact on infant feeding. The aim of this study was to gain a deeper understanding of the impact of domestic violence in pregnancy. The objectives of the study were: to explore how domestic violence affects a woman's perceptions towards herself and to explore the impact of domestic violence on a woman's decision towards infant feeding.

Method: A qualitative approach using a single narrative interview was chosen for this study. With no preset questions, this approach enabled the woman herself to decide on what to disclose and when to terminate the interview with the locus of control remaining with the woman. Following ethical approval all women were resident or supported by women's refuges within the United Kingdom. Following verbal consent, interviews were audio-recorded and transcribed verbatim transcription. Through the iterative process of thematic analysis, themes emerged from the data itself.

Results: The findings revealed the women's emotional complexities of considering disclosure of domestic violence when being attended by a midwife. Further, the women's narratives revealed the impact of domestic violence in pregnancy and how this has affected their choice of infant feeding. Three interlinking themes emerged; physical injuries sustained through domestic violence, the impact of these injuries on a woman's self-perception, and the influences of the injuries self-perception on infant feeding.

Conclusions: There are few studies that explore a correlation between domestic violence and a woman's choice of infant feeding. This paper suggests that women experience a body dysmorphism as a direct result of domestic violence, with their excerpts revealing a dislike of their breasts being linked to the physical violence and assaults. The findings offer healthcare providers a useful perspective on this important issue. The subtle signs of domestic violence that revolve around body image and breast feeding may illuminate deeper psychological trauma worthy of further investigation.

P273

Global survey of health care practitioners' knowledge, attitudes and beliefs regarding the use of intrauterine contraception in nulliparous women

K. Black¹, P. Lotke⁵, J. Lira², T. Peers³, N. Zeit⁴

¹University of Sydney, Sydney, NSW, Australia, ²Instituto Nacional de Perinatología, Mexico City, Mexico,

³Virginicare, Surrey, UK, ⁴University of Tennessee, Knoxville, USA, ⁵University of Arizona, Tucson, USA

Objectives: Current evidence demonstrates that intrauterine contraception (IUC) is highly effective and safe for use in a wide range of women, including those who are nulliparous. Despite this there is evidence that health care providers (HCPs) may be reluctant to recommend IUC in this group because of misperceptions about the risks. This study sought to understand the global barriers and misperceptions about IUC among providers of contraception, particularly around use in nulliparous women and to examine how these vary with geographic region and health care professional type.

Methods: We developed a survey which was administered online to healthcare providers who saw at least 20 women per month for contraception across 15 countries. We sought their knowledge and attitudes to IUC, particularly around provision in nulliparous women. We collected data on the main barriers when considering IUC for women in general, and specifically for nulliparous women. We asked HCP about their awareness of the World Health Organization Medical Eligibility Criteria (WHO MEC) for contraceptive use.

Results: We received 1862 responses from HCPs from 15 countries; Latin America 402 (21.6%), USA 156 (8.4%), Europe and Canada (1103, 59.2%) and Australia 201 (10.8%). Almost half (48.2%) of HCPs listed nulliparity as one of three barriers to IUC use; the Europeans and Australians were significantly more concerned about this issue. Around two thirds (63.2%) of HCPs believed that IUC in nulliparous women placed them at higher risk of pelvic inflammatory disease (PID) compared to non-users. Significantly more family planning nurses and midwives recognised that the risk of PID is not higher in nulliparous users of the IUC compared to obstetricians and general practitioners. Overall

half of HCP (49.7%) recognised that IUC use in nulliparous women was a category 2 (benefits outweigh the risks) under the WHO MEC. Correct knowledge of the WHO MEC was highest amongst the Latin Americans (57.7%). Australians were the least knowledgeable, with 41.3% reporting they did not know how to categorise IUC use in nulliparous women.

Conclusions: The results of this survey confirm that across 15 countries the two main barriers to providers considering IUC for women requesting contraception are nulliparity followed by concerns about PID. Providers' knowledge of the WHO MEC was lacking universally. A global effort should be made to ensure that providers of contraception understand the evidence and do not disregard IUC as a potential option for nulliparous women.

P274

Engraved to circumcised pain: Comparative study of vulnerability among women of Kenya and Nigeria

A. Siddhanta

*International Institute for Population Sciences, Mumbai/
Maharashtra/, India*

Introduction: Female circumcision is a phenomenon specific to the Africa continent. There is a discussion about the practices of circumcision where it is seen as the perpetuation of social and cultural values on one hand whereas, on the other hand, there are views that the individual choice and rights as an element to be factored in within the larger debate of health risk of women. The primary reason for selecting the two countries for analysis is that both are low economy countries, yet the prevalence of circumcision has a telling difference even with its similar historical origination.

Objective: The main objective of study was to understand the determinant affecting female circumcision in the two selected African countries. Further, the study intends to explore the difference in perception of women in the selected countries with DHS Data.

Results: In carrying out the analysis, age of women, religion, ethnicity, and education are some of the important predictors affecting the perception

on circumcision. Comparing the perception of the two countries, Kenyan women (90%) are of the view that this harmful practice should be discontinued while in Nigeria, the percentage is relatively smaller (74%). When two religious communities of the two countries were compared, it was found that a high percentage (86.6%) of women from Christian community in Kenya as compared to only 66% in Nigeria believe that this tradition has no benefit. Controlling for the factors such as place of residence, education, wealth quintile, religion, ethnicity, women agency, mass media exposure and women who were circumcised, regression results of the two countries showed that in Kenya the Islam women are 2.7 times more likely ($p < 0.01$) than the Christians to say that this practice should be continued. More Muslim women in Kenya (35%) want her daughter to be circumcised compared to only 5.7% in Nigeria. The likelihood for the circumcised women wanting the practice to continue remains high for both countries with circumcised women in Kenya 11 times more likely than the uncircumcised and in Nigeria, it is 21 times more likely than the uncircumcised women.

Conclusion: In comparing the two countries with a large scale survey (DHS), the prevalence of circumcision is much greater in Nigeria than Kenya and the former lacks behind when it comes to positive perception. The findings reiterated the basic nature of humans where we find that the women who went through the pain want other women also to be prisoners of circumcised pain.

P275

Opting out of abortion training: The impact of partial participation in ob-gyn residency training on family planning skills and abortion attitudes

U. Landy, F. Preskill, J. Turk, J. Steinauer

*University of California, San Francisco, San Francisco,
CA, USA*

Objectives: The Kenneth J. Ryan Residency Training Program provides support to US and Canadian ob-gyn residencies to integrate abortion and contraception training. Residents at the 68 Ryan programmes with routine training may opt out of performing abortions

for moral or religious reasons. Using qualitative methods, we assessed the effects of partial participation in the family planning rotation on family planning skills and attitudes.

Methods: We conducted interviews with current or former residents who opted out of some part of the family planning rotation at residency programmes affiliated with the Ryan Program. Residents were either identified by their programme directors or they indicated on the routine post-rotation survey that they had opted out of training and were willing to be contacted for research. Semi-structured phone interviews with residents included questions about (1) level of participation in abortion training, (2) reasons for opting out, (3) family planning skills learned, (4) perception of the impact of the training on attitudes about abortion, and (5) demographic information. Interviews were transcribed, coded, and analysed for thematic content.

Results: Fifty-six residents were eligible and invited to participate in the study; 26 interviews were completed. The residents came from diverse geographic regions, described varying levels of participation in training, demonstrated a range of motivations for opting out of training, and described varying experiences with abortion training. The majority participated in counselling, contraceptive care, pre- and post-abortion care, and miscarriage management, and more than half described changes in their attitudes as a result of the family planning rotation. Acceptance of the need for abortion was the most frequently reported change in addition to increased empathy for women and their reasons for seeking an abortion. Residents also praised the comprehensiveness of the abortion counselling process and the overall level of care patients received. Nearly all residents described the skills gained in contraceptive procedures and counselling, as well as uterine aspiration, as invaluable components of their training experience.

Conclusions: Residents who opt out of some portion of their routine family planning rotation reflect positively on that experience, appreciate the contraceptive and aspiration skills they learn, and describe changes in their attitudes toward abortion as a result of the training. When residents are given the opportunity to participate to their comfort level in a routine abortion training rotation, they are likely to find the experience valuable and modify their future clinical practice in their attitude toward women who seek to terminate a pregnancy.

P276

Audit of the management of acute pelvic inflammatory disease in an in-patient gynaecology setting

J. Bignall, A. Lawin-O'Brien, A. Shahid

Whipps Cross University Hospital, London, UK

Objectives: Sexual health is an important area of gynaecology. Many trainee gynaecologists have limited experience in sexual health. This may be reflected in medical practice, particularly where sexual health is a central component, such as the management of Pelvic Inflammatory Disease (PID). The purpose of this audit was to investigate the management of PID in an in-patient gynaecology setting compared with national guidelines.

Methods: An IT software tool 'Bedweb' and the gynaecology in-patient lists were used to retrospectively identify patients who presented within the emergency gynaecology department with acute PID between May 2010 and June 2012. Patient files were retrieved by the coding department for review and data were collected. The IT software tool 'Pathweb' was used to identify microbiology specimen results. National guidelines were used to define 'Adequate' and 'Inadequate' sexual history taking and compare overall management.

Results: A total of 69 patients were identified as being diagnosed and treated for acute PID between May 2010 and June 2012. Of these, 14 files were incomplete and 13 patients were excluded. These were patients whom were initially 'diagnosed' with PID but were later treated for a different diagnosis such as urinary tract infections or pyelonephritis. Therefore, a total of 42 patients who were diagnosed and treated for acute PID between May 2010 and June 2012 were audited.

Patient ages ranged from 14 to 49 years (Mean 28 years) and 48% ($n = 20$) were < 25 years.

Only 7% of doctors documented an 'adequate' sexual history ($n = 3$). A total of 88% patients had genital swabs taken ($n = 37$) and, of these, 19% of the swabs were chlamydia positive ($n = 7$) with 86% of the patients with chlamydia < 25 years ($n = 6$).

All (100%) of the patients received antibiotics ($n = 42$); 76% received both doxycycline and metronidazole ($n = 32$); 19% received only 250 mg IM Ceftriaxone ($n = 8$), and only 43% patients received

14 days' supply of both doxycycline and metronidazole ($n = 18$).

Only 9% patients ($n = 4$) received education and advice. Only 21% ($n = 9$) of all patients were referred to a GUM clinic. Only 29% ($n = 2$) of the seven chlamydia positive patients were referred.

Conclusions: While gynaecologists are experienced in managing PID, there are areas for improvement. The key areas that were found to fall below the national targets included, sexual history taking, adherence to recommended treatment regimens and education, along with referral for contact tracing. Closer links between the gynaecology and GUM departments is strongly recommended in order to provide the optimum management of PID.

P277

Benefits of active follow-up of autoimmune thyroid disease in preconception

D. Stoian¹, M. Craina¹, M. Craciunescu²,
D. Anastasiu¹, D.M. Anastasiu¹

¹University of Medicine and Pharmacy 'Victor Babes',
Department of Obstetric Gynecology, Timisoara, Romania,

²University of Medicine and Pharmacy 'Victor Babes'
Department of Microbiology, Timisoara, Romania

Objectives: Thyroid hormones are essential in embryonic and fetal development mainly in the first months of pregnancy. Although universal thyroid screening is not yet recommended, we wanted to see if there are benefits in such an approach.

Method: The study group comprised 114 females with known asymptomatic thyroid autoimmune disease who were evaluated starting the first positive diagnostic for pregnancy. The control group comprised aged-matched pregnant females, with no prevalent thyroid disease.

All the cases were evaluated by means of: clinical evaluation, hormonal assays: TSH, FT3 and FT4, antithyroid antibodies and thyroid ultrasound -1st, 3rd trimester and six weeks postpartum. We noted Apgar mark, birth length and weight for each child. Supplemental treatment was conducted by the recommendations of AACE 2012.

Results: Thyroid parameters evolution: suboptimal TSH appeared in 97/114 cases in the 1st trimester:

80 cases, 2nd trimester 17 cases. Monthly follow-up with increasing FT4 supplemental therapy as according to TSH values permitted normal thyroid parameters in 95 out of 97 cases. The two cases were not compliant to the monthly evaluation. There were no significant differences in the study group as compared with controls regarding: moment of birth (38.7 ± 0.7 weeks versus 39.2 ± 0.5 weeks, $p = 0.785$), Apgar mark at birth (9.5 ± 0.7 versus 9.3 ± 0.6 , $p = 0.763$), birth length (51.3 ± 8.7 cm versus 52.02 ± 9.2 cm) and birth weight (3250 ± 703 gr versus 3180 ± 653 gr). As expected, a part of the females remained with hypothyroidism after pregnancy: 46/97 cases. In the control group only a minority of cases (5 out of the 114 controls) developed a postpartum autoimmune thyroiditis.

Conclusion: The incidence of suboptimal TSH – subclinical hypothyroidism was high. In the absence of active follow-up, a high number of cases – 85% of the study group, would evolve with untreated hypothyroidism, with negative consequences in fetal development and pregnancy course.

P278

'We are also mothers': An exploratory study of sexual and reproductive health among female sex workers in Mysore, South India

S. Reza-Paul¹, R. Lorway¹, A. Roy²,
D. Venkatesh², S. Hafeezur², S. Khan¹, L. Avery¹

¹University of Manitoba, Winnipeg, Canada, ²Ashodaya Samithi, Karnataka, India

Objective: Sex Workers, although occupying a central focus within HIV prevention discourse globally, have been largely ignored within broader discussions of sexual and reproductive health. For this reason we undertook a qualitative study to understand the relationship between sex work and health services utilisation during pregnancy and the post partum period within local socio-cultural and environmental contexts.

Design and method: The University of Manitoba and Ashodaya Samithi, a sex workers' organization that work with female, male and transgendered sex workers from 2005 partnered in the study. An exploratory qualitative research approach was followed, engaging sex workers as researchers in designing the instrument,

recruitment, in-depth qualitative interviewing, and the contextualisation of the findings. Using purposive sampling, female sex workers (FSWs) who were pregnant during the study period or who had been pregnant within the last 12 months were recruited to participate in the study. A total of 62 qualitative interviews with FSWs were conducted.

Results: The mean age of the participants was 28 years (20 to 38 years). The mean number of pregnancies was 3.6. Almost all had undergone at least one abortion. For most of the participants, sex work was the main livelihood though a few mentioned other concurrent jobs. Based on preliminary thematic analysis, the following recurring narratives were identified: (1) difficulties in doing sex work during pregnancy; (2) feeling pressured to continue to do sex work during pregnancy as this was the main livelihood; (3) the exercise of control over their pregnancy-related medical procedures and health service utilisation by family members, especially mother-in-laws and husbands; (4) struggles to maintain adequate infant and child care during sex work and in relation police arrests; (5) lack of antenatal and postpartum care and differential treatment at the hospitals during delivery, and (6) complications during abortions resulting from incorrect abortive procedures.

Conclusion: The data highlights the absence of any form of psychosocial or even financial support for sex workers during the period of parturition. The interplay of various environmental factors continues to increase the vulnerabilities of FSWs during pregnancy and after delivery. The HIV interventions need to consider expanding not only reproductive health services but also create an enabling environment that will reduce vulnerabilities of FSWs during that crucial period.

P279

Survey of the impact of religious pretentiousness and hedonistic in runaway and non-runaway girls in Shiraz

S. Habibollah Kavari

University of Social Welfare & Rehabilitation Sciences, Tehran, Iran

Objectives: In recent years running away from home is increasing, especially in adolescent females.

Although there is much research in this field, there is, as yet, few studies on the risk of females running away.

Method: The subjects consisted of 45 runaway girls aged 18 to 30 living in organized shelters and 45 normal girls with the same qualities.

Results: The results show a significant difference in all variables between the two groups. The group of runaway girls obtained higher scores on the disorganisation subscale of the Religious Orientation Scale and in all subscales on the Abuse Questionnaire (the intensity of abuse and the intensity of injury), and hence in total abuse.

Conclusions: This study shows that religious pretentiousness and hedonism have meaningful effects on reducing the risk of females running away from home.

P280

Women and men's satisfaction with care related to induced abortion

M. Makenzius¹, E. Darj², T. Tydén³, M. Larsson²

¹Swedish National Institute of Public Health, Östersund, Sweden, ²Department of Women's and Children's Health, Uppsala, Sweden, ³Department of Public Health and Caring Sciences, Uppsala, Sweden

Objectives: To investigate satisfaction with abortion care among women and their male partners and to identify factors associated with high overall contentment with the care received.

Methods: A multi-centre cross-sectional questionnaire survey conducted in 2009 among 798 Swedish abortion-seeking women and 590 male partners was analysed with logistic regression.

Results: Overall care satisfaction was rated high by two-thirds (74%) of the women and half (52%) of the men. For women, factors associated with high overall satisfaction with care were: to be well treated by the health care staff (Odds Ratio [OR] 11.78), sufficient pain relief (OR 3.87), adequate information about the gynaecological examination (OR 2.25), suitable contraceptive counselling (OR 2.23), and ease of access to the clinic by phone (OR 1.91). For men, the factors were to be well treated by the health care staff (OR 5.32), and adequate information about the abortion procedure (OR 2.64).

Conclusion: Most women and half of the men were pleased with the attention they had received, but one in four women and half the men were not, or not completely, suggesting improvement is needed, especially with regard to men. For both women and men the human aspect of the care, namely, the consideration showed by the attending staff, appears to be the most important factor associated with satisfaction regarding abortion care.

P281

Public authorities and teenage pregnancy in France: The perception of the phenomena at the centre of prevention campaigns

M. Le Den

Université de Picardie Jules Verne, Amiens, France

Background: With the generalisation of contraception and the evolution of sexual and reproductive standards, teenage pregnancy appears as a major social problem which demands an important mobilisation of Public Services. Furthermore, a series of campaigns were organised highlighting the prevention of teenage pregnancy, co-ordinated by the Ministry of Health and the National Institute of Prevention and Health Education which were set up in 2009, in spite of official statistic indicators pointing out that this phenomena remains in the minority and has in fact diminished significantly during the last 30 years.

Objectives: The gap between the reality of the situation that statistics show and the government measures actually in place in order to fight against teenage pregnancies, leads us to question by what manner the government leaders can justify and expand their political decisions. What are the reasons for this mobilisation and what information have they used to justify these methods?

Method: Our analysis draws attention to, firstly, the studies and reports used to elaborate these campaigns, in order to determine the measures available to arrive at the existing numbers of teenage pregnancies and the principal conclusions and lessons drawn from them. Another area has been examined at the centre of these discussions, the manner in which politicians have understood and presented the situation in order to justify the implantation of these programmes.

Results: We can see that teenage pregnancy is always perceived as 'unwanted' pregnancy responsible for the high number of abortions, and the consequence of a contraception error, explained by a lack of knowledge of current available contraception methods amongst the teenage population. The phenomena of unwanted teenage pregnancy seem to be therefore explained in terms of a contraception fault, which in turn, leads to the stigmatisation of the young girl in question.

Conclusions: The subject of teenage pregnancy is finally seen and treated as a public health problem, it is no longer a 'state' or 'condition' but more a conduct risk which at the same time gives proof of sexual activity in young girls. Finally, this negative presentation of unwanted pregnancy, 'unplanned' and 'un-expected' is it not another way of passing a message that these individuals are both socially undesirable and social outcasts?

P282

The effect of the mifepristone-misoprostol dosing interval on total abortion time and induction-abortion time in second trimester induction abortion: A systematic review

K. Shaw, N. Topp, P. Blumenthal

Stanford University, Palo Alto, CA, USA

Objective: To examine the effect of the interval between mifepristone and misoprostol administration on induction (first misoprostol dose to abortion) and total (mifepristone administration to abortion) times for second trimester induction abortion (at 13 to 24 weeks).

Methods: We searched MEDLINE (1966 to 2012) and the Cochrane Controlled Trials Register for articles in English, using the search terms second trimester, induction abortion, medical abortion and mifepristone and reviewed reference lists of published reports. Our search revealed 28 articles, 19 randomised controlled trials and 9 observational studies. Studies were included if mifepristone and misoprostol were used for medical abortion in the second trimester. If a prostaglandin other than misoprostol was used for induction, or induction-abortion time was not reported, studies were excluded. Two authors independently reviewed the articles and abstracted the data using standardised data abstraction templates to summarise data. Discrepancies were resolved by consensus.

Results: The majority of studies used mifepristone 200 mg. Misoprostol dosing protocols varied among studies with the majority using misoprostol 400 mcg buccal, vaginal or oral every 3 to 6 hours. Several studies used an initial mifepristone dose of 600–800 mcg. A minority of studies used misoprostol 200 mcg every 3 to 6 hours and reported longer mean induction times. Induction times (first misoprostol dose to expulsion) ranged between a median of 4.9 and 13 hours and between a mean of 6 and 27.8 hours for all misoprostol protocols. Total induction abortion times, the time from mifepristone to expulsion, were estimated as 10, 27 to 36 and 41–55 hours for an immediate, 24-hour, or 36 to 48 hour dosing interval. Overall 91.5, 94–97, and 81–100% had expulsion by 24 hours from the first misoprostol dose for an immediate, 24-hour or 36–48 hour dosing interval inclusive of all misoprostol protocols.

Conclusion: Flexibility in the mifepristone-misoprostol interval allows accommodation for patient preference without compromising safety or efficacy of second trimester medication abortion.

P283

Can IUD be a best choice for high fertility states of India? A projection of contraceptive diversification using Bongaarts model for the state of Bihar to reach CPR level of 50% by 2016

A. Das

Care-India, Patna, Bihar, India

Objective: Though India has reached a comfortable level of TFR, there are still states struggling to reduce. One of the most important cases is the state of Bihar. As per the NFHS-3 (last round of Indian DHS) the TFR of Bihar is continue to be one of the highest (TFR: 4.0, 2005–2006) in spite of substantial improvement in factors, that are highlighted in the literature of fertility transition. For example, between NFHS-1 (1992–1993) and NFHS-3 (2005–2006) CPR for modern methods have increased 22 to 29%, unmet need has declined from 26 to 24% and wanted fertility has declined from 3.2 to 2.3. As per the technical committee projections and target set by government the TFR will reach a level of 2.7–2.9 by 2016. However,

there is no clear guidance on the level of CPR and appropriate methods mix to achieve that TFR.

Under this backdrop the specific objectives of the paper were to identify:

- (1) The targeted level of CPR and method mix suitable for achieving a targeted TFR.
- (2) The appropriate method mix that the government of Bihar should focus on.

Method: The data for the projection is used from the NFHS and AHS. The assumptions related to different population characteristics Technical group on projection, GoI, 2006. In this projection two important things were considered as important (1) the source of data, and (2) assumptions related to present and future population characteristics. The data related to the contraceptive use and fertility rates are taken from the NFHS-3 (2005–2006) and Annual Health Survey (2011–2012). The CPR for the base year is adopted from the NFHS-3 and is 34% and the end year is from urban CPR of Bihar 49.7 (AHS, 2011–2012).

Results: It was found that the CPR level of 50%, with a method mix close to Bihar urban and focused on IUD is best for Bihar. The target for Fst and IUD assigned for the state is unrealistic. The HMIS data of Bihar is subject to over reporting of acceptors.

Conclusions: The family planning programme in Bihar should be focused on targeting 5 lakhs of IUD and female sterilisation per year, considering the infra-structural constraints.

P284

Risks of adverse pregnancy and birth outcomes in women treated with antiepileptic drugs for epilepsy: Retrospective case-controlled study

M. Vanya¹, N. Arva Nagy¹, D. Szok², G. Bartfai¹

¹Department of Obstetrics and Gynecology,

²Department of Neurology, University of Szeged, Faculty of General Medicine, Szeged, Hungary

Objective: Our aim was to analyse the perinatal outcomes of women and their child treated with anti-epileptic drugs for epilepsy.

Methods: All pregnant patients ($n = 86$) with epilepsy, who required obstetrical care at the Department of Obstetrics and Gynecology in Szeged, and were also

treated in the Department of Neurology in Szeged, between 1 January 2000 and 31 December 2011 were enrolled in our study. The control group, selected by simple random sampling, consisted of 86 age-matched pregnant women with no diagnosis of epilepsy or any other neuropsychiatric disorder. For the comparison of different perinatal parameters the χ^2 test and the independent sample t-test were performed. Relationships between congenital anomalies and second-generation AEDs were examined by means of non-parametric Kruskal-Wallis analysis.

Results: In the group of 86 pregnant patients with epilepsy, the mean age was 29.4 ± 5.37 years, and in the control group it was 30 ± 5.5 years. A total of 42.25% of the epileptic patients ($n=30$) were exposed only to monotherapy, and 57.74% of cases ($n=41$) were exposed to polytherapy. The mean congenital malformation rate (MCMR) was 9.8% in all AED exposed mother's newborns, which was similar to that published by Morrow et al. In our study, the MCMR was greater for pregnancies exposed only to valproate compared to all other AEDs ($p=0.054$). The rate of caesarean sections was significantly different for the two groups ($p=0.014$, 46.51% vs. 38.37%), these results are similar to those reported in the literature. The neonatal chest circumference and length in the epilepsy group were significantly different from those in the healthy control group ($p<0.001$ and $p<0.001$). The 1-minute and 5-minute Apgar scores were in the normal range. Samrén et al. reported a strong correlation between maternal exposure to AEDs and a significantly lower birth weight, intrauterine growth retardation (IUGR) and a smaller head circumference of the newborn.

Conclusions: We observed significant differences between the epileptic and the non-epileptic women in mean congenital malformation rate, chest circumference, foetal length, of the newborns. This findings show that the antiepileptic therapeutic principle should be accomplished without valproic acid.

P285

Copper 380 and Aquaporin (AQP3) a new mechanism of action

A. Farid Mohamed Ali¹, L. Ali Farid², M. Fouad², O. El Daly³

¹Heliopolis Research Center, Cairo, Egypt, ²Faculty of Medicine, Ain Shams University, Cairo, Egypt, ³Faculty of Medicine, Zagazig University, Zagazig, Egypt

Background: The AQP3 are a family of small (24–34 kDa), hydrophobic integral membrane channel proteins that facilitate rapid passive movement of water. Copper inhibits the activity of human AQP3, three amino acids residues in loop C and loop E Trp120, Ser152, and his241 were identified to be involved in copper-mediated AQP3 inhibition.

Aim: To report for the first time in the literature the role of Aquaporins in the mechanism of action and side effects of copper IUCDs.

Methods: Endometrial biopsy was taken for immune histochemistry of Aquaporin 3 in 50 women using IUCD and complaining of IUCD side effects. Another 50 cases were used as a control.

Results: A statistically significant decrease in endometrial AQP3 in IUCDs induces side effects compared to controls ($p<0.05$).

Conclusion: A new mechanism of action of copper IUDs is through AQP3 this will open new therapeutic modalities in the treatment of copper IUD side effects.

P286

A study on the correlation between smoking mothers and newborn birth weight and breast-feeding: A study in eastern Turkey

N. Hotun Sahin¹, S. Timur Tashan², B. Erci², M. Duman³, G. Kazan⁵, S. Akbulut⁴

¹Istanbul University Faculty of Nursing, Istanbul, Turkey,

²Inonu University School of Health, Malatya, Turkey,

³Dicle University School of Health, Diyarbakir, Turkey,

⁴Kilis 7 Aralik University School of Health, Kilis, Turkey,

⁵Inonu University Turgut Ozal Medical Center, Malatya, Turkey

Objective: The purpose of this study was to identify the correlation between smoking mothers and newborn birth weight and breast-feeding.

Methods: The study was designed as a society-based, descriptive and cross-sectional one. The population of the study was comprised of a total of 664 mothers with a baby aged 0 to 1 year old. The participants had been admitted to the Immunization Clinic of a Health Care Center between 2 February and 20 July 2010. Face-to-face interviews were conducted with the participants, who were also provided with an

explanation about the study. The data were collected through a survey form that contained questions as to the socio-demographics of the mothers and newborns as well as smoking and breast-feeding. They were analysed with such statistics as percentage, mean value, t-test and Pearson's Chi-Squared test.

Results: It was found that 10.2% of the mothers were smokers. On average, they smoked 5.4 ± 3.7 cigarettes a day. Moreover, 6.6% of the participants reported smoking during pregnancy. Whereas the babies of the smoking mothers had a mean birth weight of 3058.2 ± 501.3 g, those of the non-smoking mothers had a mean birth weight of 3258.4 ± 704.4 g ($p < 0.05$). During the postpartum period, the smoking mothers and non-smoking mothers breast-fed their babies by 100% and 93.2% respectively ($p < 0.05$). In addition, more smoking mothers than non-smoking mothers started supplementary food within four months following the birth ($p < 0.05$). While 61.1% of the mothers with a female baby smoked, only 38.9% of those with a male baby smoked ($p < 0.05$).

Conclusions: The study concluded that mothers with a female baby smoked more heavily and started supplementary food earlier. Moreover, smoking mothers had babies with a lower birth weight. The fact that smoking mothers breast-feed their babies at a higher level during the postpartum period suggests that smoking has adverse influences on babies even in their early years.

P287

A novel nano copper (T cu 380A) intrauterine device updated trend

A. Farid Ali, L. Ali Farid, M. Fouad

Ain Shams Univeristy, Cairo, Egypt

Introduction: We introduced for the first time in the literature a Nano copper silver IUD.

Aim: The aim of this work was to investigate biocompatibility on experimental animals.

Methods: A total of 100 healthy adult mice were enrolled in the study for acute systemic toxic reaction and then the material was implanted into the different muscle of rabbits (abdominal, spinal) and the rabbits were scarified for pathological examination at 1, 4, 8, 12, 16, and 20 weeks after surgery. The following

tests were included: MTT assay, cytotoxicity test and material implantation test, we introduced a novel way to prepare Nano copper and silver and 50 healthy adult mice using ordinary copper 380 were included as a control.

Results: Nano copper silver devices are free from cytotoxicity so no acute systemic toxicity or inflammatory reactions were observed in the surrounding tissue of the implanted material. At 12, 16, and 20 weeks no changes were observed in comparison to non-implanted area. Also, a nano silver copper device reduced embryonic stem cell viability, growth and differentiation of morphology.

Conclusion: Nano copper silver 380 is more superior to the ordinary copper 380. This will open the way for a new IUD in the field of contraception.

P288

Green tea extract as a novel method of oral contraception

A. Farid Ali¹, L. Ali Farid², M. Fouad², O. El Daly³

¹Heliopolis Research Center, Cairo, Egypt, ²Ain Shams University, Cairo, Egypt, ³Faculty of Medicine, Zagazig University, Zagazig, Egypt

Aim: The aim of this work was to study the effect of epigallocatechingallato (EGCG) as a method of oral contraception. The scientific bases of this compound are that it has an antivasular effect, anti (VERF), anti (VERFR), reduce endometrial endothelium, inhibit aquaporin 3, 7.

Methods: A total of 30 mice were enrolled and we used EGCG 200 moll/kg. Mice were housed with a 12 hour light/dark cycle and had access to food and water. Vaginal gross appearance confirmed by cytology was used to determine the stage of estrasscycle.

Results: Vaginal smears were taken and it was found that oral EGCG effectively inhibited the ovarian cycle in the mice.

Conclusions: No reported complications as in oral contraceptive pills and no side effects were noted. Another added benefit was the cheapness of EGCG.

This experiment was carried out in compliance with the institutional animal care and use committee guide lines for animal experiments.

P289

Oral contraception pills reduce human embryonic stem cell differentiation to germ like cell (breaking topic) updated trend

A. Farid Ali¹, L. Ali Farid⁴, M. Fouad⁴, E. Cosmi², S. El Shayp³, O. El Daly⁵

¹Heliopolis Research Center, Cairo, Egypt, ²Rome, Italy, ³Kafrelsheikh University, Kafrelsheikh, Egypt, ⁴Faculty of Medicine, Ain Shams University, Cairo, Egypt, ⁵Faculty of Medicine, Zagazig University, Zagazig, Egypt

Introduction: Several growth factors have proven to be essential in the proper differentiation of developing germ cell in mice.

Aim: The aim of this work was to study the effect of oral contraception on the differentiation of embryonic stem cells to germ-like cells and to find a new mechanism of action of oral contraceptive pills.

Methods: We conducted a study which included 75 mice: 25 were enriched with oral contraceptive pills (low dose) in group I. In group II, 25 mice were enriched with bone morphogenetic protein form (BMP4) and in group III, 25 mice with no enriched factor were used as a control group. Knock out feeder routine for 14 days was established. The effect of OCP and (BMP4) was determined by differentiation or not, the formation of germ like cells was ascertained by immunocytochemistry, flow cytometer and quantitative RT-PCR for germ cell markers.

Results: Significant down regulation of the germ cell genes and a decrease in germ-like (DDX4) cells were present in group I in comparison to group III, $p < 0.01$. Significant upregulation of germ cell genes and germ-like cells were present in group II in comparison to group III, $p < 0.001$.

Conclusion: In conclusion, OCP reduce human embryonic stem cell differentiation to germ-like cells opening a new mechanism of action of OCP and paves the way to revise OCP as a method of contraception.

P290

Continuous oral contraception and Leuprolide in the treatment of endometriosis-associated pelvic pain

A. Farid Mohamed Ali¹, L. Ali Farid², M. Fouad², O. El Daly³

¹Heliopolis Research Center, Cairo, Egypt, ²Ain Shams University, Cairo, Egypt, ³Faculty of Medicine, Zagazig University, Zagazig, Egypt

Objective: To compare continuous oral contraception and leuprolide in the treatment of endometriosis-associated pain.

Design: Prospective randomised double blind controlled trial.

Methods: A total of 150 women with endometriosis-associated pelvic pain were enrolled in our study. Leuprolide 3.75 IM for 3 months or monophasic oral contraception 1 mg Norethindrone + 35 mg Ethinylestradiol were given orally. The Biberoglu and Behram (B&B) pain scores were used to measure the outcomes.

Results: There were no statistically significant differences in B&B scores for the oral contraception group compared to the leuprolide group.

Conclusion: Oral contraception has a more curative effect than leuprolide in the treatment of endometriosis-associated pelvic pain, and given the lower cost and lower side effects with no need of back-up therapy, this supports the use of oral contraception as first line therapy in the treatment of endometriosis-associated pelvic pain.

P291

Cost-effectiveness of a low-dose contraceptive levonorgestrel intrauterine system (LNG-IUS 12) in Sweden

N. Henry¹, I. Lekander², C. Hawes¹, P.-O. Thuresson³, A. Filonenko⁴

¹IMS Health, London, UK, ²Bayer HealthCare Pharmaceuticals, Solna, Sweden, ³IMS Health, Basel, Switzerland, ⁴Bayer Pharma AG, Berlin, Germany

Objectives: To evaluate the cost-effectiveness of LNG-IUS 12 (Jaydess[®]) versus a weighted market mix of hormonal contraceptive methods (hormonal market mix, hMM) in Sweden from both a payer and societal perspective.

Method: A Markov model was constructed to compare the effectiveness and costs of LNG-IUS 12 and hMM over a 3-year period in a cohort of 1000 women aged 15 to 44 years requiring reversible contraception and at risk of pregnancy. hMM comprised hormonal contraceptives currently used by this cohort, including short-acting methods (SARC: oral contraceptives (OC),

the ring and the patch) and long-acting methods (LARC: injection, the implant and IUS).

Primary health states included initial/continued use of contraceptive method, method failure (unintended pregnancy, UP) and subsequent method (following either discontinuation or UP). Subsequent method was defined as a market mix of all available methods (MM).

Probabilities of method failure and first year discontinuation rates were estimated based on published US and Swedish data. Discontinuation rates in subsequent years were derived based on local KOL advice. Weighted probabilities of failure and discontinuation for hMM and MM were estimated by combining these data with market share distribution data according to published Swedish sales data.

Medical resource use and productivity losses were estimated following KOL input. Direct costs of contraception and the outcomes of unintended pregnancy were derived from FASS and the Swedish Association of Local Authorities and Regions, respectively. Indirect costs were estimated based on annual average wage statistics.

One-way sensitivity analyses (OWSA) were performed on all key variables subject to uncertainty. Probabilistic sensitivity analyses (PSA) were also conducted. Scenario analyses assessed the use of alternative comparator compositions in the model.

Results: LNG-IUS 12 dominated hMM in the cohort of 1000 women, resulting in fewer unplanned pregnancies (52 vs. 271), and both lower total direct (6.5 million SEK vs. 9.4 million SEK) and indirect (0.7 million SEK vs. 0.8 million SEK) costs over 3 years.

Results of the OWSA and PSA indicated that the model was robust to plausible changes in input values. Scenario analyses indicated that LNG-IUS 12 remained dominant when compared against either SARC or LARC, but results were sensitive to the composition of the LARC basket.

Conclusions: From both a payer and societal perspective, the current model estimates that LNG-IUS 12 is cost saving when compared to the weighted market mix of hormonal contraceptive methods, and results in fewer unintended pregnancies.

P292

Satisfaction of hormonal contraceptive users

O. Terasaka, T. Topis, M. Torloni, T. Boute,
F. Araujo, C. Guazzelli

Universidade Federal Sao Paulo, São Paulo, Brazil

Introduction: Hormonal contraceptives are a highly effective family planning method. However, each year an estimated 2 million unplanned pregnancies still occur worldwide in users of this method. Most of these pregnancies are not caused by method failure but are due to their irregular or incorrect use. We hypothesised that the incorrect use could be due to users being unsatisfied with the method.

Objective: To assess the degree of satisfaction of hormonal contraceptive users.

Material and methods: This cross-sectional study recruited women managed at the Family Planning Sector of São Paulo Federal University –UNIFESP. Participants answered the ORTHO Birth Control Satisfaction Assessment Toll, a self-responsive questionnaire created specifically for hormonal contraceptive users, including the pill, patches and vaginal rings. Sociodemographic variables were also collected.

Results: A total of 51 women were included. Mean age was 31.4 years and they had been using hormonal contraception for an average of 40.4 months. According to the questionnaire, 84% were satisfied with the method and 68% stated that it was easy to use. However, only 56% used the method correctly, according to the instructions of their gynaecologist. The most frequent complaints associated with hormonal contraceptive use were pelvic pain ($n = 37$), mood changes ($n = 35$), irritability ($n = 31$) and headaches ($n = 28$).

Conclusion: Although a large proportion of users reported being satisfied with their hormonal contraceptive and that it was convenient and easy to use, almost half of them did not use their method correctly. There is a need for more studies on the factors that lead to increased adherence to the use of hormonal contraceptive methods.

P293

Where are the missing victims of domestic and sexual violence?

N. Macdonald

*North West London Hospitals NHS Trust, Harrow
Contraceptive & Reproductive Health Services,
Caryl Thomas Clinic, Middlesex, London, UK*

Objectives: How good are we at identifying victims of domestic and sexual violence (DSV) and what prevents us from recognising them?

Method: A review of 10 separate domestic violence studies in 2002 by the Council of Europe showed consistently that 6 to 10% of women suffer from DSV in a year. Two women a week die as a result of DSV.

We undertook a staff questionnaire to ascertain how well we identify cases of DSV amongst our patients as well as our responses to their needs. Of all of our 14 doctors and nurses, 12 responded.

Results: Over a period of 6 months from June to November 2012, we saw a total of 7025 patients and we had identified an estimated 22 victims of DSV. Extrapolating these results, in a year only 0.62% of patients were identified as victims of DSV. Given the prevalence of domestic violence this means that we are failing to identify at least 90% of victims.

The main barriers that prevented staff from talking about DSV were time limitations within the clinic ($n = 11$), presence of partners during consultation ($n = 9$) and language difficulties (also $n = 9$). Only 50% of staff felt confident talking about the subject. With the exception of one health care professional all members of staff felt that they needed more training. Integrating key questions into our templates was considered to be beneficial by 9 out of 12 respondents.

Conclusions: Our data indicated that we failed to identify at least 90% of victims of DSV. The literature suggests that this figure may be higher, in particular in those women presenting for TOP referrals or emergency contraception. It also raises the question how to better identify victims. Limited training and time restrictions were identified as key limiting factors.

To meet the needs of this client group it is essential that there is a service wide implementation of a range of strategies to address the identified factors. These could include regular staff training sessions, dedicated appointments for follow up, general policy about partners not being present during screening process, easier access to interpreters as well as integrating key questions into screening process.

P294

The effects of anxiety among women over gynaecological examinations on their help seeking behaviours

S. Timur Tashan¹, D. Simsek Küçükkelepçe²,
Y. Aksoy Derya¹, T. Ucar¹

¹Inonu University School of Health, Malatya, Turkey,

²Adiyaman University School of Health, Adiyaman, Turkey

Objective: The purpose of this study was to identify the effects of anxiety among women over gynaecological examinations on their help seeking behaviours.

Methods: The study was conducted in a university hospital located in the Eastern Anatolia region of Turkey between December 2011 and March 2012. The sample was comprised of 250 voluntary women who had been admitted to the gynaecology clinic to go through a gynaecological exam. The data were collected by the researchers who used an information form and The State Anxiety Inventory (SAI). The data were analysed via such statistics as mean value, standard deviation, percentage, t-test, ANOVA, the Mann Whitney U test and Pearson's correlation analysis.

Results: The average age of the participants was 33.4 ± 10.0 . Nearly a quarter of them (24%) reported having a gynaecological exam for the first time in their lives. Moreover, they felt embarrassed (73.6%) and uncomfortable (61.6%) during the process. Nearly three out of four participants (74.8%) reported that the most uncomfortable experience was the fact that their privates were exposed. They also preferred to be examined by a female (46.8%) and caring (44.4%) doctor. It was found that their anxiety levels were not influenced by the reason for having a gynaecological exam or the time period between their complaints and exams. Similarly, their anxiety levels were not influenced by whether they were provided with an explanation or not ($p > 0.05$). However, those who had been provided with an explanation by a nurse/midwife had lower anxiety levels than those who had been informed by a doctor. The difference between the two groups was statistically significant ($p < 0.05$). Furthermore, it was found that the duration of the examination did not have an influence on their anxiety levels whereas they had higher anxiety levels as the number of exams increased ($p < 0.05$). The mean score of the participants in the SAI following the exam was 38.71 ± 4.96 , which suggested that their anxiety was mild.

Conclusions: The study concluded that the anxiety among women over gynaecological exams did not have an influence on the time when they visited a healthcare facility although they had higher anxiety levels as the number of exams increased. Their anxiety was mild and it helped to reduce their anxiety levels when they were provided with an explanation by a nurse or midwife.

P295

Changes in the carbohydrate metabolism of women on extended regimens of the vaginal contraceptive ring compared to combined oral contraceptives

T. Guazzelli, F. Barreiros, R. Barbosa, M. Barbieri, M. Torloni, C. Guazzelli

Universidade Federal São Paulo, São Paulo, Brazil

Introduction: Combined oral contraceptives (COC), one of the most popular and effective birth control methods in the world, offer several benefits but may affect lipid and carbohydrate metabolisms. New COCs containing lower doses and new, less androgenic progestins (desogestrel and drospirenone), may have fewer effects on carbohydrate metabolism. However, findings are still controversial with some reports indicating that even these less androgenic progestins may cause altered insulin response in COC users

Objectives: To analyse the glycaemic profiles of users of extended regimens of the vaginal contraceptive ring compared to oral contraceptives.

Methods: This study enrolled adult women (18 to 40 years) managed in the Oeste Paulista University gynecology clinic whom after attending an educative session on contraceptive methods, opted for extended contraceptive regimens. Participants used either a vaginal contraceptive ring (VCR) containing ethinylestradiol 2.7 mg and ethonogestrel 11.7 mg or COC containing ethinylestradiol 30 mcg and gestodene 75 mcg during 84 consecutive days followed by a 7-day interval, during 6 months. Women with a previous diagnosis of diabetes or carbohydrate intolerance and those using injectable contraceptives in the last 6 months were excluded. All participants had a complete physical and pelvic exam at baseline and collected blood at baseline and after 3 and 6 months to assess fasting glucose, insulin levels and perform the homeostatic model assessment (HOMA) test. Results were interpreted using the Brazilian cut-off for the HOMA test, which is 2.71. The ANOVA test was used to compare results of these exams over time.

Results: A total of 150 women (75 in each group) were included in the study. The main characteristics were similar in both groups (age, menarche, parity). There were no reports of pregnancy during the

study period and the rate of discontinuation at the end of 6 months was similar in both groups. Fasting glycaemia was normal (< 100 mg/dL) in all participants and remained unchanged throughout the study period in both groups. All participants had mean insulin concentrations within the normal range in both groups without significant changes during the study period. HOMA test results ranged from 1.88 to 2.02 in VCR users and from 1.89 to 2.04 for COC users and did not differ significantly between the groups.

Conclusion: Extended regimens of the vaginal contraceptive ring and oral contraceptives for 6 months do not produce significant modifications in the carbohydrate metabolism of users.

P296

Apolipoprotein changes in women using different contraceptives in an extended use regimen

T. Guazzelli, F. Barreiros, R. Barbosa, M. Torloni, C. Guazzelli

Universidade Federal Sao Paulo, São Paulo, Brazil

Objective: Combined oral hormonal contraceptives can influence atherogenesis and affect the cardiovascular system. Circulating levels of apolipoproteins (Apo) are better biomarkers for cardiovascular risk than lipoproteins. Contrary to lipids, Apo levels are genetically determined and less influenced by biological variables. The Apo B/ Apo A ratio is a simple way to assess cholesterol transport. This study aimed to assess apoprotein changes among users of extended regimens of contraceptives containing different types of progestogens.

Methods: After attending an educative session on contraceptive methods, 150 women who opted for extended regimens of two different types of oral contraceptives, one containing ethinylestradiol 30 mcg and gestodene 75 mcg (group 1) and the other, with ethinylestradiol 30 mcg and desogestrel 150 mcg, both used in an extended regimen (84 days followed by 7 days free of pills along 6 months). At baseline and after 6 months they all had a physical examination and collected fasting blood samples for the assessment of Apo A and Apo B levels. Apo B/Apo A > 0.8 was considered high.

ANOVA and paired t test were used to compare findings between groups using different types of contraceptives.

Results: A total of 16% ($n = 12$) patients in the 1st group and 12% ($n = 9$) in the 2nd group dropped out of the study before 6 months ($p = 0.59$). Demographic and clinical characteristics did not differ significantly between the two groups. There were no pregnancies during the study period. Changes in Apo A and Apo B levels did not differ significantly between the two groups during the study period.

Conclusions: Women using extended regimens of these two different types of contraceptives exhibit similar changes in apolipoprotein levels.

P297

Induced abortion in Jimma seven years after legislative change

K. Ivalu Bonnen¹, D. Negussie², V. Rasch¹

¹Department of Obstetrics and Gynaecology, Odense University Hospital, Odense, Denmark, ²Department of Obstetrics and Gynaecology, Jimma University Specialized Hospital, Jimma, Ethiopia

Objective: To assess the availability of safe abortion service and the problem of unsafe abortion in Jimma, Ethiopia seven years after liberalisation of the abortion law and to describe determinants of first and second trimester abortion.

Methods: Data on socioeconomic and reproductive characteristics were collected from October 2011 to April 2012 among 808 women having safe legal induced abortion and 128 women admitted with incomplete abortion. Women with unsafe abortion were identified among women hospitalised with incomplete abortion. The women were subsequently categorised as first trimester induced abortion, second trimester induced abortion and incomplete abortion. First and second trimester induced abortion were compared to a control group of women attending antenatal care. The associations between socioeconomic and reproductive characteristics and the occurrence of first and second trimester induced abortion are presented as odds ratios (OR) with 95% confidential intervals.

Results: Among 128 women with incomplete abortion, 10 (7.8%) were admitted due to complications after an unsafe abortion and 11 (8.6%) due to complications

after a legal abortion. In all 729 women were categorised as having first trimester abortion and 100 women as having second trimester abortion. Determinants of first trimester abortion were: age <19 years (OR: 2.06), being single (OR: 50.6), widowed or divorced (OR: 3.05), still attending school (OR: 4.53), having a high education level (OR: 1.69) and being nulliparous (OR: 1.36). Determinants of second trimester abortion were: age <19 years (OR: 4.22), being single (OR: 287), widowed or divorced (OR: 25.4), still attending school, unemployment (OR: 27.7), being nulliparous (OR: 3.77) or para 3+ (OR: 9.09), not using contraception (OR: 8.56), and high education level was inversely associated (OR: 0.32). Among women having first trimester abortion, 67% reported that they had ever used modern contraceptive, the same applied for 21% of the women having second trimester abortion and 69% of women attending antenatal care.

Conclusion: Seven years after liberalisation of the abortion law, safe first and second trimester abortion is accessible in Jimma town and the number of women hospitalized with complications from unsafe abortion not pronounced. These findings may have policy implications for other sub-Saharan Africa countries where safe abortion is illegal. The study additionally documents that women having induced abortion comprise a heterogeneous group of women with different socio-demographic characteristics and needs. Accordingly, sex education and family planning service must be directed towards the needs of various groups of women based on their socio-demographic characteristics and contraceptive experience.

P298

Hormonal contraception and seizure frequency

L. Sech, D. Mishell, F. Stanczyk

University of Southern California, California, USA

Objective: About 50 to 70% of reproductive age women with epilepsy have an exacerbation of their seizures during menses. Endogenous estrogen and progesterone are primarily responsible for affecting seizure activity. Estradiol increases neuronal discharge rates while progesterone decreases rates of axonal excitability in animals. Epileptic women receiving intravenous estrogen have increased

electroencephalogram abnormalities. One woman with seizures confined to the onset of menses demonstrated improvement following 3 injections of medroxyprogesterone acetate (MPA). Women with catamenial seizures had a 39% reduction in seizure frequency when treated with depo MPA. These studies support the belief that estrogen is proconvulsant and progesterone is anti-convulsant. In women with catamenial epilepsy, seizure frequency is increased during menses and at the time of ovulation in women with ovulatory cycles. It is believed that a lower estrogen/progesterone ratio needs to be maintained to reduce catamenial seizure frequency. This hypothesis is supported by the fact that pregnant women have a higher incidence of seizures at the end of the first trimester when the estrogen/progesterone ratio is highest. Despite the evidence regarding hormonal effect on seizures, the optimal hormonal contraceptive for women with epilepsy has not been established. The aim of this study was to review the evidence concerning use of hormonal contraceptive methods in women with catamenial epilepsy.

Design and methods: We searched PUBMED to identify manuscripts published in peer-reviewed journals from 1959 to December 2012 using keywords Seizure AND hormones, Hormonal contraception AND Seizure disorder, Hormonal contraception AND epilepsy, epilepsy AND hormones, and hormones AND catamenial epilepsy.

Results: Nearly all studies involving hormonal contraception and seizure frequency investigated the interaction between steroid hormone metabolism and anti-epileptic drugs. There are no randomised clinical trials of hormonal contraceptives impact on seizure frequency. A few descriptive human studies suggested that combined oral contraceptive pills when taken continuously may reduce seizure frequency whereas other studies demonstrated no change in seizure frequency. A recent randomized controlled trial of women with catamenial seizures treated with 200 mg oral progesterone during the luteal phase demonstrated no reduction in seizure frequency when compared to women receiving placebo.

Conclusion: No randomised clinical trials have addressed the effect of hormonal contraception on seizure frequency despite evidence showing progestins are likely beneficial. Studies of progestin only and combined steroid contraception should be undertaken to provide epileptic women with the most beneficial contraceptive method.

P299

Islamic counselling on contraceptive use and reproduction in Sweden: The sexual complexity revealed

J. Arousell, B. Essén, A. Carlborn

Uppsala University, Women's and Children's Health, Uppsala, Sweden

Introduction: Sexual and reproductive health and rights are often described as individuals' possibilities to decide when, how and with whom to have sex, and to make free choices regarding reproduction. One example of this view on sexuality is the Swedish Association for Sexuality Education's (RFSU) formulation and distribution of evidence-based guidelines on sexual and reproductive matters. Also hospital clinics in Sweden offer patients guidance following the same progressive approach.

Objectives: The main objective of our study was to explore Muslim women's and men's individual strategies for seeking guidance in matters related to sexuality and reproduction. For example: which sources are chosen for seeking information and how are they prioritised?

Method: Observations as well as qualitative in-depth interviews within the methodological framework of naturalistic inquiry were performed with Muslim women and men of reproductive age, living in Sweden.

Results: Preliminary empirical results suggest that counselling through Islamic Internet forums, Arabic television channels, religious lectures, and consultations with Imams are used to get both general guidance and answers on specific questions. The priority order between sources depends on the type of question asked. The Islamic counselling process is thus extensive and complex, where subjective attitudes are shaped in a religious, global context consisting of more normative sources than the evidence-based information provided by Swedish health care institutions. Other questions explored as part of the ongoing research are: What are the questions being asked in religious sexual and reproductive counselling? What is the content of the answers? And if Muslim women and men – as patients in the Swedish health care system – consult religious sources for a second opinion, what does this process look like? These issues will be further discussed in the conference presentation.

Conclusion: In our study, we argue for the need to map sexual and reproductive health and rights together with Islam. It is highly relevant to learn more about individuals' religious consulting processes but, still, the area remains under-researched. In conclusion, preliminary results propose that secular formulations of sexual and reproductive norms may be contested by a system of religious thoughts with partly divergent standards. An un-reflected, liberal approach to sexuality and reproduction held by Swedish health care facilities and constructions of ethnocentric advices could, possibly, counteract an effective sex and family counseling in a pluralistic society to take place.

P300

Post-abortion contraception in China: Two EC-funded collaborative research projects

W.-H. Zhang¹, S. Wang¹, Y. Cheng²,
M. Temmerman¹, PAFP Consortium,
INPAC Consortium

¹International Centre for Reproductive Health (ICRH), Ghent University, Ghent, Belgium, ²National Research Institute for Family Planning (NRIFP), Beijing, China

Background: In China, induced abortion has increased from 10 million in 2003 to 13 million in 2008, of which a large number is primarily due to contraceptive failure or no use of contraception. The Chinese Family Planning (FP) programme focuses mainly on birth control among married couples. Young, unmarried and socially disadvantaged groups such as rural-to-urban migrant women have little access to information or advice about contraception. Abortion is commonly used to end unintended pregnancy.

Objectives: To determine the characteristics of abortion seekers and to evaluate the effect of introducing Post-Abortion FP services on contraceptive use and abortion rate.

Methods: A cross-sectional survey was used to determine the characteristic of abortion seekers and a cluster randomised interventions was performed to evaluate two post-abortion FP services packages introduced into abortion clinics. Both studies were components of the EC-funded 6th Framework Program (PAFP: Post-Abortion Family Planning) implemented

in 24 abortion clinics in three cities of China, between 2005 and 2007.

Results: In total, 1189 women younger than 25 years of age were included in the baseline survey, among them, 37% had a previous induced abortion, the majority (74%) were unmarried women and more than half were rural-to-urban migrants. Unprotected intercourse (64%) and contraception failure (36%) were the primary reasons for the current induced abortion. The two intervention packages had a positive effect on contraceptive use and reducing the unintended pregnancy and abortion rate.

Conclusions: The current National FP Programme is not meeting the needs of young and unmarried women. Introduction of post-abortion FP services in China would increase the use of contraception and thus reduce abortion rates. Based on these findings, a new project under FP7 (INPAC: INtegrating Post-Abortion Family Planning Services into China's existing abortion services in hospital setting) testing the integration of Family Planning services into abortion services in a 'real world' in 30 provinces in China has started since August 2012 for a period of four years.

The PAFP consortium: ICRH, Belgium: Marleen Temmerman, Patricia Claeys, Wei-Hong Zhang; NRIFP, Beijing, China: Yimin Cheng; HNPIFP, Henan, China: Xiao Xu; SDC, Shanghai, China: Juncai Xu; ASSR/Uva, Amsterdam, Netherlands: Diana Gibson; AU-DESC Aarhus, Denmark: Jørn Olsen, Jinliang Zhu.

The INPAC consortium: ICRH, Belgium: Marleen Temmerman, Wei-Hong Zhang; Shuchen Wang; CMA-CSFP, China: Jian Li, Linan Cheng; FU, Shanghai, China: Xu Qian; NRIFP, Beijing, China: Shangchun WU; WCSUH, China: Lina HU; AU-DESC, Aarhus, Denmark: Jørn Olsen, Jiong Li; LSTM, Liverpool, United Kingdom: Rachel Tolhurst.

P301

Is it feasible to test the tolerance to etonogestrel implant?

D. Fini¹, J.-B. Dubuisson², M. Benaroch²,
T. Fraisse², B. Bischof², M. Yaron²

¹Morges Hospital, Department of Gynaecology and Obstetrics, Morges, Switzerland, ²Geneva University Hospitals, Department of Obstetrics and Gynaecology, Geneva, Switzerland

Objective: To evaluate whether three months treatment with oral desogestrel prior to subdermal etonogestrel implant usage could predict its tolerance.

Methods: This was a prospective pilot study at the Department of Obstetrics and Gynaecology, gynaecological ambulatory consultations, Geneva University Hospitals, Switzerland.

A total of 60 healthy women aged 18 to 40 years were given oral desogestrel in the form of an etonogestrel implant.

Side effects after three months trial with oral desogestrel were noted on a scoring chart formulated for this study. All patients were offered to continue with a subdermal etonogestrel implant. Women accepting the implant were followed up for 12 months.

Results: Data were available for 54 patients. After a three months trial with oral desogestrel, follow up was available for 90% of patients. Following etonogestrel implant insertion, 100%, 80% and 70% of the patients continued its use at 3, 6 and 12 months, respectively. Among those patients who scored ≤ 3 after the initial 3 months use of oral desogestrel, 80% tolerated well the subdermal etonogestrel implant after one year. However, 89% of patients who scored >3 on oral desogestrel refused the subdermal etonogestrel implant mainly due to excessive bleeding on the oral formulation.

Conclusions: The tolerance to subdermal etonogestrel implant can be tested with oral desogestrel. In the future, a randomised trial comparing initial oral desogestrel followed by etonogestrel implant versus etonogestrel implant only is recommended.