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"I'm Dr Jekyll *and* Mr Hyde": Are GPs' antibiotic prescribing patterns contextually dependent? A qualitative focus group study

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Pages 158-165 | Received 27 Mar 2013, Accepted 08 May 2013, Published online: 14 Aug 2013

Cite this article <https://doi.org/10.3109/02813432.2013.824156>

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Abstract

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Several factors influence the meeting and contribute to enhancing the conditions for rational prescribing. These conditions are connected to the GP, the relationship, and the setting; organization as well as professional culture. The findings indicate synergies between the factors, and that one factor can sometimes compensate for lack of another. Continuity and mutual trust can make a brief consultation successful, but lack of continuity can eliminate the effects of knowledge and professional skills. Conclusions. The findings emphasize the importance of the encounter between the GP and the patient for prudent antibiotic prescribing. Furthermore, the importance of an appropriate organization of primary care, which promotes continuity and encourages professional autonomy, is demonstrated.

Key Words:: Antibiotic prescribing consultation doctor-patient relationship general practice primary health care respiratory tract infections Sweden

In spite of numerous efforts to reduce unnecessary antibiotic prescribing, the problem remains. This study emphasizes:

- The importance of the doctor-patient encounter for prudent antibiotic prescribing.
- An appropriate primary care organization that promotes continuity and professional autonomy



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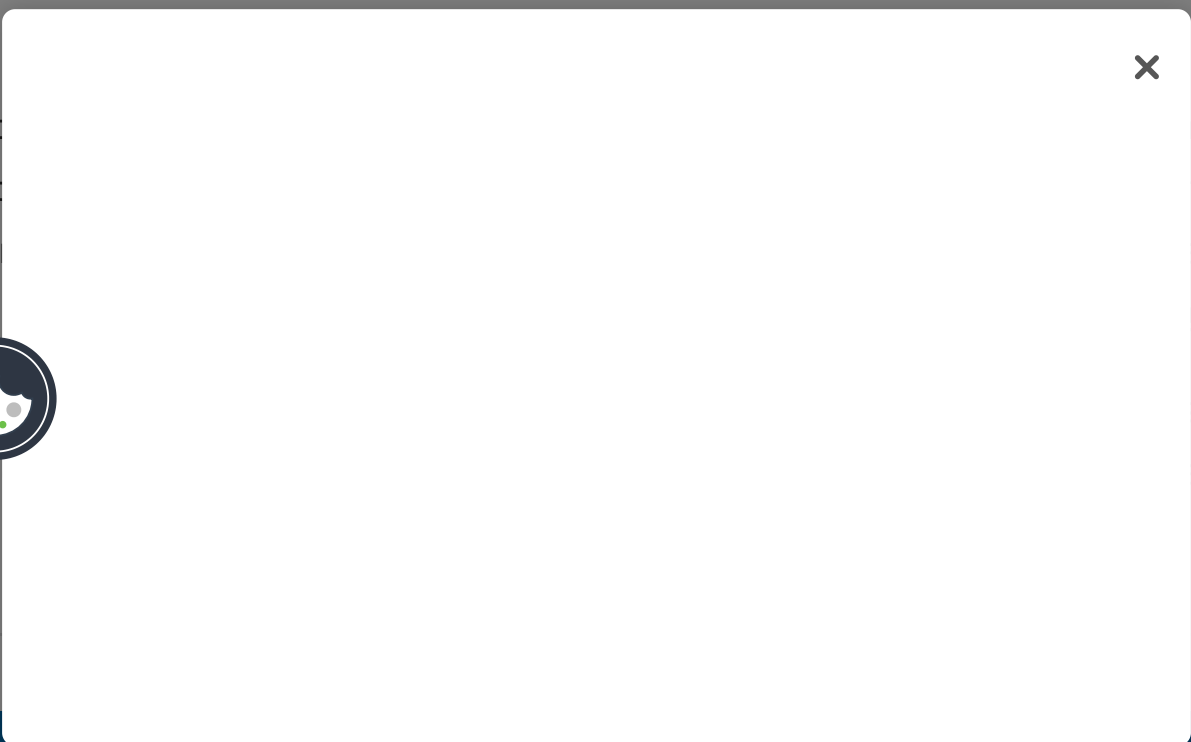
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The reasons for prescribing antibiotics contrary to current guidelines have been discussed and studied extensively [3-6]. In a Canadian historical cohort it was shown that inappropriate antibiotic prescribing increased with time in practice and was also more frequent among foreign medical graduates and among primary care physicians with a high practice volume [3].

As well known problem is the constant prescribing pattern on an individual basis. Cars and Hakansson concluded that "Doctors have an individual and very constant pattern of prescribing antibiotics, and it seems that the diagnoses are often given to justify the treatment, rather than the other way around" [4]. Some other studies concluded that a high frequency of prescriptions of antibiotics may reflect a general disposition among GPs to give priority to maintaining good relations with the patients [5,6]. They suggest that low antibiotic prescribing and high patient satisfaction could be combined if sufficient time were spent on listening to patients. Patient satisfaction was not related to the prescription of antibiotics, but to a better understanding of their illness.

Numerous efforts have been made to reduce unnecessary and potentially harmful antibiotic prescribing. These include education for providers, near-patient tests, and the introduction of financial incentives, as well as information to patients and public [7-10]. Case-based and interactive education has been proved to be effective in improving prescribing policies [2,7]. Attitudes were considerably changed, and this corresponded with altered prescribing patterns [2]. A Cochrane Review from 2005 advocated combined education for physicians, patients, and the public [11]. In a Swedish follow-up study after education, an overall reduction in the prescription of antibiotics was seen, and the

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This paper reports on one component of the EU project HAPPY AUDIT [13]. The Audit Project Odense (APO) method was tested to change antibiotic prescribing habits in six countries, chosen for their differing prevalence of antibiotic resistance. The audit was performed twice, with a year's interval during which an intervention took place. Considerable changes in prescribing habits were registered [13,14]. However, in Sweden, substantial differences between practices remained after the intervention. This suggests that the application of guidelines varies due to factors other than medical.

References

Study design

Focus groups were used to explore GPs' perceptions of antibiotic prescribing for RTIs in primary care. Focus groups are effective for exploring the meaning of conceptions and definitions of important phenomena in health care [15,16].

The interactive discussions of focus groups generate valuable details of complex experiences and reasons behind actions, beliefs, perceptions, and attitudes [17,18]. Focus-group interaction facilitates in-depth discussions through a sequence of open-ended questions that encourage participation within the group. Group dynamics create a synergy between participants contributing to discussions and descriptions of individual experiences, underlying opinions, meanings, feelings, and attitudes. A central element is not only the content of the discussion, but also the interaction between participants [19].

All authors have research experience. AD, ELG and MT have done qualitative research using focus groups. AD, ELG and MT have done research in antibiotic supervision in various countries. AD, ELG and MT have worked with general practitioners with experience in antibiotic prescribing.

Data collection

Two focus groups were arranged in Odense (Denmark) and two in Stockholm (Sweden). The participants were general practitioners (GPs) with experience in antibiotic prescribing. The net once for each country was arranged in a 60-minute session. The questions were open-ended questions about antibiotic prescribing.



Audit project.

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Table I. Distribution of participating GPs.

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A moderator introduced each focus, and made sure that participants did not deviate from the research question and that everyone was able to take part in the discussion. An assistant took notes, which were added to the data from the audiotaped discussion that was transcribed verbatim. To validate the focus-group data, ELS and AB did three individual telephone interviews with Happy Audit participants from a third Swedish region.

Data analysis

An editing analysis style according to Miller and Crabtree [21] was used starting with a naive reading followed by repeated readings of all transcripts that were examined independently in order to identify meaning units or segments that both stand on their own and relate to the aim of the study, but separate from preconceptions prior to reading the data. The units or segments were sorted and organized into categories in an iterative process throughout the analysis. In the further analysis the authors explored categories, determined patterns and themes, and constructed models. The

continued. ELS and AB met and discussed until consensus was reached on the segments for feedback. The segments contained



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When referring in the results to the participants' statements, these are written in the past tense, while interpretations of statements are in the present tense.

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According to Swedish legislation, ethical approval was not necessary for this study since it was considered a quality improvement project. All participants were informed that participation was voluntary, that they could withdraw at any time, that all data would be handled confidentially, and that the results would be presented in a non-identifiable way.

References

Results

We found that the most significant and important factor concerning antibiotic prescribing for RTIs is what happens when the GP meets the patient (Table II). Our main finding concerns two dimensions of this encounter: characteristics of the meeting depending on the interaction with the patient (Figure 1) and influencing factors (Figure 2).

Figure 1. Characteristics of the encounter between the GP and the patient.

Encounter



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Figure 2. Factors influencing the encounter between the GP and the patient.



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Characteristics of the encounter

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Table III. Factors and sub-factors influencing the encounter between the GP and the patient.

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GPs themselves. Our interpretation is that clinical skills and knowledge of guidelines are important factors for making decisions about whether to prescribe antibiotics for RTIs or not.

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Self-efficacy, i.e. not losing confidence in one's own capability, is important in spite of all possible tests, near-patient tests and others. Such clinical tests are not always used. Professional autonomy was expressed to be of importance for prudent prescribing of antibiotics, as was the GP's professional authority in the clinical situation for trustworthiness with the patient. Prudent prescribing is not always about reducing prescribing rates, but prescribing for the right indications. All GPs have their own strategies for making the consultation a success. Our participants talked about short cuts – being lazy and obedient to guidelines for treating RTIs, and guidelines and rules of thumb could save time and energy. It was considered useful to give the patient a couple of minutes' extra time for reasoning about antibiotics and resistance problems. Safety netting through possible follow-up was mentioned as a strategy in itself, but difficult when meeting the patient in the emergency centre. Information about the risks of excessive use of antimicrobial drugs was considered a useful strategy.

Relationship with the patient. The participants expressed views on the relationship between the GP and the patient. Our interpretation is that continuity of care and mutual trust bet

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Setting of the encounter. The organization of the work may facilitate or complicate the rational use of antibiotics for RTIs.

Discussion

A facilitating factor that was mentioned is the overall consensus at the primary health

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care centre (PHC) about how to treat patients with RTIs. Overall consensus and a

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common professional culture are achieved through local professional discussions and exchange of experience. Teamwork with primary nurse assessment and return visits for follow-up are also considered facilitating.

The availability of ordinary GPs is a facilitating factor as well. A primary care practice with ordinary GPs promotes continuity of care. Many Swedish physicians today are hired for a shorter period of time without a list of patients of their own and they are, according to our participants, the ones who usually meet the RTI patients, a kind of fragmentation of the workload. According to the participants, they seem to have a tendency to prescribe more antibiotics for RTIs than the ordinary GP.

GPs who reported that they normally follow the guidelines admitted that they prescribe more antibiotics when on call or at the emergency centre. This is due to lack of time and possibility to follow up but also to the absence of personal knowledge of the patient: "I'm Dr Jekyll and Mr Hyde."

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Strengths and limitations

Abstract

Introduction
This study is part of a multi-method approach to deepen the understanding of circumstances favourable to rational antibiotic prescribing. Focus groups were chosen for data collection. We planned for and conducted two groups and were prepared for a third if the data achieved proved to be insufficient. This method has the advantage of producing ample data in a limited time, and the group process between the participants stimulates the sharing of experiences. The participants were strategically chosen among those who participated in both registrations in the Happy Audit project, indicating that they were actively and practically engaged in rational prescribing and thus could be expected to prescribe antibiotics more prudently. We recruited participants to get as broad a representation as possible from the Happy Audit material, which means that the invited participants represented both urban and rural areas as well as low-prescribing and high-prescribing districts/areas. According to the literature there is no magic number concerning sample size in focus-group interviews. A common recommendation is two to five groups [22]. Sample size is not, according to Crabtree and Miller [21], “the determinant of research significance in a qualitative study; the major concern is with information richness”.

The GPs had voluntarily participated in the Happy Audit project including the intervention. It is therefore likely that they have more knowledge and are more reflective concerning antibiotics than the average practitioner. In spite of this, they share numerous examples of acting contrary to the guidelines. Thus, we believe that these experiences are transferable at least in a Swedish context.

The data and expectations cannot be generalised. The aim of which is to contribute to the assumption that our



Conclusion
The findings are similar to those reported by

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One result was the importance of the knowledge level of the GP, also corroborated in a previous study [24]. The findings indicate that continuity is favourable for the relationship between GP and patient, but it is obvious from another study [25] that when patients do not get well, continuity is not sufficient.

The participants in this study revealed experiences concerning the consequences of the organization for prescribing of antibiotics. The organization of primary care may be important in at least two ways. It can facilitate a good relationship between the GP and the patient by promoting continuity. A stable relationship based on continuity increases the chances of a smooth encounter. Thus, inappropriate organization may indirectly contribute to increased antibiotic resistance.

Second, stable staff at a PHC is a prerequisite for the formation of a professional culture with a local common policy. This can be labelled continuity on the aggregated level. The findings of this study indicate that a common policy in a primary care centre is a success factor in the task of improving prescribing habits. Corresponding results have been found in previous research as well as in a focus-group study on similar topics among Happy Audit participants in Lithuania and the Kaliningrad region [26,27].

A professional culture with a common policy may not simply be regarded as a result of adherence to guidelines, but also as an autonomous attitude: a genuine desire to do things right and make a difference [28].

An alternative path to achieving a common policy might be to have professional meeting places outside the PHC, for instance continuing medical education (CME) groups.

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Abstract
Our findings emphasize the importance of the encounter between the GP and the patient for decisions concerning antibiotic prescribing. A stable relationship between the two and the GP's knowledge of guidelines contribute to prudent prescribing. Furthermore, the importance of appropriate organization of primary care, which promotes continuity of care and encourages professional autonomy, is demonstrated.

Discussion Authors' contributions

Acknowledgements
ELS and AB were equally involved in study design, conducted and analysed the focus groups and interviews, wrote the paper, and will serve as guarantors for the integrity of the data. CH and KH did the literature search. MT contributed to editing the paper. All authors have read and approved the final manuscript.

Acknowledgements

The authors would like to thank the GPs who chose to take part in the focus groups for this study for their time and contribution. This project was prepared as part of the EU project HAPPY AUDIT, a Specific Targeted Research Project (STREP) funded by the European Commission: DG SANCO under the Framework Programme 6 (SP5A-CT-2007-044154). Contract Number 044154.

Special thanks are offered to Lena Lennartsson and Anna Ohlsson, Blekinge County Council and Dorthe Geisler, Kronoberg County Council for tables and figures.

Declarations

The authors declare that they have no competing interests for the content of this article.



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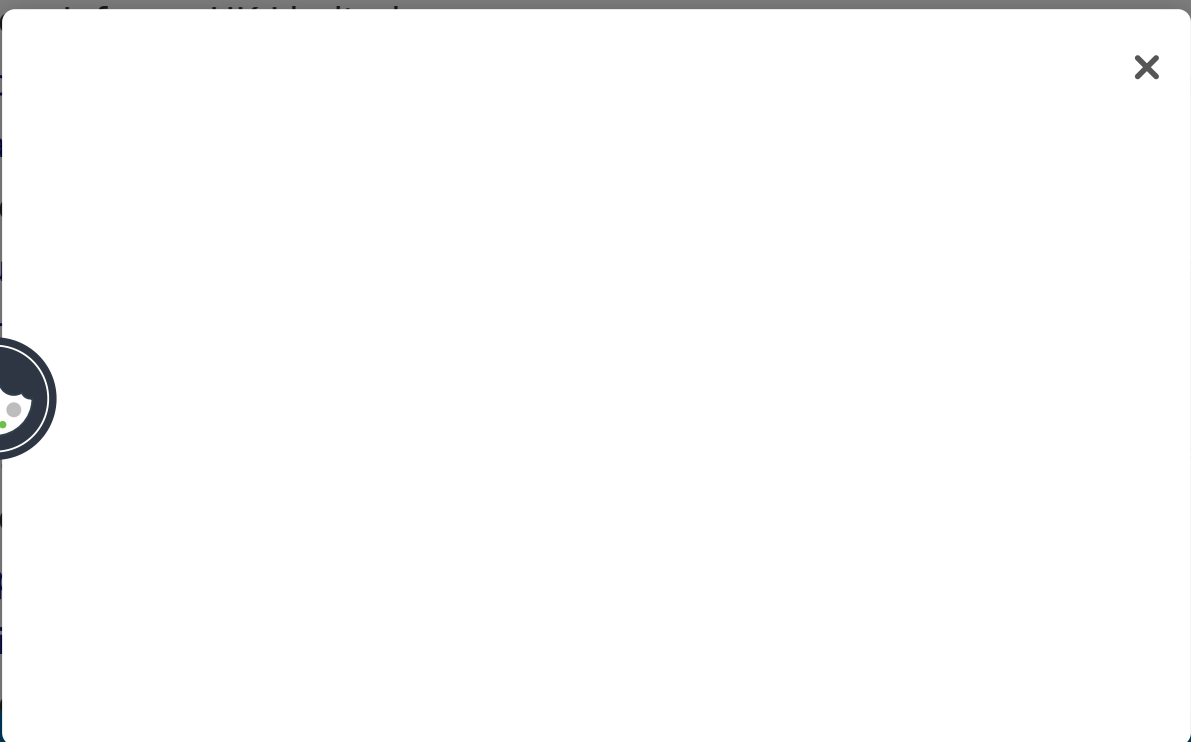
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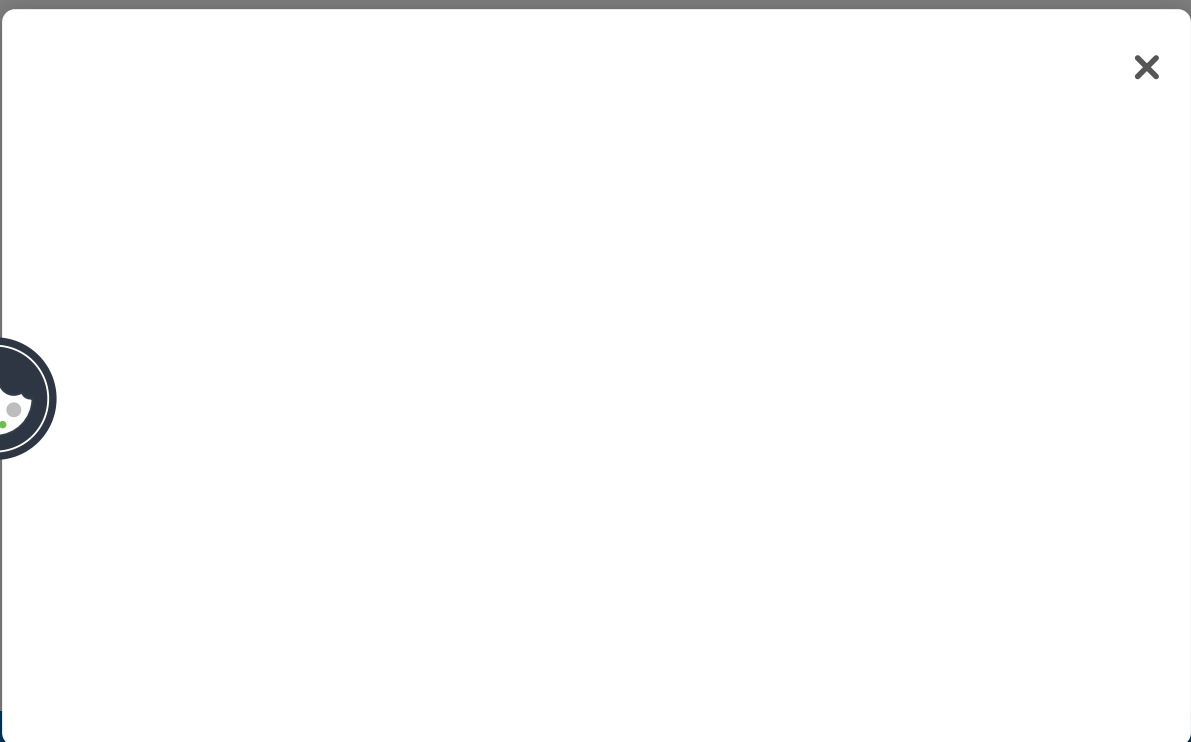
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