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ORIGINAL ARTICLE

GPs' reasons for "non-pharmacological" prescribing of antibiotics

A phenomenological study

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Abstract
Objective. To study the reasons cited by Icelandic general practitioners for their "non-pharmacological" prescribing of antibiotics. *Design*. A qualitative interview study with research dialogues guided by the Vancouver School of doing phenomenology. *Setting*. General practice. *Participants*. A total of 16 general practitioners: 11 in the maximum variety sample and 5 in the theoretical sample. *Results*. The most important reasons for prescribing antibiotics in situations with low pharmacological indications (non-pharmacological prescribing) were an unstable doctor–patient relationship due to lack of continuity of care, patient pressure in a stress-loaded society, the doctor's personal characteristics, particularly zeal and readiness to serve, and, finally, the insecurity and uncertainty of the doctor who falls back on the prescription as a coping strategy in a difficult situation. *Conclusion*. The causes of non-pharmacological prescribing of antibiotics are highly varied, and relational factors in the interplay between the doctor and the patient are often a key factor. Therefore, it is of great importance for the general practitioner to know the patient and to become better equipped to resist patient pressure, in order to avoid the need to use the prescription as a coping strategy. Continuity of medical care and a stable doctor–patient relationship may be seen as the core concepts in this study and the most important task for the GPs is to promote the patients' trust.

Key Words: *Antibiotics, coping, general practitioners, non- pharmacological prescribing, phenomenology, prescription habits*

Comparison of statistics of drug sales show large differences between various countries and regions regarding antibiotics, without showing the same differences in frequency of bacterial infections [1–3]. In recent years some researchers have questioned the therapeutic benefit of antibiotics for the most common ailments for which antibiotics are prescribed: otitis media and sore throat [4–6]. Concern about resistance and over-prescribing of antibiotics, especially broad-spectrum antibiotics, has increased worldwide [7]. An association between antibiotic use and resistance has been demonstrated [2,8]. Because of the cost of drugs, and costs due to antibiotic resistance, the reduction of unnecessary antibiotic use has become a public health priority [9], particularly as regards children.

A better understanding of the antibiotic-prescribing practices of physicians, along with insight into the decision-making and related factors, is of great

Concern has increased worldwide with regard to the over-prescribing of antibiotics, as well as the fact that more bacteria strains are developing resistance to antibiotics.

- Lack of continuity in medical care and an insecure relationship between doctor and patient together with shortage of time and patient pressure are the main reasons the respondents suggest for the issue of "non-pharmacological" prescriptions.
- Personal and emotional factors, such as the doctor's insecurity and anxiety, self-deception, tiredness, and the wish to avoid confrontation, give rise to questions as to whether non-pharmacological prescriptions function as a type of coping strategy.
- It is important for the general practitioner to know the patient and to become equipped to resist patient pressure.

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importance. Judged by the results of an American study on acute respiratory infections, it is clear that the decision process in antibiotic prescriptions is often very complicated, and so-called non-pharmacological reasons sometimes appear to be very important [10]. According to research the non-clinical reasons often mentioned for antibiotic prescribing in the medical literature are uncertainty about the exact diagnosis or treatment [11–13], concern about time schedule (time pressure, workload) [11,12,14], worries because of past experience of patients' misfortune owing to infections [11], concern about not having the energy to resist demands [14], fear of medico-legal problems if the patient deteriorated [14], fear of being perceived as having done nothing for patients [14] and worries about endangering the therapeutic effects of the doctor–patient relationship [14]. Most GPs thought that their holistic duty was to preserve the doctor–patient relationship and that it was more important than rational prescribing [11,12]. Patient pressure is sometimes mentioned as an explanation for non-pharmacological prescribing and patients often appear to differ from doctors in their views on respiratory tract infections [15,16].

Therefore the decision-making process of the consultation is very intricate, and a great variety of explanations are available. The aim of this study was to explore the reasons given by Icelandic general practitioners for their non-pharmacological prescribing of antibiotics.

Material and methods

The Vancouver school of doing phenomenology [17] guided this study's methodological approach, particularly in the sampling and the collection and analysis of data. It is an interpretation of phenomenological constructivist/interpretivist philosophy and a unique blend of description, interpretation, explication, and construction, which has proved to be a methodology that can lead to systematic explication of human experiences and is aimed at increasing the greater social good. There are seven basic stages of the research process in the Vancouver school: silence, reflection, identification, selection, interpretation, construction, and verification. This research process involves, for example, entering the stage of reflection again and again throughout the research process. This method is in some respects similar to the Grounded Theory method [18–20], although the participants normally have a more active role in the former and therefore can break the interviewer's monopoly of interpretation. In total, 16 Icelandic general practitioners in the period 2000–2003 were selected from different locations. No one refused to participate. Most of the interviewees (informants, co-researchers) had experience in both rural and urban settings. Their selection endeavored to avoid asymmetrical power in the interview, and by using the method of the Vancouver school of doing phenomenology the researcher had the opportunity to diminish personal monopoly of interpretation. All but three had specialist qualifications in family medicine, from five different countries. Three of them were women. The age distribution was from 32 to 67 years. First the author conducted face-to-face, open-ended interviews with a maximum variety sample of 11 general practitioners using an interview guide. These were randomly chosen on various occasions. Thereafter the author interviewed a theoretical sample of five GPs, this selection being guided by the emerging analysis because of the informants' different characteristics and qualities. These interviews had much looser support from the interview guide. At last the "sample" was assessed to be well representative of Icelandic GPs. All the informants were encouraged to speak freely and support their responses with examples from their own clinical practice and policy. All dialogues were audiotaped and transcribed verbatim, and constant comparative analysis was used to interpret the data. Each dialogue was examined line by line to identify concepts and main categories. Data collection and analysis were iterative, with new data used to access the integrity of the developing analysis. Every informant had an opportunity to comment on the researcher's analysis of his/her dialogue, and to discuss the matter further. Finally three participants gave their opinion on the analytical results of the whole body of material, and all of them agreed with it.

Results

Five major factors were defined as conducive to non-pharmacological prescriptions for antibiotics (Figure 1).

1. Physician's insecurity, uncertainty or anxiety

Lack of continuity in medical care and uncertainty regarding diagnosis are factors that tend to be conducive to a physician feeling insecure: "if you're seeing patients ... without any continuity, then ... then you can't waste it ... time, so you can't observe the child in a day or two, so you're responding to some insecurity factor."

All the participants were in agreement that the tasks of a general practitioner are highly varied, and that diagnoses could often be very unclear, i.e. that the criteria for diagnosis could be variable; this must

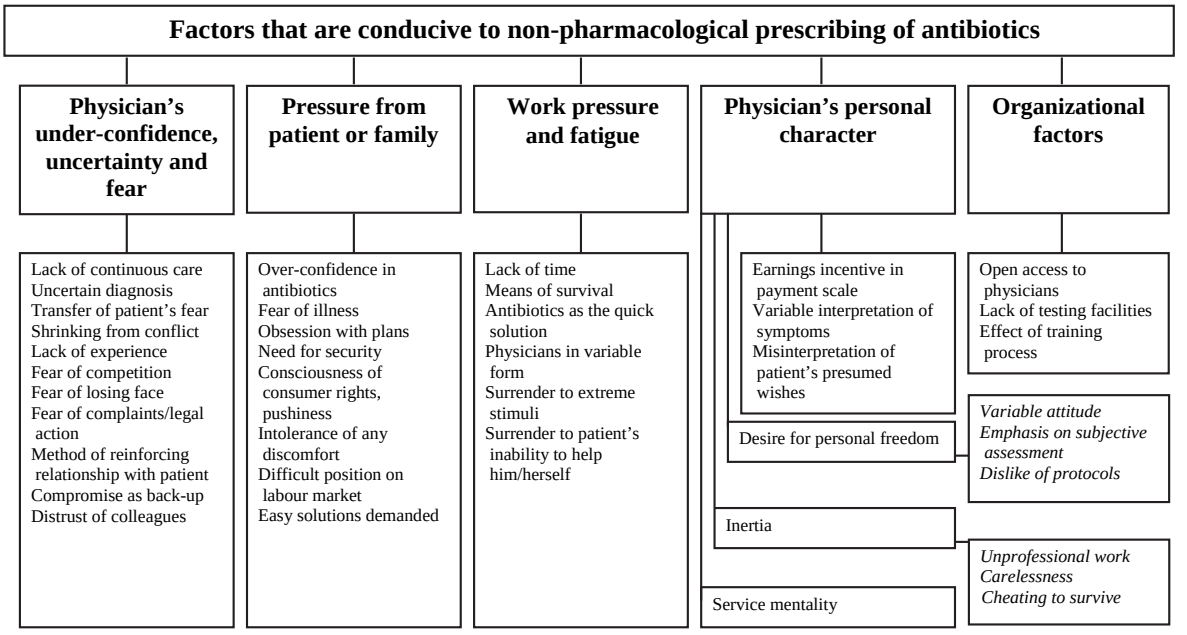

Figure 1. Factors that are conducive to non-pharmacological prescribing of antibiotics

be conducive to a feeling of insecurity in professionals, and foster anxiety regarding possible errors. This uncertainty may be concerned with the biomedical aspect of the problem, and with the relationship with the patient or his/her family. Lack of continuity tends to lead to less confidence on the patient's part, and hence the physician, instead of providing an explanation of the low risk of the ailment, resorts to a prescription in order to calm the patient's fears and provide comfort. Most of the participants agreed that a fearful patient or family member could transmit the fear to the physician, who was then more likely to stray from the straight and narrow pharmacological path. Fear of conflict and discomfort due to conflict appear to be common among general practitioners, who will make great efforts to maintain peace with patients, especially their own. "I don't like to argue with people and disagree with them . . . if they feel they're right in some degree, somehow I don't argue with them about it. Even if I think I'm right. So I back down by issuing a prescription, in some cases." Lack of experience is undoubtedly a real factor when a physician has to keep his/her head in stressful circumstances, and proven medical science is no longer at the forefront. It appears that some GPs experience fear of losing patients, losing face (status), or coming off badly in competition: "the fear that people will have the impression that they're not proper doctors unless they give them some tangible thing to prove that they have reached a conclusion on what should be done". Some participants expressed fear of overlooking something, making a mistake, and being sued. Some participants also stated that meeting the demands of a patient who believes in antibiotics as a solution to his/her problem may reinforce and improve the doctor–patient relationship, and that it was also possible to take the middle path, suggesting that the patient or parent keep the prescription for the time being, and not have it filled unless the patient's condition deteriorates. Lack of confidence in colleagues, both GPs and other specialists, appears to lead physicians to prescribe antibiotics more that they would do if they had the opportunity to keep patients under observation themselves.

2. Pressure from patients and their families

All the participants regarded this as the main reason for non-pharmacological prescribing of antibiotics. It seems to appear in the form of a clear demand or gesture, or of a patient's obvious fear. Many attributed this pressure to over-confidence in antibiotics and misinformation. They also feel that fear of illness in society is an important cause of pressure, and that this has been exacerbated by general access to information, reliable and unreliable, in the media and on the Internet. Most of the participants mentioned their patients' obsession with plans, and their craving for security; the antibiotic here serves the purpose of trying to help the patient to do what he/she has planned: "If a trip is at stake, a trip that has been booked months in advance, that may control my pen – whether or not I prescribe an antibiotic." Consumer consciousness, where more and more is demanded, with increasing insistence, has of course been steadily rising in society in recent decades, and physicians are more aware of this than

most. Physicians also cite pressure due to people's difficult situation on the job market. And physicians state that discomfort lowers the patient's threshold of tolerance. Easy solutions are wanted, and many people appear unprepared to take responsibility for their own lives, and choose a life without any discomfort, whatever the cost. Most of the physicians described how they tend to give way to their own impatience and the presumed wishes of patients with persistent colds.

3. Work pressure and fatigue

All the participants mentioned the effect of work pressure and fatigue on their prescribing habits; it is primarily lack of time that leads the physician to lower his/her threshold of tolerance. A prescription may in such cases be the quickest option and a way of coping. By means of the prescription the physician is bringing the consultation to a close as quickly as possible without endangering the good and peaceful relationship between doctor and patients: "It's a tool. The prescription is a tool to conclude the consultation, and everybody is content with the conclusion." When asked, the physicians acknowledge that they are not always at their best for work, and that this may influence their methods of work: "Sometimes you're not really in the right frame of mind, and you can't get into a lot of arguments with people, and at other times you're full of energy and enthusiasm, and explain it all to everyone, and write fewer prescriptions." A decision to issue a prescription can also be a surrender after repeated stimuli, an automatic defensive response by the subconsciousness. Physicians also describe cases of giving up in face of the patient's inability to help him/herself, when smokers, or others who are not dealing with their health problems, are prescribed antibiotics.

4. The physician's personal character

Like other hard-working people, physicians tend to have a well-developed sense of self-preservation. Most are familiar with the focus on earning more under the payment scale – especially those who have worked on emergency services provided in the capital area: "and, you see, the doctor can be working under conditions where he . . . he is in an incentive-based system so . . . time is important, each consultation, how long it takes. So it's good to prescribe antibiotics and earn another 1000 krónur." The answers to questions on variable interpretation of symptoms and possible auto-suggestion are also very interesting: "Yes, it's, it's, you know . . . I'm sure it's like I was saying, that I see redder eardrums on Fridays than on Mondays, I think there are . . . I think there is more hyperemia on the eardrum on Fridays than . . . you interpret the symptoms a bit differently, and you often, as I say . . . you've sometimes formed an opinion on what should be done, even before you make the examination." Some participants did not feel this was the case. The physician's impression that the patient wants the physician to solve the problem for him/her is probably quite common according to foreign studies, although this view was not widespread in the present study. A physician may easily exaggerate the patient's wishes, or be prejudiced. The desire for personal freedom is probably significant in the variable response of physicians, along with the unwillingness of many to conform to clinical guidelines. Some informants expressed considerable antipathy towards rigid work practices, and a relaxed attitude to prescribing antibiotics. "But general practice is just . . . it's not necessarily a question of being able to stick to some paragraphs or rules." Some even saw clinical guidelines as a threat to the art of healing. A few participants were of the opinion that in the case of some colleagues sheer slothfulness could explain over-use of antibiotics. On occasion, physicians have witnessed their colleagues behaving badly, and tending to defend their medically dubious deeds: "on the other hand, you see, of course one has seen experienced doctors dealing with such cases very shabbily by writing in the journal that they found something that you're almost sure they didn't find. . . . But maybe it's just one way of surviving, so there's not much one can say, perhaps." Service mentality appeared very noticeable among the participants. "It's simply the human factor, you always try to meet their expectations, and avoid problems and conflict, one is . . . a physician is no different from other people in that sense." Participants express great respect for the patient's knowledge of him/herself, along with service mentality as such. In addition, the GPs' desire to calm the fear and anxiety of the patients is striking, along with their efforts to help them do what they have planned to do. In such a case the physician is in effect providing comfort and support. A strong service mentality is not conducive to helping the physician withstand pressure from patients who are determined to have antibiotics: "I'm sorry to say I think that those who are determined to get it, get it in the end."

5. Organizational factors

Some physicians were of the view that open access to physicians in Iceland could partly explain the extensive use of antibiotics. This is a likely explanation, if it is true that patients get, in the end, what they want. Many of the participants attribute overuse of

antibiotics to lack of testing facilities, as many physicians use test results to help them resist pressure from patients.

Discussion

In medical debate, the use of antibiotics in cases where there is no evidence of bacterial infection is often discussed in a critical manner, using terms that entail a certain judgment such as "non-pharmacological", "irrational", or "non-medical". In this context one should recall the traditional objectives of medicine: to cure, relieve suffering, and provide comfort.

In order to cure, we apply the biomedical methods of medical science, in providing comfort we apply a communications technique based on confidence and confidentiality, and in order to relieve suffering we must apply both methods. Decisions that appear to be irrational or non-medical from a biomedical viewpoint may indeed be rational and medical in the process of winning trust and confidence. Combining these methods pragmatically for the benefit of the patient is an important part of the art of healing. Thus we must redefine these terms, and recognize the good sense on which a decision may be based, which appears irrational and non-medical by biomedical standards. The author has thus opted to use the term non-pharmacological, which is more or less neutral and also generally accepted.

Continuity of medical care and a stable doctor–patient relationship may be seen as core concepts in this study; where these factors are lacking, the likelihood of prescription of antibiotics for non-pharmacological reasons is increased. What is new in this study is the frank descriptions given by the participants of the many forms of fear and uncertainty that occur during the decision-making process [21]. Physicians experience a variety of stimuli, which they may have difficulty in resisting, and hence the conclusion that issuing an antibiotic prescription is sometimes a coping strategy is entirely applicable. Variable interpretation of symptoms (autosuggestion) is a sensitive issue, but not susceptible to proof. The participants appeared remarkably willing to discuss their own personal characteristics, which play a part. They acknowledged that their desire to earn more could have an influence, especially when working under pressure and with limited time. It was interesting to hear the physicians discuss their service mentality, or even zeal. It was not, of course, possible to assess the physicians' communication skills in these dialogues, but this is undoubtedly an important factor.

What prevents physicians making decisions in accord with evidence-based medicine? There must of course be some human factors, of an emotional nature, which are not aired much in public. In all probability the explanation lies in the interaction of physician and patient, rather than with either party alone. Hence the "patient pressure" theory is not entirely credible, except as a partial explanation. It has been shown that the presentation of a specific affirmative recommendation for treatment is less likely to engender parent resistance to a non-antibiotic treatment recommendation than a recommendation against a particular treatment even if the doctor later offers a recommendation for a particular treatment [22].

This study indicates that the interaction of GPs and their patients in Iceland is similar to that in neighbouring countries [10–14,23], and that this interaction includes factors that require further attention. Nobody is better equipped to judge the importance of building confidence and strengthening the doctor–patient relationship, and soothing the patient's fears, than the physician him/herself at the time of interaction. Evidence-based biomedicine and even clinical guidelines [24] may in some cases take second place to this important goal.

Conclusion

The causes of non-pharmacological prescribing of antibiotics are highly varied, and relational factors in the interplay between the doctor and the patient are often a key factor. The striking factors are, on the one hand, the vital importance of a stable bond and continuity, and on the other the strong influence of the patient as consumer. As it must be desirable to reduce antibiotic use where no bacterial infection exists, it appears to be important to help physicians resist the pressure described above by improving their communication skills. This is best achieved by research end debate on the issue, by each physician taking personal stock and knowing him/herself better, and by improved understanding of the interaction of physician and patient during a consultation, taking account of the three objectives of medicine: to cure, to relieve suffering, and to provide comfort. In light of the above-mentioned relational factors, non-pharmacological prescribing can be both rational and legitimate. This experience of antibiotic use can undoubtedly be applied to the use of drugs of other kinds.

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References

[1] Cars O, Mölstad S, Melander A. Variation in antibiotic use in the European Union. Lancet 2001;357:1851–3.

[2] Arason VA, Kristinsson KG, Sigurdsson JA, Stefansdottir G, Mölstad S, Gudmundsson S. Do antimicrobials increase the carriage rate of penicillin resistant pneumococci in children? Cross sectional prevalence study. BMJ 1996;313:387–91.

[3] Petursson P. What determines a family doctor's prescribing habits for antibiotics? A comparative study on doctors' own behaviour in two different settings. Scand J Prim Health Care 1996;14:196–202.

[4] Del Mar CB, Glasziou P, Hayem M. Are antibiotics indicated as initial treatment for children with acute otitis media? A meta-analysis. BMJ 1997;314:1526–9.

[5] Del Mar CB, Glasziou P, Spinks AB. Antibiotics for the symptoms and complications of sore throat. Cochrane Database Syst Rew 2000;(4):CD000023.

[6] Mölstad S. Reduction in antibiotic prescribing for respiratory tract infections is needed! Scand J Prim Health Care 2003;21:196–8.

[7] World Health Organisation. Overcoming antimicrobial resistance. Geneva: WHO; 2000.

[8] Boyce JM. Consequences of inaction: Importance of infection control practices. Clin Infect Dis 2001;33(Suppl. 3):133–7.

[9] Wise R, Hart T, Cars O, et al. Antimicrobial resistance is a major threat to public health. BMJ 1998;317:609–10.

[10] Scott JG, Cohen D, DiCicco-Bloom B, Orzano AJ, Jaen CR, Crabtree BF. Antibiotic use in acute respiratory infections and the ways patients pressure physicians for a prescription. J Fam Pract 2001;50:853–8.

[11] Kumar S, Little P, Britten N. Why do general practitioners prescribe antibiotics for sore throat? Grounded theory interview study. BMJ 2003;326:138–43.

[12] Björnsdottir I, Hansen EH. Intentions, strategies and uncertainty inherent in antibiotic prescribing. Eur J Gen Pract 2002;8:18–24.

[13] Bradley CP. Factors which influence the decision whether or not to prescribe: the dilemma facing general practitioners. Br J Gen Pract 1992;42:454–8.

[14] Butler CC, Rollnick S, Pill R, Maggs-Rapport F, Stott N. Understanding the culture of prescribing: Qualitative study of general practitioners' and patients' perceptions of antibiotics for sore throats. BMJ 1998;317:637–42.

[15] Jonsson H, Haraldsson RH. Parents' perspectives on otitis media and antibiotics. Scand J Prim Health Care 2002; 20:35–9.

[16] Van Dujin, Kuyvenhoven M, Welschen I, den Ouden H, Slootweg A, Verheij T. Patients' and doctors' views on respiratory tract symptoms. Scand J Prim Health Care 2002;20:201–2.

[17] Halldorsdottir S. The Vancouver School of doing phenomenology. In: Fridlund B, Hildingh C, editors. Qualitative methods in the service of health. Lund: Studentlitteratur; 2000. p. 47–81.

[18] Strauss A, Corbin J. Basics of qualitative research. London: Sage Publications; 1998.

[19] Available online at: http://www.nova.edu/ssss/QR/QR2–4/pandit.html#corbin (cited 29 January 2005).

[20] Available online at: http://www.geocities.com/Tokyo/6825/citations–gtm.html (cited 29 January. 2005).

[21] Petursson P. Why non-pharmacological prescribing of antibiotics? Master of Public Health Essay. ISBN 91-7997-091-5. Gothenburg: Nordic School of Public Health; 2005.

[22] Stivers T. Non-antibiotic treatment recommendations: Delivery formats and implications for parent resistance. Soc Sci Med 2005;60:949–64.

[23] Bradley CP. Decision making and prescribing patterns – A literature review. Fam Pract 1991;8:276–8.

[24] Gabbay J, le May A. Evidence based guidelines or collectively constructed "mindlines?" Ethnographic study of knowledge management in primary care. BMJ 2004; 329:1013–7.