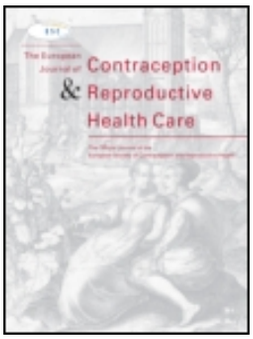

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Abstracts of Free Communications

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Abstracts of Free Communications

FC-01

How often and why do women discontinue their contraceptive method? Results from a French population-based survey

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Despite the widespread use of highly effective contraceptive methods in France (82% of contraceptive users use a medical contraceptive), one in every three pregnancies is reported to be unintended. Contraceptive disruptions are thought to be a significant contributor to unintended pregnancies. Thus, among women experiencing an unintended pregnancy leading to an abortion, a study shows that in 50% of the cases, women had changed their contraceptive method in the 6 months preceding the abortion, a majority switching to a less effective method or to no method at all.

Objectives In order to improve contraceptive adherence, it is critical to understand the motives underlying discontinuation. In this paper, we provide estimates of method-specific discontinuation rates among women in France, and examine the reasons that women give for doing so, including side effects, and method failure.

Design and methods Data for this study is drawn from the COCON survey, a population-based cohort exploring contraceptive practices and abortion in France. The survey comprised a representative sample of 2,863 women aged 18–44 interviewed by telephone each year between 2000 and 2004. Random effect hazards models were used to estimate probabilities of contraceptive discontinuation for method-related reasons (all reasons other than wanting to become pregnant or being no longer at risk due to absence of a male partner) during the 4 years of follow-up.

Results Discontinuation for method-related reasons varied widely by contraceptive: IUDs were associated with the lowest probabilities of discontinuation (10% within 12 months, 28% within 4 years), followed by the pill (22% and 51%, respectively). Condoms (43% and 87%, respectively) and fertility awareness-based methods (50% and 99%, respectively) exhibited the highest probabilities of discontinuation.

In further analyses, we will examine possible variations in discontinuation by method composition (for IUDs and pills). Likewise, we will examine the reasons for contraceptive disruption (including side effects and method failure).

FC-02

Comparison of patients from high risk population with vs. without thrombotic events while exposed to hormonal contraception

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Objectives Comparison of clinical parameters, predisposing factors (PF) and haemostatic disorders in women from a risk population with thrombosis vs. without thrombosis while exposed to hormonal contraception (HC).

Material and methods Analysis of 197 patients (pts) with thrombotic events exposed to HC, followed in the Thrombosis and Hemostasis Department of the Clinical Haematology Service. PF were: Arterial Hypertension (AHT), dyslipemia, obesity, smoking, diabetes, cancer and chemotherapy, Essential Thrombocitemia and Multiple Myeloma. Relevant haemostatic disorders (RHD) were the presence of genetic mutations (Factor V Leiden, Prothrombin G20210A (PT), MTHFR C677C and MTHFR A1298C) and deficiency of natural inhibitors of coagulation (Antithrombin III, Protein C (PCD), and Protein S), and Antiphospholipid Syndrome.

Results Group (Gp) 1 ($N = 140$): Pts with thrombosis while exposed to HC vs. Gp 2 ($N = 57$) pts with thrombotic events after HC cessation. Comparing both groups, concerning the first thrombotic event, pulmonary thromboembolism (PTE) (OR: 1.241 [0.622–2.475]) and venous vascular cerebral events (VVCE) (OR: 7.740 [1.005–59.607]) were more associated with Gp 1 pts, the last reached statistic significance (SS). The absence of a PF

(OR: 1.262 [0.678–2.350]) as well as just one PF (OR: 1.249 [0.662–2.354]) were risk factors for Gp 1. Obesity (OR: 1.237 [0.322–4.744]) and smoking (OR: 1.048 [0.452–2.430]) were particularly more related with Gp1 risks. Inversely, AHT (OR: 0.540 [0.233–1.249]), diabetes (OR: 0.667 [0.154–2.887]) and dyslipemia (OR: 0.491 [0.253–0.950]) were protection factors, the last reaching SS. Sedentarism (OR: 1.393 [0.613–3.167]) was a risk factor for Gp 1 pts, as well as family history (OR: 1.521 [0.815–2.840]). Personal antecedents (OR: 0.740 [0.384–1.426]) was less associated with pts from Gp 1. The absence of a RHD (OR: 1.076 [0.569–2.035]) was more relevant in Gp 1 pts although MTHFR C677C (OR: 1.629 [0.663–4.000]) and PCD (OR: 1.231 [0.241–6.290]) being risk factors in this group, despite not reaching SS. Conclusions: Pts with thrombosis while exposed to HC had PTE and VVCE more frequently, the last with SS. The absence of PF as well as just 1 PF, particularly obesity and smoking, was risk factors for these pts. On the contrary, AHT, diabetes and dyslipemia were protection factors for thrombosis while exposed to HC, the last reaching SS. Sedentarism and family history were more relevant. Despite absence of a RHD was mainly associated, MTHFR C677C and PCD were risk factors for thrombosis in pts under HC, but without SS.

FC-03

Review of emergency re-admissions after 1st trimester abortion: implications for service design and delivery

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Objectives To check the rate of re-admission due to complications in the local NHS Abortion Service and compare it with re-admission rates published in the RCOG Guideline 'The Care of Women Requesting Induced Abortion' and validate the benefit of using an integrated care pathway. The abortion service was brought under a single consultant lead in 1995 and an integrated care pathway developed upon evidence-based guidelines. This integrated care pathway is a way of documenting clinical information that demonstrates adherence to guidelines, has a checklist element to ensure clinician compliance, avoids repetition and identifies areas for audit and service redesign. Previous audits had demonstrated abortion complications leading to re-admission to be within the range quoted by the RCOG Guidelines.

Design and methods The service was altered to increase the role of the nurse and widen the clinical team. For local complication data to enable informed consent, a retrospective casenote review was undertaken covering the 6-year period 2000–2006.

Results There were 115 recorded re-admissions out of 8,476 medical or surgical therapeutic abortions undertaken at 14 weeks gestation or under. Of these, 15 were mis-codes. The total re-admission rate was therefore 1.2%, 0.9% of surgically induced and 2.4 of medically induced terminations. Very few readmissions were due to retained products (15 cases required ERPC). Re-admission rates by diagnosis and method of abortion will be discussed.

Conclusions The NHS service has an acceptably low risk profile. However, data outside the care pathway document, and hence the standard of care given, was difficult to locate in the casenotes. The current care pathway document commences with referral for termination of pregnancy and ends on completion of the patient episode. It does not cover re-admission. Adding re-admission episodes to the current care pathway would enhance its clinical benefit.

FC-04

Which women are at risk for repeated abortion?

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Objective Even if increasing availability of effective contraceptives and of contraceptive counselling lead to a remarkable reduction of unwanted pregnancies since 1960, abortion rates nowadays persist at a level of 7 to up to 50/1000 women throughout Europe. Targeting on women who present themselves with repeated unwanted pregnancy is supposed to be a strategy to further reduce abortion rate. Our objective was to define situations and women at risk for repeated abortion.

Design and methods We retrospectively analysed all abortions on demand performed at our clinic in 2004 with regard to socio-demographic characteristics, abortion technique (medical or surgical), history of previous abortion and contraception, as well as proposed future contraceptive method. Besides descriptive statistics chi-square tests were performed and odds ratios were computed comparing women with and without previous abortion(s).

Results Of 288 abortions performed, 167 (59%) were medical and 118 (41%) surgical. Half of the women were immigrants. 35% of the women had between 1and 4 previous abortion(s). 50% did not practise any method of contraception. The percentage of repeated abortion was higher in immigrants than in Swiss (39% and 24.5%, resp./OR 1.95 (95% CI 1.11–3.44)) and women with previous abortion(s) were less frequently using any contraceptive (60% and 47% resp./OR 1.68 (95% CI 0.98–2.88)). Long-term contraceptives were significantly more often proposed to women with previous abortion (71.8% and 38.0% resp./$p = 0.0001$).

Conclusions A third of the women presenting themselves with unwanted pregnancy had at least one previous abortion. No use of any contraceptive method at all is common in women with repeated unwanted pregnancy and immigrants are overrepresented with regard to first and repeated abortion. Besides use of long-term contraception as a preventive strategy, future studies should focus on prospectively evaluating pre-interventional counselling and target group specified and individualized approaches.

FC-05

Widening access for practitioners in Scotland to Sexual and Reproductive Health education through e-learning delivery: could this be developed for use in other countries?

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Background Scotland is a diverse nation with urban and rural populations. Sexual Health in Scotland is poor. There is a high unintended pregnancy rate and the rates of Genital Chlamydia, Gonorrhoea, Herpes, Genital Warts, Syphilis and HIV continue to rise[1]. To address this The Scottish Sexual Health Strategy (2005) has emphasized the importance of access to sexual health provision and the enhanced educational preparation of practitioners throughout Scotland[2].

Method A programme of Sexual and Reproductive Health education was designed to improve access for practitioners living in urban and rural Scotland (and International students) at Degree, Honours Degree and Masters levels. E-learning delivery was used to widen the access using 'Blackboard'. The teaching and learning strategy included the use of a range of contemporary materials including expert commentary and pictures on lectures, the use of video and interactive quiz.

Situated learning A variety of external links on the Blackboard platform offered a rich depository for shared learning. Supervised practice in validated clinical settings was undertaken. E-discussion and e-moderation was used to promote practice based discussion and reflective learning linked to the literature.

Evaluation An electronic evaluation tool was designed to measure the student's experience of the learning experience. The evaluation was highly positive.

Future? Since sexual and reproductive health is a global concern this design could be used or modified to deliver Sexual and Reproductive Health education in a wider range of international communities. Discussion and feedback from international experts could direct the possibilities.

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FC-06

Ten years of medical abortion services and innovations in Tunisia

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Objectives To understand the key lessons from the introduction, integration, expansion of medical abortion in Tunisia 10 years after its introduction and after use by more than 18000 women.

Design and methods Findings are based on a synthesis of clinical, programmatic and qualitative research data, including 5 clinical studies conducted with 1425 women between 1998 and 2008, a retrospective chart review of 3724 medical abortion cases conducted in 2005–2006, and qualitative research with users. We examined trends in clinical outcomes such as efficacy, safety and satisfaction as well as service delivery statistics and some national reproductive health indicators.

Results Tunisia has a relatively high CPR (60%) and a continuing trend towards decrease in the number of abortions performed annually. The proportion of medical abortions is a growing part of abortion, with 50 and 70% of women seeking abortion choose it over surgical methods in select sites. The integration and expansion of medical abortion in Tunisia occurred in multiple phases after the introduction of a simplified regimen (200 mg Mifepristone® plus 400 mcg oral Misoprostol® up to 49 days LMP) in 1998 in clinical trials. Physicians as well as midwives, who today offer the majority of medical abortions, were trained as providers from the start. A series of innovations have since shaped service delivery, these include an increase in gestational age to 56 and later 63 days LMP and home use of Misoprostol®. Alternative routes for Misoprostol® (i.e., sublingual) administration with potential advantages and access in the private sector were also added. Data show a gradual increase in the efficacy of medical abortion from 91.1% at introduction to 96.7% more recently. The ongoing pregnancy rate has consistently been consistently low 1.9% or less and complications are extremely rare ($<0.1\%$). Unmarried women represent 21% of users. Interviews with married and unmarried women reveal similar reasons for choosing the method and high satisfaction ($>90\%$). Recent trends show increases in loss to follow-up in some sites, possibly a result of increased confidence in the method but also limited access in the private sector, and increasing reliance on ultrasound for follow-up requiring long wait times for women. Plans exist to address these issues in the national expansion of the method to all regions of Tunisia starting 2008.

Conclusion The lessons learned from the introduction and expansion of medical abortion services in Tunisia are important for future expansion and for other countries wishing to effectively integrate the method to broaden women's access and choice to safe abortion services.

FC-07

How do men with subnormal semen values react to hormonal male contraception?

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Objective Hormonal male contraception based on testosterone alone or a combination of testosterone with a gestagen has been shown to suppress spermatogenesis effectively and to be fully reversible. However, clinical studies to date have only included volunteers with so-called ''normal'' semen values by WHO standards. Since this criterion is not met by all volunteers (and potential users), a substantial part of the male population has been excluded from these trials so far. As a male contraceptive should be available to all interested men regardless of their semen parameters, we investigated how volunteers with subnormal semen parameters would respond to hormonal male contraception.

Designs In a 34 week treatment phase the volunteers received injections of 1000 mg testosterone undecanoate in weeks 0, 6, 14 and 24. This was followed by a 28 week recovery and follow-up period. Since it was not known whether men with subnormal semen parameters would recover to starting levels after cessation of treatment, cryopreservation of semen samples was offered to all subnormal volunteers. 23 men with normal semen parameters and 18 with sperm counts below 20 million completed the trial.

Results Using this injection scheme the normal volunteers showed the expected response with 17 suppressing sperm counts below 1 million/ejaculate (13 showing azoospermia) and 6 not-suppressing below 1 million sperm/ejaculate. By the end of the recovery period all sperm counts had returned to the range of starting values. The subnormal group showed a similar pattern with 13 men suppressing below 1 million/ejaculate (9 showing azoospermia) and the remaining 6 not suppressing sperm counts below 1 million/ejaculate. During the recovery phase all sperm counts returned to the starting range.

Conclusions The study shows that in Caucasian men with normal sperm counts as well as in men with subnormal sperm counts testosterone alone can produce azoospermia in about ½ and suppression below 1 million in about 2/3 of the volunteers. The same proportion of men in both groups appears to require an additional gestagen for full contraceptive protection. Most importantly, regarding suppressibility and reversibility, volunteers with normal and subnormal sperm counts display the same pattern.

FC-08

Contraceptive failure related to early ovulation

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Objective The objective of this study was to determine the cycle date of conception using LMP and endovaginal ultrasound in women presenting for abortion. It is routine in many abortion clinics to do endo-vaginal ultrasounds prior to abortions in early gestations. This allows accurate determination of the date of conception. Anecdotally, it was observed that many women had conceived early in their cycles. Our hypothesis was that there is a subset of women having contraceptive failure because they ovulate early and therefore their method of contraception is ineffective.

Method This was a retrospective chart survey of data we normally collect in our abortion clinics, i.e., the LMP dates, whether the cycle is regular and the last period normal, the gestational age of the pregnancy, what form of contraception was used during the month of conception and why the woman thought her contraceptive failed. We analyzed this data to determine what percentage of women ovulated before Day 10 during the month they conceived.

Results There were 913 charts reviewed of women presenting for an abortion with an intrauterine pregnancy of less than 63 days gestation as determined by endovaginal ultrasound and who said they were 'sure' of the date of their last normal menstrual period. Their mean age was 28.4 years with a range of 14 to 47 years. The mean gestational age was 42.3 days with a range of 32 to 63 days. About half were white Caucasians and most of the rest of Asian descent. The mean cycle day of conception was 14.6 with a range of 1 to 40and the mode was 15. There were 26/99 (26.3%) of women using cyclic hormonal contraception who conceived before Day 10 of their cycle compared to 100/679 (14.7%) using all other forms of contraception. ($p = 0.004$). There were no other differences in day of ovulation with respect to age, ethnicity.

Conclusion There is an important subset of women who ovulate early and therefore the usual pattern of hormonal contraception may have a higher failure rate for these women. This information would help explain why continuous hormonal contraception is more effective than periodic. Those women who ovulate early or late in their cycles would have high failure rate if using rhythm as their contraceptive method.

FC-09

Supporting primary healthcare professionals providing crisis pregnancy care in Ireland

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Objectives To develop and disseminate crisis pregnancy guidelines for primary healthcare professionals in Ireland.

Design and methods Abortion is illegal in Ireland. It is legal however for a woman to access abortion outside of Ireland and at least 10% of conceptions result in abortions overseas. Women with crisis pregnancies require support in deciding on their options, securing information on overseas abortion services if that is their chosen option and accessing

post-abortion care. There is a legal obligation on those providing crisis pregnancy counselling to do so in a non-directive fashion. In collaboration with the Crisis Pregnancy Agency, the Women's Health Programme at the Irish College of General Practitioners developed and disseminated two guidelines for general practitioners and practice nurses on the care and management of women with crisis pregnancy and after abortion.

Results Development of the guidelines required international literature review, review of the legal and ethical obligations on Irish healthcare professionals and securing agreement from the Irish College of General Practitioners. The guidelines were agreed, published and launched in 2004 and 2006 and are now utilized in GP training and continuing medical education. Evaluation of the impact of the guidelines is planned.

Conclusions Abortion is a sensitive topic in all cultures and we found the development and dissemination of guidelines in the Irish context challenging. Particularly, there remains a strong lobby against abortion on a societal level which may negatively influence a woman's access to impartial counselling in crisis pregnancy. However early indications are that our guidelines are broadly acceptable to primary healthcare professionals and have improved their competency in dealing with crisis pregnancies and provision of post-abortion care.

FC-10

To screen or not to screen . . . are current guidelines for screening all women for Chlamydia under age 25 being followed in primary care and at family planning clinics?

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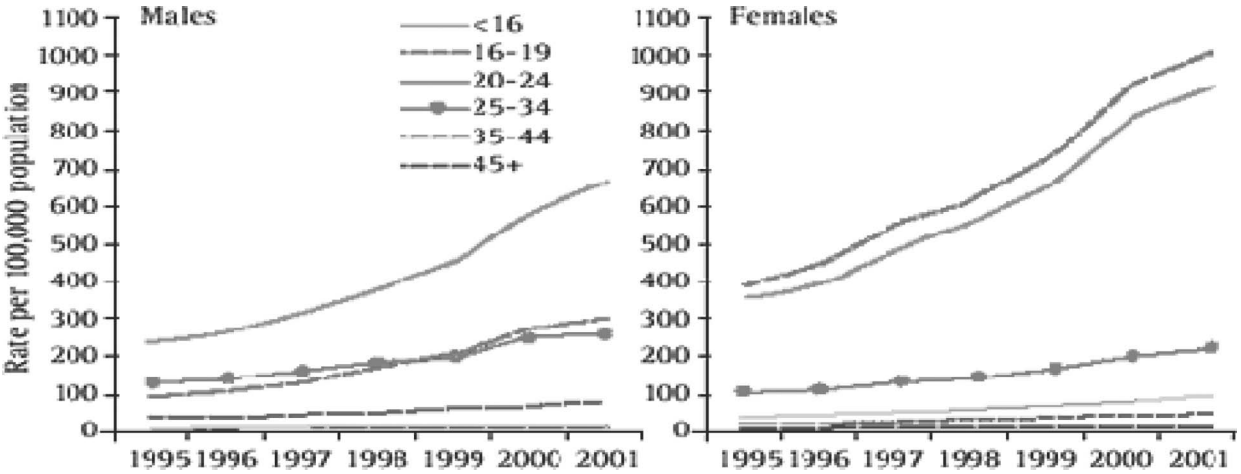
Introduction *Chlamydia trachomatis* (CT) infection is the most common curable sexually transmitted infection in England. CT is largely asymptomatic. Less than 10% of prevalent infections are diagnosed and therefore a significant number of women remain untreated and at risk of developing complications. NICE recommends that health professionals in all areas should take action. The identification of high risk individuals with thorough sexual history at times of contraception request, pregnancy or abortion and when carrying out cervical smear should be undertaken and a screening test offered where appropriate. The aim of this audit was to determine whether all appropriate patients, under 25 years of age, were offered CT screen in two settings of Family Planning (FP) and General Practice (GP). The audit standard was 100% of eligible clients should have been offered a CT screening test.



Method We identified all clients under 25 attending the Family Planning clinic during March 2007. Case notes were retrieved and all consultations were checked for evidence of an offer of a CT screening test. In general practice women under 25 attending for any contraception issue were identified using the patient electronic database. Notes were then manually searched.

Results In FP 47 patients were seen (mean age 18.5 years). Two women were attending for CT treatment and were excluded. Thirty-eight clients were offered a CT screen (84.4%) and of those, 9 had a CT screening test. Of those declining, valid reasons were given. In GP 61 patients were seen (mean age 19.5 years), 12 were offered a CT screen (19.7%) and of those, 4 had a CT screening test. Of those declining, valid reasons were given.

Conclusion The results for both areas were disappointing and there is potential for improvement. Staff in FP receive specialist sexual health training and are part of the National Chlamydia Screening Programme. In GP the results are particularly poor; this may be due to lack of specific training, time pressures or that sexual health is not a recognized target for family doctors. Following this audit both sets of staff have received training to raise awareness and make the offer of opportunistic CT screening a routine part of health care for under 25s.

FC-11

First sex: an opportunity of a lifetime for HIV/AIDS prevention

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Objectives Various international studies demonstrate that non-use of condom and/or contraception at first intercourse in itself predicts subsequent high-risk behaviour[1]. Thus, the main objective of this study is to demonstrate what factors influence most condom/contraception use at first sex around the world.

Methods Findings from this study are based on responses to the 2007 Durex Sexual Wellbeing Global Survey which was carried out in July and August 2006 in 26 countries across all regions of the world. The sampling for each country was based on a maximum margin of error of 3% ($N = 1000$) for a 95% confidence interval. Out of the 26,032 responses in total, 22,292 respondents were sexually active. A multiple logistic regression model was developed to identify predictor relationship between 13 independent variables and condom/contraception use at first sex.

Results Gender, age of the respondent, income, education, age at first sex, relationship status, readiness, forced sex and planning for first sex (e.g., discussing it with parents) are predictors of condom/contraception use at first sex (p-value < 0.05). Nevertheless, under the influence of alcohol/drugs, area of residency, feeling at risk of STIs and risk of pregnancy were not associated to the main outcome variable. Findings confirm that older people were significantly less likely to have use condoms/contraception when they lost their virginity. Individuals who had not planned their first sexual experience were 75% less likely than those who had planned to have used condoms/contraceptives at first sex. For age at first sex, associations were found up to the age of 17. After that, association is insignificant.

Conclusions By highlighting some key predictors, the study identified areas that merit further attention and which have a direct bearing on HIV/AIDS and STI prevention activities: (a) the need for older populations to receive continuous support and sexual education; (b) re-emphasizes the importance of planning for first sex; and (c) for youngsters, simply promoting abstinence or postponement of first sex is not enough.

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FC-12

Tracking the evolution of contraceptive service provision in general practice in Ireland between 1999 and 2004

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Objectives Access to a comprehensive range of contraception options in general practice has been identified as a priority in Ireland by women themselves, by government and by general practitioners. Accurate information from general practice is needed to track the development of contraception services, to measure progress and to identify drivers to change and ongoing gaps.

Design and methods A combined qualitative and quantitative methodology was employed. Two national questionnaire surveys, in 1998 and 2004, were circulated to a random 30% of Irish GPs in each case, with response rates of 70.5% in 1998 and 60.2% in 2004. The 1998 survey was preceded by a series of focus groups to identify key issues. The 2004 survey was followed by a series of semi-structured interviews to explore drivers to change.

Results Significant increases were seen in the numbers providing hormonal contraception (97.3% to 99.5%; $p < 0.05$), emergency contraception (90.4% to 97.1%; $p < 0.01$), intrauterine contraceptive device advice (68.8% to 90.3%; $p < 0.01$) and fitting (17.1% to 35.4%; $p < 0.01$), pregnancy counselling (95.3% to 99.1%; $p < 0.01$) and medical care after abortion (88.4% to 95.4%; $p < 0.01$). A significant decrease was seen in the provision of natural family planning (82.8% to 74.7%; $p < 0.01$). Reasons for these changes were identified. Overall, 85.6% of GPs provide four core contraceptive services. Access to a female healthcare professional has risen from 77.4% of practices in 1998 to 90.1% in 2004, with corresponding increases in the numbers of female GPs (from 30% to 42%) and practice nurses (from 46.0% to 71.7%). Female GPs and those working in group practices with access to female healthcare professionals provided a greater range of contraception services. No geographical differences were identified. GPs referral patterns had changed between 1998 and 2004 with a move towards referral to other GPs for the services they themselves do not provide rather than to family planning clinics. The major gap identified was in informing women of the services provided, with little changes in the promotion of services seen between 1998 and 2004.

Conclusions This study identifies significant changes in the contraceptive services being provided and the profile of service providers and provides an evidence base for evolving policy, models of service provision and prioritising future training and research.

FC-13

Using of transdermal hormonal contraception by women with a scar on the uterine

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Since the number of women who have undergone myomectomy or Caesarean section has been increasing, preservation of reproductive functions of those patients some time after the operation presents new challenging tasks. In spite of a wide range of contraceptives, the question of contraception methods with women having a womb cicatrix remains problematic.

Contraceptives used by the patients of those groups must be highly effective, safe, of minimum system influence, because these women, firstly, have been operated on for hormone-dependent tumor, and, secondly, the majority of them breast-feed during the selection of a contraceptive.

In this connection, we have studied the advisability of contraception in 32 women with a womb cicatrix after conservative myomectomy (1st group), and in 31 patients after Caesarean section (2nd group). These studying were observed during 6 months. All the patients were aged from 25 to 34.

Distant effects of the state of reproductive function with women operated on for myoma and after Caesarean section testified. Thus, in half of the observations, women after myomectomy had their menstrual cycle normalized, and women with long-term infertility became pregnant already in the first 2–3 months after finishing using of transdermal contraception. Preservation of reproductive function allowed every other woman to have a second or a third baby.

In each group the introduction of transdermal contraception was carried out in a year after the operation. Post-operative period in all the patients went without any complications.

Analysis of distant effects of contraception showed that advisable terms for using of transdermal contraception can be: in case of myomectomy – during a year; in case of Caesarean section – not earlier than 2–3 years after operation.

The study of acceptability of transdermal contraception for women with a scar cicatrix after a Caesarean section and myomectomy showed that this method of anticonception is highly effective and safe for this category of patients, does not influence lactation and does not lead to the increase in recurrence of myoma.

FC-14

Factors affecting awareness about emergency contraception among college students of Kathmandu, Nepal

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Objective In Nepal, where emergency contraception (EC) could play a critical role in reducing unintended pregnancies, very little is known about it. The main objectives of the paper are to investigate awareness level and influencing factors of awareness about emergency contraception among college students.

Design and method A cross sectional study was carried out in April–May 2006. Structured self-administered questionnaires were administered to 1137 college students (573 boys and 564 girls) in Kathmandu district. Association between awareness about EC and the explanatory variables were first assessed in bivariate analysis using the Chi-square test. The associations were further explored using a multivariate logistic analysis.

Result Only about two-thirds of the College students (68%) had ever heard about EC. Bivariate analysis shows that boys were more aware (72%) about EC compared to girls (64%). Similarly, awareness level was significantly higher among younger, unmarried, who were from outside Kathmandu valley, who lived with a friend or alone and who had received Reproductive Health (RH) education in school/ college than their comparison group. The study also found that few of these variables such as sex of the students, district and RH education are significant predictors for having awareness about EC. Boys are 1.5 times more likely to be aware about EC compared to girls. Student who lived in Kathmandu valley were 41% less likely to have awareness about it than students from outside Kathmandu valley. On the other hand, those students who received RH education in school were almost 9 times more likely to be aware about EC compared with those who did not receive RH education in school/college.

Conclusion Health education initiatives should target students as they are more likely to be sexually active at a young age and are less well informed about emergency contraception. There is a need to further educate students about EC which can help reduce unintended pregnancies, many of which result in unsafe abortion and take a large toll on women's health.

FC-15

Evaluation of reproductive health training of soldiers at the first army of Turkish armed forces

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Objective In this study, we have aimed to evaluate some detailed results of reproductive health training in the First army as a part the reproductive health program of Turkish Armed Forces (TAF). For this purpose registries on training sessions have been gathered from first Army reproductive health classrooms and they were examined after entering in a SPSS file.

Material and methods Hard copies of Registries on training results from the sample of 9 reproductive health classrooms from Istanbul (6) and Tekirdağ (3) provinces between November 2006 and February 2007 have been collected and they were examined after entering in a SPSS file.

A Pre-test was given to the participants at the beginning of the one-day training course while a post-test was given at the end of the session. Both tests included the same 25 questions on RH issues. Every correct answer is scored with 4 points with a maximum score of 100. Total pre-test and post- test mean scores and scores for 5 sub dimensions of sexual health, STIs, contraceptives, safe Motherhood, and gender, were estimated. By deciding 60 points as cutting point, achievement of soldiers was also evaluated. Total Pre and posttest mean scores were compared between groups

according to the achievement, hometown, and region of residency, educational level, and marital status. Furthermore, Relative efficiency, Efficiency attributed to training course and Efficiency Ratio has been also calculated.

Results The mean pre-test score of soldiers is 60.4 ± 21.0 and it has been significantly increased up to 82.8 ± 14.5 after the training course ($p < 0.05$). This significant increase was also found for each of sub dimensions similar to total score ($p < 0.05$).

While 52.5% of soldiers have been successful on pretest, this percent has been rise up to 93.1% for the post test ($p < 0.05$). The achievement rate before and after training have been increased up by age and educational level.

The relative efficiency of intervention as 6.9, efficiency attributed to training as 40.6%, and efficiency ratio as 85.5% have been estimated.

Conclusion Turkish young males get some information before military service on certain reproductive health issues relating men's health such as sexual health and STIs. But involving in reproductive health training sessions improves their awareness on reproductive health issues relating women's health.

FC-16

The value of a holistic approach to Family Planning Clinics and Youth Clinics from a public health perspective

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In Sweden the role of family planning clinics and youth clinics has been extended and gradually developed since the 1980s. They now not only provide contraceptive counselling but are intimately involved in the prevention of other serious health problems that may affect teenagers and young people, e.g., sexually transmitted infections (STI), smoking and obesity. The aim of this study was to illustrate the outcome of this holistic approach in three generations of 19-year-old women born 1962, 1972 and 1982 and relate these findings to socioeconomic status.

Material and methods Contraceptive use, smoking and body weight as well as other important reproductive health factors were assessed by means of a postal questionnaire distributed to three cohorts of 19 year old women in 1981, 1991 and 2001 obtained at random from the total population of women. The number of *Chlamydia trachomatis* (CT) infections among teenagers was obtained from the Department of Communicable Disease Control.

Results Contraceptive use was unchanged between the 62 (60%) and 72 cohorts (62%), but had increased ($p < 0.01$) in the 82 cohort (78%). Condom use alone increased over time ($p < 0.01$) and the use of oral contraception and a condom together had increased in the 72 and 82 cohorts compared to the 62 cohort ($p < 0.01$). There was no difference in the prevalence of contraception between different socioeconomic groups. The percentage of women who had been pregnant ≤ 19 years of age in the 1982 cohort (7%) was lower ($p < 0.01$) than in the 1962 (11%) and 1972 (13%) cohorts. The incidence of CT infections was unchanged between 1991 and 2001 despite increased condom use, but was no longer influenced by socioeconomic class at the end of the 1990's. Smoking decreased over time, was more common ($p < 0.05$) in the low socioeconomic group in the 62 cohort but not in the 72 and 82 cohorts. BMI increased ($p < 0.01$) over time. There was no difference in BMI between socioeconomic classes in the 62 and 72 cohorts but was higher in the 82 cohort ($p < 0.05$) in the low socioeconomic group.

Conclusions These findings support the value of Youth clinics and Family Planning clinics for not only contraceptive counselling and prevention of unplanned pregnancy but also for public health measures such as prevention of smoking and CT as well as their potential for combating obesity.

FC-17

Evaluation of contraceptive activity of some traditional medicinal plants in male rats

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Objective Traditional medicine based on herbal remedies has been used in the health systems of many countries for effective curing of various ailments. Uncontrolled and unchecked human population creates so many problems to sustainable development in most developed and developing countries. Plants and their products have been used to control human fertility in different systems of medicines. Our aim was to search out an easily administrable, cheap, safe, orally effective and reversible male fertility regulating agent from plants – ethanolic extracts of *Withania somnifera*, *Martynia annua, Solanum xanthocarpum, Citrullus colocynthis* and *Euphorbia neriifolia* were administered orally at different doses in male rats.

Materials and methods 100–150 gm body weight adult fertility proven healthy male rats were used for the study. All the animals were distributed into four treatment groups in each experiment, each group contain 10 animals. The 50% ethanolic extracts of these plants were prepared according to WHO protocol. A required quantity of the drug was prepared freshly daily in sterile distilled water and administered orally for 8 weeks at different doses. The animals were maintained under controlled conditions in a well ventilated animal room. After 55 days male rats were mated with females. Next day after completion of the treatment, the body weights of animals were recorded and vital as well as reproductive and accessory reproductive organs weights were recoded after removing the adherent tissues. The blood, serum, testis and pieces of sex accessory reproductive organs were processed for hematological indices and biochemical estimation of blood sugar, protein, glycogen, sialic acid, fructose and ascorbic acid contents. Right side testis, epididymides, vas deferens, seminal vesicles and ventral prostate and pieces of vital organs (i.e., heart, liver and kidney etc.) were fixed in Bouin's fluid, washed and then dehydrated in graded ethanol, and embedded in paraffin wax.Sections were made by microtome and stained Haematoxylin and eosin for the evaluation of histopathological effects. Sperm motility and density were estimated. The study was carried out under the supervision of ethical committee of the Department of Zoology, University of Rajasthan, Jaipur and CPCSEA guidelines were followed for the maintenance and use of the experimental animals.

Results The results of the investigations suggest antifertility effects of the extracts. The protein, sialic acid, fructose, ascorbic acid contents were reduced significantly in rats after the extracts treatment probably due to in sufficient supplies of androgens. The degenerative change in seminiferous tubules leads to reduced number of spermatozoa in the lumens. Microscopic observations of the testis, epididymis, vas deferens, seminal vesicles and ventral prostate of the extracts treated rats reveal degenerative changes in the germinal epithelium. The spermatogonia, spermatocytes and mature spermatozoa numbers reduced in tubules after the extracts treatments. The motility and density of sperms declined significantly in all rats treated with the extracts.

Conclusions The ethanolic extract of the *W. somnifera*, *M. annua*, *S. xanthocarpum*, *C. colocynthis* and *E. neriifolia* in rats cause degenerative changes in the germinal epithelium, reduce spermatogonia, spermatocytes and mature spermatozoa in the lumen of seminiferous tubules due to androgen deprivation resulting in reduction of weight of testis and other sex accessory organs and decreased sperm motility, density and fertility of treated rats.

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FC-18

Completing abortion safely – how 'little' is needed to save lives

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Background Competency Based Emergency Obstetrical Care Training (EmOC) is a complex training designed for midwives in basic life-saving obstetric skills which has been so far implemented only in a few countries. It consists of theoretical and practical training of management of various obstetrical complications such as bleeding in early and late pregnancy and delivery, management of non progressing labour and non vertex deliveries as well as management of pregnancy-induced hypertension, preeclampsia and eclampsia and other complications.

The programme consists of 3 weeks of lectures accompanied by training of practical skills including manual vacuum aspiration (MVA) and vacuum delivery. The skills of participants are evaluated regularly during the training and 6 weeks after the course is finished. The participants are then obliged to practice in their own community and come for re-evaluation of the skills six months after finishing the course.

In 2005 an extensive countrywide EmOC training programme was introduced and run in East Timor under the auspices of Ministry of health, UNFPA and WHO. East Timor is a small Asian country of 1 million people with highest fertility rate in the world, highest maternal mortality in Asia and very high estimated neonatal and under 5 mortality. In spite of government promotion, contraceptive methods are not widely used. There were only 3–4 expatriate obstetricians/gynaecologists in the country practising in two hospitals, and around 150 midwives. All health posts are staffed by midwives only, who are responsible for managing complications, identifying critical patients and transferring them to hospitals.

Conclusion It was proved that if trained properly, the midwives have huge potential in preventing deaths due to complications caused by pregnancy.

One of the most successful parts of the training was training of manual vacuum aspiration (MVA) used mainly for completing spontaneous or illegally induced and septic abortions. It was proved that the procedure can be performed safely even in a very primitive setting without anaesthesia by trained midwives. The consequences of a saved life of a woman for the community are immense.

FC-19

The Swing IUS: innovative design for intrauterine contraception

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The two most common reasons for IUCD discontinuation are removal for bleeding and pain. It has been known for a long time that reducing the size of the IUCD and making it more flexible may lower the need for removal for bleeding and pain. The T-shaped IUCD was first evaluated in the late 1960s, and with a few modifications has been extensively used since that time. The hypothesis behind the T-shape based on the anatomical shape of uterine cavity, however, with modern technology of hysteroscopy, we were privileged to have more accurate observation and study of the virtual uterine cavity. This allowed us to offer an innovative design that provides the best fitting device inside the cavity without complications of embedding, bleeding and pain. Our patented design enjoys semi-frameless skeleton and extreme flexibility that conform to shape of ante or retroverted uterus. Hence provide the best comfortable settlement inside the uterus. The device was basically designed to be either carrier for copper or Hormone. This will satisfy updating technology in intrauterine contraception. We conducted our study upon 200 cases randomized between Swing IUS and copper T 380 for period of follow up about 28 months. There was no statistically different rate in spontaneous expulsion between copper T and Swing IUS. The hallmark statistically significant finding was the appreciable lower rate of bleeding and pain in Swing IUS group. While, bleeding complains occurred in 23% of copper T users, we faced only 7% in Swing group.

Pelvic pain and dysmenorrheal were statistically lower in Swing users 4% versus 17% in copper IUD users. Pregnancy on top of IUD occurred in one case of Swing group.

Our presentation will include video clips showing the fitting of Swing inside uterine cavity compared to other IUD designs.

FC-20

Contraception in the postnatal period

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According to the results of epidemiological researches the probability of pregnancy within 1 year after labour is 10.3–11.8%. The use of many contraceptive agents is limited by physiological features of the postnatal period, including breast feeding.

The purpose of our research was to study hormonal-immune interrelations at the use of

intrauterine device on the background of breast feeding in the postnatal period. During investigation the complex examination of 58 women was carried out. I clinical group included women who suckled their children and they were introduced Multiloud Cu 250 system on 6–8 week of the postnatal period. II clinical group included patients who used Mirena®-T intrauterine system at the same period. All patients were carried out complete clinical examination; bacteriological and bacterioscopic investigation. The quantitative analysis of estradiol, progesterone, cortisol and prolactin in blood serum was carried out by the electrochemiluminescent method. Determination of concentration of cytokines IFN-γ, IL-1, IL-8, IL-4 in blood serum was carried out by the method of immunoenzymatic analysis. A level of hormones and cytokine profile was determined at the moment of introduction of intrauterine device and in 3 and 6 months after introduction. Statistical processing of the material was carried out by the method of variational statistics calculated by means of Microsoft Excel 2000 program for Windows XP. In the postnatal period in all examined patients we observed the decrease in a level of sexual hormones (estradiol and progesterone). However, in group II the level of estradiol in 6 months after labour was authentically higher than in group I, that is, in our opinion, connected with local action of levonorgestrel in uterus. In II clinical group dynamics of cortisol had monophase character of active involution after labour with the subsequent normalization. However, at the use of intrauterine Multiloud Cu 250 the level of cortisol was authentically higher. At determination of cytokine profile it was established, that in clinical group I on the background of use the Multiloud Cu 250 system the increase of the level of IFN-γ, IL-1β, IL-8, which are important in realization of inflammatory reaction took place. The increase of IL-4, participating in inflammatory reduction was observed too. In clinical group II, we observed the unidirectional change of concentration of pro-inflammatory and anti-inflammatory cytokines during the postnatal period. The low risk of inflammatory diseases of organs of small pelvis is partly explained with the use of Mirena® system, and naturally, this low risk is corresponded to the development of ectopic pregnancy.

Conclusion The use of Mirena® system in the postnatal period is preferable.

FC-21

Deciding on abortion – an illusion of power – in-depth interviews with Swedish teenage girls three weeks after abortion

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Objectives The aim was to explore circumstances behind unintended pregnancy and contraceptive failure among young Swedish women, and to investigate the women's perceptions of contraceptive responsibility, decision making process and received support in relation to abortion.

Design and methods Individual qualitative in-depth interviews among 25 young women aged between 16 and 19 were performed three weeks after induced abortion. The women were recruited from two hospital family planning clinics in Sweden. Interviews were tape-recorded, transcribed verbatim and analyzed by latent content analysis. A gender-oriented perspective was applied to illustrate and discuss issues connected with unwanted pregnancy and abortion.

Results Main reasons for unplanned pregnancy were underestimation of pregnancy risk combined with inconsistent contraceptive use.

Pregnancy prevention was foremost perceived as the woman's responsibility, but negative attitudes towards hormonal contraception combined with the partner's reluctance towards condom use and also deficient knowledge about the menstrual cycle, often resulted in lacking motivation for using protection.

Many expressed feelings of guilt about the contraceptive failure, but few had moral concerns regarding the abortion, which was seen as a difficult but yet natural choice.

Social norms greatly influenced the abortion decision and continuation of the pregnancy was strongly discouraged by parents, partners and peers. Especially women who were ambivalent during the decision making process felt they were persuaded towards termination.

Despite extensive contraceptive counselling, motivation regarding post abortion contraceptive use varied widely.

Conclusions The basic right of Swedish women to decide on abortion may be limited by the societal norm and widespread disapproval of teenage childbearing. The perception of women as main responsible for pregnancy prevention acknowledge that sexual responsibility needs to be considered a gender issue and that efforts are needed to include males to take greater part in prevention practices.

FC-22

Induced abortion on request: who, how and what comes next?

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Introduction Unsafe abortion is an important cause of maternal morbidity and mortality and measures have been taken worldwide to allow the realization of abortion as a safe medical procedure. In Portugal, induced abortion on request was legalized in April 2007 up to the 10th week of gestation.

Objectives Analysis of the data on the induced abortions realized in a tertiary referral hospital with special emphasis on the characteristics of the women who request it, the used methods and post-abortion contraceptive choices.

Methods Prospective study with analysis of the data of the induced abortions realized in our institution from July 2007 onwards.

Results Preliminary results show that during the first five months 267 women were referred to our institution in order to proceed with abortion on request. Mean age was 29 years (14–45 years) and 41% were primigravidas. Mean gestational age at first visit was 7w 5d (5–10 weeks). Though psychology consultation was proposed to all the women, only 44 (16%) consented to it. 253 (95%) women were submitted to medical treatment exclusively during the abortion, while 14 (5%) also needed surgery due to persistence of products of conception. After abortion 207 (77%) women chose a hormonal contraceptive method.

Discussion Even where family planning is widely accessible, unwanted pregnancies occur, which women seek to end by induced abortion. Demographic characteristics of the population who undergo induced abortion vary widely; the best therapeutic regimen is still under discussion. The most adequate post-abortion contraception has to be adapted individually in every case.

FC-23

Assessing the quality of service provided by a community-based vasectomy unit – the consumer viewpoint

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Background Our community-based vasectomy unit undertakes 500 vasectomies a year. As part of the clinical governance process, service evaluation from the patients' perspective is essential. No prior review from the consumer viewpoint has been conducted. It was therefore decided in line with national guidance to undertake an assessment of service provision in terms of access, process, outcome and quality, for the vasectomy unit.

Methods A prospective questionnaire was administered to 150 consecutive men attending for vasectomy from February to June 2007. Following surgery patients were given the questionnaire with a stamped addressed envelope (SAE) to return at 2 weeks. Postal reminders with SAE were sent out at 4 and 8 weeks.

Results The response rate was 73%. 102 men (93%) were satisfied that the vasectomy unit was a high quality service. Other aspects of the service with high satisfaction were ease of understanding of written information (93%) and ease of talking to staff. Almost half of the men were equivocal or agreed that vasectomy was frightening and embarrassing. Men aged under 40 were significantly more likely to be equivocal or agree that vasectomy was embarrassing

and prefer a male surgeon compared to men over 40 ($p < 0.02$). More written information regarding preoperative shaving and postoperative stitches was requested. Minor complications were experienced in 27 (24%) men. Men with complications had a significant increase in mean days of analgesia required ($p < 0.001$) and mean nights of disturbed sleep ($p < 0.0001$). Complications did not increase days taken off work or affect satisfaction with the service.

Conclusions The consumer viewpoint has been useful in identifying that the vasectomy unit is a high quality service. Some deficiencies mainly relating to process were highlighted including need to review written information and skin sutures used for vasectomy. Further research is required about different areas of vasectomy including determining mechanisms for allaying fears around vasectomy especially in younger men.

FC-24

Pharmacies as a source of youth reproductive health care

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Objectives Demonstrating the importance of Youth-Friendly Pharmacy (YFP) services in increasing access to modern contraceptives for youth.

Design/methods Adolescents in the post-Soviet Union country of Georgia have been ignored by policies and programs on Reproductive Health (RH) issues. Moreover, a survey of some 600 adolescents in the Imereti Region showed that knowledge of all types of health issues, especially RH, is extremely low, and there is no place most young people can get accurate information. Survey, conducted in 2006 revealed that pharmacies are among adolescents' preferred sources of contraceptives, but quality of services is generally poor. During pre-assessment stage Focus Group Discussions were conducted with teen girls and boys, peer educators, pharmacists, lectures of Pharmacy colleges and University in order to study whether these interventions would increase utilization of pharmacies for RH information and services and improve the quality of care provided to youth. Pre-assessment stage was followed by mapping of all existing pharmacies and selection of 30 pharmacies. Youth were involved in creation of logo and slogan for YFP. Spots advertising YFP services were recorded and aired by local radio 'Dzveli Kalaki' and TV station 'Rioni'.

Project interventions include training of pharmacy staff on youth-friendly services and adolescents' RH issues including contraceptive methods, Sexually Transmitted Infections. YFP curricula were adapted from Youth Friendly Pharmacy program implementation kit, PATH. 'Youth Corners' with variety of youth RH printing materials were arranged in each YFP.

Results/outcomes Data on outcome variables was collected through client registration forms completed one month prior and six month following the intervention. During the six-month period the rate of youth coming to YFPs compared to non-YFPs increased by 45%. The primary affect of the YFP intervention seems to be the significant increase in educational and counselling services that youth receive at YFPs compared to non-YFPs. Also, the 'mystery client' technique was used to provide information on the quality of client-provider interactions. All Mystery Shoppers that visited YFPs were satisfied with the services they received and would recommend the pharmacy to a friend.

Conclusion The program showed that YFP service provision has significantly increase accessibility of RH information to youth. As a result of cooperation with Imereti Region Health Departments and big chain pharmacies owners, YFP service is extended to Kvemo Kartli Region, the second large region of Georgia.

FC-25

Women's knowledge about family planning methods

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Introduction Some methods of family planning (FP), including oral contraceptives, emergency contraception, and intrauterine devices, occasionally work after fertilization (before or after implantation).

Knowing about postfertilization effects may be important to some women before choosing a certain family planning method.

Objective To explore women's knowledge about mechanisms of action of FP methods, especially those that act after fertilization, and to identify whether women want more information about this issue.

Methods Cross-sectional survey in a Spanish representative sample of 848 potentially fertile women, aged 18–49. Data were collected between March and September of 2005 by female research assistants from the GFK-Emer Market Research Company. Computer-Assisted Personal Interviewing (CAPI) method was used to administer an anonymous, 30-item questionnaire about FP. Univariate and multivariate logistic regression analyses were performed.

Results The majority of women were married, held an academic degree and had at least one child. Mechanisms of action of condoms and tube ligation are the best known by the women. On the contrary, the mechanisms of action of the vaginal ring, transdermal contraceptive patch, injectable contraceptives and progestogen-only pills were known by less than 1%. A small minority of the women were aware that pre and postfertilization effects exist for oral contraceptives (1.2%), the emergency contraceptive pill (3.3%) and the intrauterine device (3.3%). There were no differences between women who knew all mechanisms of action of these methods and women who did not know them regarding sociodemographic characteristics. Most women (80%) stated that the doctor or provider must inform them of whether a FP method has postfertilization effects. This opinion does not depend on country of origin, annual income, marital status, age, desire for future pregnancy, number of past pregnancies, number of past elective abortions, whether one believes that human life begins at fertilization or implantation and religion. But, women who believe that it is relevant to distinguish natural embryo losses from non-natural losses were more likely to report that doctor should explain postfertilization effects, both before implantation (OR = 1.68; CI 95%:1.19–2.37) and after implantation (OR = 1.82; CI 95%:1.28–2.60).

Conclusion Spanish women are not aware of postfertilization mechanisms of action of the pill, the intrauterine device and the emergency contraception pill. But they refer that doctors or providers should inform them about these issues.

FC-26

Youth knowledge, beliefs and behaviour about sexually transmitted infections and condom use

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Objective Adolescent and young adults have a high risk of unsafe sexual behaviour due to their developing age. The aim of this study was to evaluate the knowledge, beliefs and behaviour about sexually transmitted infections (STI) in the attendants of our hospital youth service – *Youth Space*.

Design and methods A self-applied questionnaire about sexuality was proposed to all 1480 *Youth Space* attendants between 11 June 2007 and 14 December 2007. 1085 (73.3%) questionnaires were returned. Were analysed demographic factors, knowledge about STI and ways of preventing them, age at first intercourse, number of partners and condom use.

Results Most attendants were female (97.2%) and mean age was 20.4 ($\pm$2.8) years. The majority were students (70.6%) and 79.2% had already had sexual intercourse. Only 97.1% and 42.4% identified AIDS and Hepatitis B, respectively, as an STI. Hepatitis A was considered STI by 18%. Condom use was reported in 96.3% as a way of preventing STI, followed by abstinence (37.2%) and knowledge of partner (21.8%). When asked about contraceptive methods suitable for youth, 92.9% answered condom, but only 32.2% of them reported regular use of condom. No more than 49.7% used a condom on their last intercourse and only 74.1% of these to prevent diseases. Use of condom in last intercourse increased with education level (38.7% in basic level vs. 54.2% in university students, $p = 0.016$) and decreased with higher number of partners (53.2% in 1 partner vs. 38.6% in 6-9 partners), except when 10 or more partners were reported (62.5%, $p = 0.1$). Mean age at first intercourse was significantly lower in attendants that didn't use condom at last intercourse vs. those who did (16.6 years vs. 17.2 years, $p = 0.032$). No differences were found in the use of

condom in attendants that answered having a religion vs. those who hadn't. Attendants who reported health professionals as one of their sources of information about sexuality and family planning had a higher rate of use of condom in last intercourse vs. the other (59% vs. 41% respectively, $p < 0.001$).

Conclusions The majority of attendants didn't reveal solid knowledge about STI. Although almost all of them recognized condom use as a method to prevent STI, most of them did not use it nor regularly nor to prevent diseases. A greater effort must be made by health professional in contact with this population to inform and educate them. Funded by Grant 137/2007 from Ministry of Health Commission on the Promotion of Health Care Research.

FC-27

Evaluation of an intervention designed to improve adolescent contraceptive use

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Background The UK continues to have the highest teenage pregnancy rates in Western Europe[1]. Rates of sexually transmitted infections (STIs) amongst adolescents are also high and continuing to increase[1]. There is a lack of research applying theory-driven and evidence based intervention design to this issue.

Objectives The present study evaluated an intervention designed to improve adolescent contraceptive use by manipulating psychological constructs previously identified as predictors of effective contraceptive behaviour[2].

Methods Participants ($N = 247$ 14–19-year-olds) completed measures of theory of planned behaviour constructs, self-efficacy and anticipated regret at baseline, immediately post-intervention, and one month post-intervention. Contraceptive behaviour was assessed at baseline and one month post-intervention.

Results With α set at .008 to account for family-wise error, a 4 (intervention condition) $\times$ 3 (time) MANOVA showed that there was a significant main effect of time ($F [16, 289] = 8.04$, $p < 0.001$), but no significant time by condition interaction ($F [48, 860.35] = 1.4$, $p = 0.039$). Univariate analyses confirmed significant increases in levels of 5 measures taken, including intention to use contraception. All conditions were equally effective. Further analysis revealed that there was a significant increase in self-reports of effective contraceptive use amongst sexually active participants with weak intentions to use contraception at the outset of the study ($F [4, 146] = 10$, $p < 0.001$).

Conclusions These findings have important implications for theory-driven sexual health intervention research. In particular, the need for a distinction between motivational and volitional interventions for adolescent contraceptive use is highlighted. Implications for the national approach to adolescent sexual health issues within the UK are also discussed.

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FC-28

Is Misoprostol® a non-surgical alternative to standard surgical care for treatment of incomplete abortion: answers from a series of clinical trials

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Objectives To understand whether Misoprostol® at doses of 600 mcg orally or 400 mcg sublingually could provide a viable alternative to standard surgical care for the treatment on incomplete abortion.

Design and method Women presenting for treatment of incomplete abortion with open cervical os and gestational size ≤ 12 weeks were randomized to three treatments: 600 mcg oral Misoprostol®, 400 mcg sublingual Misoprostol® or surgery. Success was defined as a complete uterine evacuation without need for surgical completion. Women returned for follow-up and evaluation 7–10 days after initial treatment. Women with substantial products in the uterus that the provider felt may not evacuation on their own were offered to wait an additional week and return for follow up care again in one week's time (up to 15 days) or to select immediate surgical evacuation. Exit interviews were conducted once the procedure was completed.

Results Results for oral and sublingual Misoprostol® are similar and high to that of surgery. There is no statistical difference in rate of evacuation with either 600 mcg oral Misoprostol® and 400 mcg sublingual Misoprostol®. Although women report more pain and bleeding with Misoprostol®, the non-surgical care is generally preferred by most women.

Conclusion 400 mcg sublingual Misoprostol®, 600 mcg oral Misoprostol® and surgery appear to have similar safety and efficacy profiles when used to treat an incomplete abortion. The non-surgical methods could prove particularly useful in settings where access to safe surgical procedures and equipment is limited. In settings where surgery is widely available, Misoprostol® may lessen the burden on surgical providers and provide a new and perhaps preferable treatment option to women.

FC-29

The impact of a one-stop abnormal uterine bleeding clinic on the promotion of long-term medical therapies and the consequent reduction of surgical treatments, including hysterectomies, in women suffering from menorrhagia

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Background There is wide variation in the management of women with menorrhagia, and in population-based hysterectomy rates. In 1996 a one-stop abnormal uterine bleeding (AUB) clinic was established at Hexham General Hospital to address this issue and to promote the use of evidence-based, long-term medical therapies.

Design and methods This is a 3-year audit of outcomes of 324 women complaining of heavy periods were managed in the AUB clinic in the three years; 2002 *Moldova* 2004. All had transvaginal scans; 279 underwent outpatient hysteroscopy and endometrial biopsy before a management plan was finalized.

Results 213 women (65.7%) were treated medically with 189 opting for levonorgestrel intrauterine system (IUS). Only 10 women (3.1%) underwent hysterectomy within a year from the initial appointment. 27 women (8.3%) had endometrial ablation and 24 (7.4%) had hysteroscopic myomectomy. Local hysterectomy numbers have fallen steadily from 121 performed in 1996 to 48 in 2003; a 60.3% reduction. IUS usage rose steadily from 23 to 190 insertions over the same period; an 8.3-fold increase (68% 5-year continuation rates). During this time the number of ablative procedures remained stable with an average of 29 procedures performed each year.

Conclusion Women attending the one-stop AUB clinic, suffering from menstrual disturbances, receive consistently high quality service. We have shown that such focussed, evidence-based practice has led to significant and consistent fall in local hysterectomy rates, increased prescribing/acceptance of long-term medical therapies. Unlike National practice data, there was no increase in endometrial ablation rates.

FC-30

Pap-test in IUCD and COCP users. A comparative study in 8920 women

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Objective The estimation of changes in cervical cytological appearances in IUCD and COCP users.

Study design A retrospective case-control study.

Setting Family-planning clinic of a tertiary care university hospital.

Material and methods Eight thousands nine hundred and twenty women, aged 15–51 years participated in this study. Group I (IUCD users) included 7214 women (mean age 38 $\pm$ 5.67 years old; average 19–51 years, married 94.1%, nulliparous 4%, STD 2.2%) and Group II (COCP users) included 1710 women (mean age 26 $\pm$ 3,6 years; average 15–42 years, married 27.3%, nulliparous 72.5%, STD 4.6%). Pap-test was done before the application of the contraceptive method and then annually. For each patient, two Pap-smears were taken using Ayre's spatula and the endocervical brush. Baseline, first year and second year Pap-test results of both groups were compared.

Results In Group I (IUCD users)-Baseline results: class I = 67.6%, class II = 32.4%. 1st year: class I = 42.4%, class II = 57.4%, CIN I = 0.05% and CIN II = 0.13%. 2nd year: class II = 33.8%, class II = 65.9%, CIN I = 0.11%, CIN II = 0.13% and CIN III = 0.08%. In Group II (COCP users) – Baseline results: class I = 69.5%, class II = 30.2% and CIN III = 0.3%. 1st year: class I = 61.2%, class II = 38.3%, CIN I = 0.11% and CIN II = 0.35%. 2nd year: class I = 49.9%, class II = 49%, CIN I = 0.46%, CIN II = 0.35% and CIN III = 0.23%.

Conclusions In our study both contraceptive methods are not attributed with increased risk of abnormal cytologic findings. However, comparison between two groups showed that there may be a very small increase in the risk of suspicious cytologic findings with COC use, which increases with increasing duration of use.

FC-31

The determination of estrous cycle in rats by vaginal lavage

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Introduction The determination of the estrous cycle in animals is important for the study of the neuroendocrine function and can be monitored easily and in a non-invasive manner observing the daily changes in vaginal cytology. The estrous cycle of rats can be divided in four phases: Diestrus I, Diestrus II, Proestrus, and Estrus. Each phase has an average duration of 24 hours and is directly related to the fluctuation of estradiol levels. These alterations begin in puberty and end in senescence, generally when the animals complete one year. This is relevant as experiments done before adolescence or after senescence could alter the reliability of the results obtained, due to an absence of ovarian endocrinal activity.

Design and methods In order to do the vaginal lavage, we used a pipette made from the polyethylene tip of a micropipette and latex. The collection was done daily, at the same time, and the cycle was accompanied for at least two weeks, to be certain of the regularity, before performing the experiment.

Results In this study, 50 90-day-old rats were divided in two broods of 25 rats. The rats were in cages of five rats each. The vaginal lavage was collected in the morning between 8 and 10 am. Of the 50 rats, only 2 were in anestrus and 48 were cycling normally after the following of 8 days.

Conclusion Our study shows the need of daily control of the cycle, principally in randomized studies where all the animals should be in the same conditions or when the sample must be collected in a determined phase of the cycle.

Determining the estrous cycle is of fundamental importance in toxicological studies and with composts that alter the cycle. Furthermore, it offers the possibility of checking for the presence of the copulatory plug, for the presence of sperm after copulation, the determination of pregnancy after copulation or the continuity of the cycle of those who are not pregnant.

The identification of the ovarian activity and the extension of alterations to it when these animals are exposed to certain drugs, surgeries or toxic agents, provide important data for basic research for bettering the knowledge and its use in clinical practice.

FC-32

Prospective follow-up of an extended regimen using oral contraceptive pills containing ethinyl estradiol and drospirenone

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Objectives To evaluate bleeding patterns, acceptability and quality of life with an extended oral contraceptive regimen.

Design and methods The study enrolled 109 women aged 18 to 40 years requesting oral contraceptive therapy. Each subject received, in two consecutive run-in cycles, an oral dose of 30 μg ethinyl estradiol and 3 mg drospirenone (Yasmin, Schering AG, Berlin, Germany) on days 1–21, followed by a tablet-free period from days 22 to 28 of each cycle. This was immediately followed by two extended cycles of 84 continuous days of pill administration with a 7-day tablet-free interval. The primary outcome in the study was determined as the total number of bleeding or spotting days occurring over the 6-month duration of treatment. Secondary outcomes included severity of daily symptoms, overall treatment satisfaction and change in total score of the Psychological General Well-Being Index (PGWBI) before and after the extended use cycles.

Results Of the 109 women enrolled 68 (62.4%) completed the entire study protocol. The most common reasons given for discontinuation were loss of interest (8.3%), bleeding (6.4%), weight gain (6.4%), dissatisfaction with the study (5.6%), fear of participating in a clinical trial (4.6%) and wishing to conceive (2.8%). Compared to the two run-in cycles, the number of bleeding days decreased by about one third. Dysmenorrhea, menorrhagia and abdominal bloating were less common when patients were under the continuous pill regimen. No statistically significant changes were observed over the study period in body weight, skin condition and PGWBI scores. At completion of the study 65.5% of the patients were either very much satisfied (41.4%) or satisfied (24.1%) with the extended regimen.

Conclusions An extended regimen of 84 continuous days using oral contraceptive pills containing ethinyl estradiol and drospirenone was highly acceptable and was associated with a decrease in the number of bleeding days and no increase in side effects.

FC-33

Open referral system for abortion service is effective and patient friendly

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Introduction About one third of women will request an abortion at some point in their reproductive lifetime. Various routes are available to access the government funded abortion service as well as different method of termination depending on the gestational age. The earlier a woman can access these services the more the available choice of treatment options, i.e., medical or surgical termination.

Objectives To compare the effectiveness of the different referral systems to accessing abortion services in two district general hospitals.

Method Retrospective database review and comparative analysis of induced abortions undertaken over 12 month period. Group 1(open system) – self referred patients. Group 2 (close system) – patients referred through healthcare providers, e.g., general practitioners (GP).

Results In group one, 201 women had termination of pregnancy (TOP) but only 149 patients (74%) with full data sets were eligible for this study. In Group two, of the 577 women that had TOP only 365 (63%) were eligible for this study.

About half of the patients from both groups were seen in the TOP clinic within 5 days of referral (51%:48%) and nearly all of them within 14 days (99%:98%). Post clinic review, significant number of patients from the open group had definitive termination procedure undertaken within 7 days (74%:27%) and even more within 14 days (87%:76%). Most

patients preferred surgical termination as only 29 patients (8%) in group 2 had medical termination and none in group 1.

Overall more patients from the open system had their request for abortion met within 21 days (87%:78%) and more so at gestation less than 9 weeks (70%:31%).

Conclusion The user friendliness of the open referral system appears to play a significant role in eliminating the bureaucratic delays associated with the close referral system of accessing government funded abortion services.

Our study concludes that the open system of referral creates opportunity for more terminations to be undertaken at early gestations.

FC-34

Trend of post-abortion contraceptive choice within an inner city abortion clinic between 1998 and 2006

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Introduction The number of total abortions performed in England and Wales have continued to rise in the last ten years. The rate of repeat abortion has also remained at around 32%. The use of contraception remains a key issue in preventing unwanted pregnancy.

Objective To assess the trend of post-abortion contraception usage and factors which may influence women's choice.

Design and methods Information on demographics and post-abortion contraceptive use from women who have attended an inner city abortion clinic between 1998 and 2006 were collected retrospectively. Data collected were stored and analysed using the SPSS package.

Result Within 8 years, 4295 women have attended the clinic. The pill was the most popular post-abortion contraceptive choice (33–50%), followed by depo provera (20–33%), despite both having reduced in popularity over the last year. The uptake of barrier contraception varied between 12 to 23%, but reduced to 5% in the last year. In this unit, the availability of the coil in the last 4 years and Implanon® in the last 1 year has increased their usage to 24% and 15% respectively in the last year. Demographic data with statistical significance were listed as followed: Women under 20, at first pregnancy and unaware of contraceptive failure were more likely to choose the pill. Women over 30, ethnic group other than white British and had been pregnant before were more likely to choose barrier contraception. Women over 40 who had been pregnant before and not used post coital contraception (PCC) were more likely to choose depo provera. Women over 30, white British who had had children before and were aware of contraceptive failure were more likely to choose sterilization. White British, been pregnant before, not aware of contraceptive failure and not used PCC were more likely to choose long term contraception. Those who were aware of contraceptive failure and aware of availability of PCC were less likely to remain undecided on post-abortion contraception.

Conclusion The pill remains the most popular choice of post abortion contraception. The availability of the coil and Implanon® has dramatically changed the trend of contraceptive usage. Most of the findings were compatible with other studies. However, it was surprising to find women who were older, from an ethnic minority and who had been pregnant before still preferring the barrier method instead of other more reliable methods. Further counselling may be useful in this group to ensure these women had made an informed choice.

FC-35

A comparison of two dosages of buccal Misoprostol® following Mifepristone® for early medical abortion

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Objective To compare the efficacy, adverse effects and acceptability of a regimen using 400 μg buccal Misoprostol® with one using 800 μg buccal Misoprostol® following 200 mg Mifepristone® for the termination of pregnancies up to 63 days' LMP.

Design and methods This was a double-blinded, randomized control trial conducted at three sites. Consenting women presenting for abortion services with gestations less than 64 days and who met inclusion criteria were given 200 mg Mifepristone® orally and then were given the option of taking Misoprostol® buccally 36 to 48 hours later either at home or at the clinic. Women were randomized into two study groups: Group I received 400 μg Misoprostol®, and Group II received 800 μg Misoprostol®. Follow-up visits were scheduled 12 to 15 days later to evaluate whether the abortion was complete.

Results As of December 2007, 347 women out of a targeted 738 were enrolled (the most recent data will be presented at the conference). There were no significant differences between the study groups in adverse effects reported or in the percentage who successfully terminated their pregnancies (96.4% in group I, 95.4% in group II). A trend was observed in group I of decreasing effectiveness with increasing gestational age. Approximately 90% of women in both groups found the procedure satisfactory or very satisfactory, 92% of women administered the Misoprostol® at home without any difficulty, and 92% of women would choose to take Misoprostol® at home if another medical abortion is needed.

Conclusions Medical abortion regimens using buccal Misoprostol® may reduce the standard dosage in half without reducing the efficacy of the method. Further research is needed to establish the efficacy of 400 μg buccal Misoprostol® after 49 days' LMP.

FC-36

Expanding options for in-the-mouth Misoprostol® administration following Mifepristone® in medical abortion

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Background In-the-mouth routes of Misoprostol® administration in medical abortion are of increasing interest to women and providers yet vaginal Misoprostol® after Mifepristone® is the only route supported by the literature to be highly effective through 63 days' LMP. We studied the safety, efficacy, and acceptability of oral and buccal Misoprostol® 800 μg following Mifepristone® 200 mg for terminating pregnancy through 63 days' LMP.

Methods This multi-site study randomized women seeking abortions to buccal or oral Misoprostol® 800 μg 24–36 hours following Mifepristone® 200 mg with follow-up 7–14 days later to determine the status of their abortions. Participants completed a daily diary of side effects and answered an acceptability questionnaire prior to study end.

Findings Overall success among women who took oral and buccal Misoprostol® was 91.3% and 96.2%, respectively ($p < 0.05$). Ongoing pregnancy occurred in 3.5% of women who took oral Misoprostol® versus 1.0% of women in the buccal group ($p < 0.05$). Through 49 days' gestation, the oral and buccal regimens performed similarly, but success with oral Misoprostol® decreased as pregnancy advanced. In pregnancies of 57–63 days' LMP, success with oral Misoprostol® fell below 90% while that with buccal remained high (oral 85.1%, buccal 94.8%, $p < 0.05$). The side effect profiles of the methods were similar, although fever and chills were reported more often among women who took buccal Misoprostol®. Satisfaction and acceptability were high for both methods.

Conclusions Buccal administration of Misoprostol® 800 μg through 63 days' LMP may be a new option in medical abortion. Oral Misoprostol® 800 μg is another alternative, although success rates diminish with increasing gestational age.

FC-37

Etonogestrel implant in women with diabetes

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Etonogestrel contraceptive implant has shown to be a safe and effective contraceptive method in healthy women. But there are no studies addressing the use of the etonogestrel implant in women with diabetes and renal disease. The progestogen-only pill is an especially good contraceptive choice for diabetic women since it does not upset blood glucose control or carry any increased risk of vascular disease.

Objective The primary objective of this study was to determine the impact of etonogestrel implant on glycometabolic control and on renal damage in women with type 1 diabetes. The secondary objective was to evaluate the acceptability of the method.

Methods This is a prospective, single centre clinical trial, study of 23 women with insulin-treated diabetes type 1, who used etonogestrel implant for at least 1 year. Evaluation was performed before implant insertion and at 3, 6, 12, 24 and 36 months after implant insertion.

Results 23 women entered the study but 1 was lost to follow-up. The mean age was 27,6 years $\pm$ 6.0 (range 12–37) years and the mean duration of diabetes was 13,7 $\pm$ 6.6 years (range 1–25). 14/23 had retinopathy, 10/22 were hypertensive and 9/22 had dislipidemia. There were no contraceptive failures. Among users there were no increment of daily needs of insulin and no significant variation of HbA1c along the study (8.5 vs 8.25, p = ns). There were no significant changes of body mass index (26 $\pm$ 3.8 vs 26.4 $\pm$ 3.5 Kg/m^2 p = ns) or in the lipidic profile with implant use. There were no differences on blood pressure (Pulse Pressure 52 $\pm$ 17.9 vs 42.25 $\pm$ 6.7, p = ns, Mean arterial Pressure 60.16 $\pm$ 9.7 vs 58.16 $\pm$ 5.5 mmHg). Comparing the baseline values, microalbuminuria was reduced from 13.92 $\pm$ 12.6 to 10.42 $\pm$ 12.0 mcg/min, and glomerular filtration rate evaluated by MDRD wasn't different (84.4 $\pm$ 18.53 vs 81.88 $\pm$ 18.31 ml/min, p = ns). Among women with vascular complications (18/23) there were no clinical cardiovascular events during the follow up. Menstrual changes were the most common side-effect noted.

Discussion In this group of women with diabetes the etonogestrel implant was a safe and well accepted contraceptive method, with little clinical impact on glycemic control, glomerular filtration rate or on arterial pressure This study shows that etonogestrel implant, in young diabetic women may reduce proteinuria, and may provide a good contraceptive choice, even with coexisting vascular disease.

FC-38

Efficacy of levonorgestrel-releasing intrauterine system 'Mirena®' in women of advanced maternal age with uterine myoma

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Objectives This study was performed to investigate the clinical efficacy of levonorgestrel-releasing intrauterine system 'Mirena®' in women of advanced maternal age with uterine myoma.

Design and methods Prospective study of women of advanced maternal age (37,8 $\pm$ 2,0 years, n = 92) with uterine myoma. All women were recruited in gynecological clinics in Rostov-on-Don and Irkutsk (Russia) during the period 2003–2007. The supervision of all women included general physical and gynecological examination, Pippele biopsy and monitoring of ultrasound parameters before and after 1, 3, 6, 12 months of using 'Mirena®'.

Results Before using 'Mirena®', dysmenorrhea was observed in 18 (20%) women, menorrhagia in 79 (85.9%) and oligomenorrhea in 3 (3.3%) patients. The number of nodules was: 1 myoma nodule in 58 (63%) women, 2 in 18 (19.6%), 3 and 4 in 2 (2.2%) and 1 (1.1%) patients; more than 4 in 13 women; the ultrasound diameter of myomas was from 1–2 sm (60.6%) to 2–3 sm (30.5%) or 3–4 sm (7.8%), 5.5 sm myoma was only in 1.1% of examined patients.

After 3 months using 'Mirena®' dysmenorrhea was observed only in 1 women (1.1%), menorrhagia in 4 patients (4.4%). In the group of patients with myoma number of 1–3 nodules and the size of the largest myoma of 1–4 sm the significant decrease of number and size of myoma nodules was observed by 3–6 months of using of levonorgestrel-releasing intrauterine system 'Mirena®'. After 2–3 months of treatment functional ovarian cysts were detected in 6 women (6.6%), but by the third month they were not observed. Blood spotting was reported in 21.7% women through to 3 months and in 15.2% up to 6 months of treatment.

Conclusion The using of levonorgestrel-releasing intrauterine system 'Mirena®' in examined women of advanced maternal age with uterine myoma is associated with the following significant decrease of clinical symptoms, number and size of myoma nodules by 3–6 months of treatment without serious side effects.