Variations in understanding the drug-prescribing process: a qualitative study among Swedish GPs

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Background. A majority of doctor–patient meetings result in the patient getting a prescription. This underlines the need for a high-quality prescription process. While studies have been made on single therapeutic drug groups, a complete study of the physicians’ general thought process that comprises the prescription of all drugs still remains to be made.

Objective. To identify variations in ways of understanding drug prescribing among GPs.

Methods. A descriptive qualitative study was conducted with 20 Swedish physicians. Informants were recruited purposively and their understandings about prescribing were studied in semi-structured interviews. Data were analysed using a phenomenographic approach.

Results. Five categories were identified as follows: (A) GP prescribed safe, reliable and well-documented drugs for obvious complaints; (B) GP sought to convince the patient of the most effective drug treatment; (C) GP chose the best drug treatment taking into consideration the patient’s entire life situation; (D) GP used clinical judgement and close follow-up to minimize unnecessary drug prescribing and (E) GP prescribed drugs which are cheap for society and environmentally friendly. The categories are interrelated, but have different foci: the biomedical, the patient and the society. Each GP had more than one view but none included all five. The findings also indicate that complexity increases when a drug is prescribed for primary or secondary prevention.

Conclusions. GPs understand prescribing differently despite similar external circumstances. The most significant factor to influence prescribing behaviour was the physician’s patient relation approach. GPs may need to reflect on difficulties they face while prescribing to enhance their understandings.

Keywords. Phenomenography, prescribing behaviour, prescribing practice, rational drug prescribing.

Introduction

The quality of drug prescribing in general practice is of great importance since a majority of doctor–patient encounters in Europe result in a prescription.1 An awareness of GPs’ ‘strong and weak’ points is thus a prerequisite for the development of professional competence2 while prescribing drugs. A recent Swedish study suggests that work performance is related to how the work is understood and that competence comprises not only theoretical knowledge and practical skills but also a personal understanding that creates, forms and organizes knowledge and skills into competence.3 An attempt to describe how GPs think while prescribing is therefore an important part of enhancing the quality of the process.

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One factor in health care is that humans, both professionals and patients, vary in their experiences and thinking in relation to diagnosing and drug treatment and this is probably one of many issues that makes drug-prescribing complex. It is well known that many factors, on different levels, influence GPs’ prescribing practices. Some of the factors are GP attitude to evidence-based guidelines and costs of drugs, current routines, traditions and colleagues at the workplace, the individual physician’s characteristics and experiences, the individual patient’s health status, previous prescriptions, understandings and wishes, as well as the communication between GP and patient. It is clear that much prescribing in general practice cannot be attributed to purely pharmacological judgements. Previous studies give us only sparse knowledge of how GPs think when they prescribe and an information gap still remains regarding the variations in the general thought process when GPs are about to prescribe a drug. The aim of the present study was to identify and describe variations in ways of understanding drug prescribing among GPs in Sweden.

Methods

Theoretical framework

The phenomenon examined in this study is drug prescribing. To get the best possible understanding of how GPs think about prescribing, we chose a qualitative approach inspired by phenomenography: a pedagogic research method developed in the late 1970s and now increasingly used in health care research. This research approach aims to describe variations in how people understand or make sense of a certain phenomenon, such as drug prescribing. When a group of individuals reflect upon a phenomenon, different aspects of the phenomenon are brought into the focus of awareness and different meanings of the phenomenon created. These different ways of understanding may reflect and affect peoples’ ways of acting.

Aspects of reality are experienced in a relatively limited number of ways. In phenomenographic studies, semi-structured interviews form the basis for data collection and 20 informants are considered to be enough to capture all potential ways of experiencing a phenomenon.

Informants and data collection

Twenty GPs working at 13 different group practices in the Stockholm area were interviewed. Three of them were doing their vocational training as a GP. To get variations in understandings, informants with differences in background characteristics (Table 1) were purposively selected. The potential informants were selected from a register provided by the health authorities and initially contacted by the interviewer via e-mail explaining the aim and procedures of the study. After receiving this first information, the GPs were contacted through a personal telephone call. To reach a sample of 20 informants, we had to contact 32 GPs. Five declined the request due to lack of time and seven did not reply.

The interviews took place at the physicians’ workplaces from January to September 2007. All interviews were conducted by the first author (PBR) and lasted between 35 and 85 minutes (median 58). The interviews were semi-structured with three main questions: (i) What is the central feature in work with drugs generally speaking and drug prescribing in particular? (ii) What is difficult about drug prescribing? (iii) When do you feel you have been successful with drug prescribing?

To obtain rich descriptions, the GPs were encouraged to give examples. Follow-up and probing questions were used to clarify answers. The interviews were tape recorded and transcribed verbatim.

Data analysis

In phenomenographic analysis, categories of description are the key features. These categories are often related to each other which can be illustrated in an outcome space. The outcome space shows the informants’ collective way of understanding a phenomenon and is a result of the researchers’ analysis. The steps in the analysis are shown in Table 2. Data were analysed by three authors i.e. a behavioural scientist (PBR), a physician (JL) and a registered nurse (IH). The last two authors have long experience of the phenomenographic approach. The other authors (UR, LLG and GT) acted as co-readers.

Results

We identified five variations in ways of understanding drug prescribing among the 20 GPs interviewed (Table 3). These different ways are described in categories A–E where each category is illustrated by quotations (Table 4).

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Table 1 Descriptions of (n = 20) Swedish GPs participating in semi-structured interviews

| Description                              | Total |
|------------------------------------------|-------|
| Women/men                               | 7/13  |
| Age                                      | 32–64 (mean 51) |
| Years in profession, range              | 1–32 (mean 18) |
| Years as GP, range                       | 0–27 (mean 14) |
| Employment conditions private practice/National Health Service | 8/12  |
A. GP prescribed safe, reliable and well-documented drugs for obvious complaints
In this category, the GP focused primarily on the safety aspects and they described safe drug prescribing as being safe for them as professionals, as well for the patient; nothing will happen to the patient that they are not aware of. They wanted solid evidence of efficacy and safety of a drug. This is achieved when a drug is well documented by experts and recommended in guidelines issued by experts. Previous experience of a drug made the GPs feel safe about the drug’s efficacy, side effects and dosage (quotation A1). When drug prescribing was understood in this way, focus was on obvious and often uncomplicated treatable conditions where it was possible to prescribe drugs with immediate effect, in contrast to drugs with a delay in reaching results. Drugs which have an effect on severe symptoms were described as the most satisfying (quotation A2).

B. GP sought to convince the patient of the most effective drug treatment
Focus here was the physicians’ knowledge of the positive and negative effects of a drug, and they sought to...
pass on this information to the patient (quotation B1). The information transfer often took the form of a negotiation between GP and patient, where the GP strove for the patient’s acceptance of the suggested treatment. Without acceptance from the patient, compliance would decrease. Difficulties arose when a drug was indicated for primary or secondary prevention and when the evidence-based knowledge was not obvious due to local and sometimes fragmentary consensus among experts. Without clear evidence, it was difficult to convince the patients about the best treatment. Sometimes drugs were experienced as too expensive for the patient. When the patient’s private economy was strained, the GPs deviated from recommendations and chose a cheaper analogue drug (quotation B2).

C. GP chose the best drug treatment taking into consideration the patient’s entire life situation
This perspective takes into account the patient’s entire life situation. The GPs do not rely exclusively on their biomedical knowledge and practical experience while prescribing. Respect was shown for the patient’s personal view of the proposed drug treatment (quotation C1). The aim was to get the patient to assume part of the responsibility for his/her treatment. The GPs described how they shared knowledge through listening,

### Table 4  Examples of quotations from interviews presented in the different categories

| Category | Quotations | Informant number |
|----------|------------|------------------|
| (A) In focus: achieve clinical benefits and minimize harm by using safe drugs | I use drugs that have been extensively tested and that have a lot of scientific background, not new ones that may bring with them unknown, unpleasant surprises. Drugs that have been tested make me feel more secure while prescribing (quotation A1). Patients may arrive in pain and basically unable to move their arms and then they get cortisone and after two days they feel just fine. That makes you feel you’ve achieved something. You’re really curing someone. The result is visible immediately, even if you then have to reduce the cortisone over a long period of time (quotation A2). | 8, 6 |
| (B) In focus: the patient as an object who should take the drug | I don’t prescribe drugs if the patient isn’t on board with the idea because I know in those cases the patient won’t take the medication. You have to explain the reason for taking it to them because they don’t feel the hypertension. They say they feel fine. So I view myself as a sales person in every situation (quotation B1). Many drugs cost a heck of a lot of money. That is okay for those who exceed the limit for when the state starts paying for the drugs (1,800 kronor, author’s note), in those cases you can be more generous in your prescriptions. As an example, Symbicort costs about 600 kronor which is pretty expensive. You can either replace it with Bricanyl and Pulmicort, which you get for about half the price of Symbicort. Or you can cheat and prescribe Prednisolon which is really cheap. It isn’t harmful and it is pretty effective but it shouldn’t really be prescribed. You could also just wait and see if the problem goes away by itself (quotation B2). | 3, 10 |
| (C) In focus: the patient as a subject who takes part of the responsibility for their treatment | You should always be prepared to listen to the patient, always be willing to reconsider because beside general strategies you also need to consider the individual’s needs. I think one should keep on going until one is satisfied. Sometimes I realise that the situation is very complex and I tell the patient that we are going to have to see each other many times over a period of let’s say three to four months before we know exactly what to do. We take our time and try different solutions (quotation C1). That is viewing the patient as a responsible individual. If you want a patient to take responsibility for his or her disease as well as its treatment, you have to provide the tools (quotation C2). | 2, 7 |
| (D) In focus: minimize unnecessary drug prescribing | I think we are seeing an extreme medicalisation where we not only prescribe drugs for all kinds of ailments, we also make medical issues out of everyday problems, like when someone is having a hard time at work, is mourning the loss of a relative or just got divorced. This used to be regarded as part of life but nowadays you aren’t allowed to feel down. Instead people make an appointment with a physician who is expected to do something about that person’s life situation. The patient is stripped of responsibility. The physician is supposed to come up with a diagnose and, best case, prescribe a pill to ease the anxiety (quotation D1). Part of being a skillful physician is to know when medication is necessary and when it is not. This skill is something we need to safeguard, we need to work on the clinical competence instead of just prescribing drugs. I think it is something we are getting worse and worse at (quotation D2). | 13, 9 |
| (E) In focus: cheap and environmental friendly drugs | When a patient has visited a fancier clinic and received the latest and very expensive drug, yet not extensively documented, I change the prescription to a cheaper equivalent. You have to constantly seek to be aware that you aren’t only handling potent chemicals but also an economy that is lagging behind and must provide for all. We can’t just prescribe at random if there is going to be enough for everyone (quotation E1). To the patient the difference isn’t very big if I prescribe an expensive or a cheap drug because a more expensive medication just makes the patient reach the completely subsidised level sooner. But I don’t think it is right that society should pay, which is why I try to choose the cheapest ones. I don’t like to prescribe Kinolones such as Lexinor because it doesn’t break down easily and is accumulated in nature. The environmental aspect is very important and I also try to talk to my colleagues about it (quotation E2). | 7, 14 |
giving advice and discussing the treatment with the patient. This way the patients were given tools to learn more about the disease and its treatment (quotation C2). Through empowering the patient, the patient could use the knowledge in the day-to-day life, a process that demands continuous contact. Sometimes the physician and the patient had to test if a drug treatment suited the patient; occasionally, a drug treatment could facilitate the GPs in diagnosing.

D. GP used clinical judgement and close follow-up to minimize unnecessary drug prescribing

GPs with this view described drugs as powerful and potent tools which should be used with caution. Especially when prescribing a new drug whose side effects the GPs had little knowledge about. It was experienced as time consuming to explain to the patients, who are influenced by the media and the health care organization per se and why drug treatment was sometimes unnecessary (quotation D1). Patients may also have been prescribed drugs from different health care providers that the GPs knew little about. When the GPs refrained from prescribing a drug, they ‘practiced medicine’ which could lead to an improvement of their clinical skills (quotation D2).

E. GP prescribed drugs which are cheap for society and environmentally friendly

In this category, the GPs described responsibility towards society as a whole. The main focus was to reduce costs on the society level. Nonetheless, a drug should not just be cheap, it must also be recognized by the GPs as an effective, well-documented drug (quotation E1). When the focus was on the global environment, it centred on how drugs pollute the environment (quotation E2). The global environmental aspect comprised the aspect of the economy of the society.

Outcome space—relations among categories

The relationship between the five categories constitutes the outcome space (Fig. 1). The five categories had three different foci: the biomedical (A and D), the patient (B and C) and the society (E). Category A constituted the basic level of the biomedical perspective while Category D is referred to the physicians’ more comprehensive way of thinking as it includes aspects of the other categories. None of the GPs had Category D or E as their predominant way of understanding drug prescribing. A combination of understandings could be seen in all 20 GPs (Table 3). None of the GPs had adopted all five views, but in some cases, three or four different understandings could be detected in the same GP. For example, the society-oriented focus (E) could be combined either with a focus on the patient as an object (B), the patient as a subject (C) or considered from a biomedical perspective (A and D).

Discussion

Despite similar external circumstances, the findings demonstrated a substantial variation in understanding drug prescribing in the group of GPs. The five categories represent the collective GP approach (Fig. 1) and could be seen as a ‘work map’ of what the GPs direct their attention to while prescribing.

When drug prescribing was understood from the perspective of biomedical knowledge (described in Category A), it seemed that the GPs thought in quite similar ways. The GPs described how they have a clear indication for drug treatment, as for example treatment of urinary infection. The condition/disease is often regarded as uncomplicated and experts’ recommendations are described in consensus and easy for GPs to follow. The focus here was on the pharmacological characteristics of the drug. The cost and environmental aspects (described in Category E) appeared to influence prescribing decisions, but seemed to be of lower importance than safety and efficacy concerns as described in Category A. These findings are in line with earlier research that shows how GPs prioritize safety and efficacy over cost aspects while prescribing.

In contrast, a more complex way of understanding prescribing (described in categories B, C and D) was when a drug was indicated for treatments such as for hypertension or high cholesterol or when the patient
wanted a new depression-treating drug or asked for medication to facilitate weight loss. In this way of understanding, the GPs needed to predict the effect in that particular patient and had to broaden the thinking to different aspects concerning the patients’ entire life situation. The effect of a drug or drug therapy as primary and secondary prevention may be unclear since guidelines from different studies are not always in consensus. This makes it difficult for GPs to assess the validity of the biomedical knowledge and its relevance to the individual patient. In this way of understanding, focus on the individual patient as a source of information increased and sometimes conflicted with evidence-based medicine. Without clear evidence, it is complicated for the physician to explain how the drug is expected to help the patient.

When drug prescribing was understood from a more complex view, the GPs reported how they used different approaches when meeting the patient. Categories B and C have the patients in focus but from different perspectives. In Category B, the GPs are in possession of authority in terms of having knowledge and the GPs tried to ‘sell’ the best treatment to the patient. This way of understanding could be referred to as a more paternalistic model of physician–patient relationship where the patients should in a passive manner be taught why they should be treated. The paternalistic model is criticized for its narrow role that excludes the patient’s perspective. Research has shown that a minority of patients, especially when seriously ill, preferred a passive role like patients with impaired cognition who have difficulties taking part in the decision-making process. This underlines the fact that it is important for GPs to change their patient relation approach depending on the situation. An important part of developing and changing understandings is that the GPs get to reflect on their experiences to be able to broaden their views. This reflection process could be arranged as an educational intervention where the group of GPs are exposed to the outcome space. According to theory of understanding, this could deepen and change the understanding of the studied phenomenon and hence improve drug prescribing.

**Limitations**

Focus in this study was not on individual differences between GPs, it was instead based on our interest in the different ways the drug-prescribing process was understood in the group of GPs. The GP’s different ways of understanding prescribing were identified in Table 3 for illustration.

Some aspects of drug prescribing were absent in the interviews, such as the important role of dosing according to type and intensity of disease. Neither did the GPs talk about the huge, well-documented differences in drug response between patients and ethnic groups due to environmental and pharmacogenetic factors. The reason why these aspects were not reported might be connected to the interviewer’s pre-understandings. The interviewer is a behavioural scientist with 8 years of experience from the field of drug supply information and support systems to GPs.
Insufficient knowledge in the field of being a GP and prescribing drugs may create blind spots that hinder exhaustive communication, such as effective follow-up questions. The other authors are all health care professionals (one registered nurse and four physicians) with experience in the field of drug prescribing. However, without coming to an understanding on drug selection and dosage strategies among GPs, it will be difficult to implement a personalized pharmacologic paradigm in general practice. Additional studies will be needed for this.

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Declaration

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