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GPs' thoughts on prescribing medication and evidence-based knowledge: The benefit aspect is a strong motivator

A descriptive focus group study

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Abstract

Objective. To describe GPs' thoughts of prescribing medication and evidence-based knowledge (EBM) concerning drug therapy. **Design.** Tape-recorded focus-group interviews transcribed verbatim and analysed using qualitative methods. **Setting.** GPs from the south-eastern part of Västra Götaland, Sweden. **Subjects.** A total of 16 GPs out of 178 from the south-eastern part of the region strategically chosen to represent urban and rural, male and female, long and short GP experience. **Methods.** Transcripts were analysed using a descriptive qualitative method. **Results.** The categories were: benefits, time and space, and expert knowledge. The benefit was a merge of positive elements, all aspects of the GPs' tasks. Time and space were limitations for GPs' tasks. EBM as a constituent of expert knowledge should be more customer adjusted to be able to be used in practice. Benefit was the most important category, existing in every decision-making situation for the GP. The core category was prompt and pragmatic benefit, which was the utmost benefit. **Conclusion.** GPs' thoughts on evidence-based medicine and prescribing medication were highly related to reflecting on benefit and results. The interviews indicated that prompt and pragmatic benefit is important for comprehending their thoughts.

Key Words: *Benefit aspects, evidence-based medicine, family practice, general practitioner, pharmaceutical therapy, prescribing, utilitarianism*

Introduction

This paper is about general practitioners' (GPs') prescribing of medication and evidence-based medicine (EBM). EBM refers to the conscientious, clear, and sensible use of the most solid currently existing knowledge when making decisions affecting the individual patient. It also entails the cost-efficient use of available resources [1]. There is disagreement as to whether EBM is applied to a sufficient extent in primary healthcare, but there is a general aim that it should be included in GPs' clinical practice and serve as the basis for recommendations and guidelines as far as possible. In Sweden general practitioners are the largest group of prescribers, responsible for more than 50% of all prescriptions [2]. Reports from the Swedish Council on Technology Assessment in Health Care (SBU) are sources of

General practitioners' thoughts on evidence-based medicine (EBM) and medication are highly related to reflecting on benefit and results.

- GPs' thoughts of benefit emerged as the most important category.
- The benefit should be prompt and pragmatic.
- Evidence-based pharmaceutical information requires development to better correspond to prescribers' thinking.

evidence-based and independent knowledge [3]. Studies of GPs in England, Norway, Sweden, and Iceland have indicated that the consolidation of guidelines into clinical practice is difficult [4–7]. In

Table I. Gender, age, type of practice and years in profession of focus-group participating GPs.

	n	Age		Mean age
		39–49	50–69	
Men (no.)	10	6	4	48.9
Women (no.)	6	4	2	46.8
Total	16	10	6	48.1
Type of practice community of the GPs' participating in the focus groups				
City 30 000–100 000 inhabitants	5	2	3	
Rural area and city with population <30 000	11	8	3	
Years in profession (range)		2–14	9–22	

Norway, feedback on prescription data, together with recommendations, led to at least short-term change in GPs' prescribing habits [8]. Academic detailing, designed as problem-based learning with feedback, has been described in the US and Sweden [6,9]. In Holland, GPs group-working systematically with quality issues resulted in changes in medication prescriptions [10]. Swedish studies have shown that educational programmes can influence the prescribing of antibiotics [11,12]. There are reports on how pharmacists visiting GPs to provide information on hyperlipidaemia changed prescription patterns for lowering blood lipids, compared with written information only [13]. Feedback on prescription patterns affected and decreased medication prescription [14] and education in small groups headed by a pharmacist and a GP led to changes in prescription habits [6].

A phenomenological study among Icelandic GPs showed that continuity of medical care and a stable patient–doctor relationship may be seen as most important tasks for the GPs to promote evidence-based prescribing [7]. However, educational outreach visits appear to be a promising approach to modifying health professional behaviour, especially prescribing [15]. To improve prescribing it seems to be preferable to use several methods [16].

Thus, existing knowledge on how GPs' prescribing habits can temporarily be influenced is relatively

substantial. Key characteristics important to success are lacking [15]. Deeper understanding of doctors' views of perceptions and problems related to describing them is needed to influence these complex activities [17].

The purpose of this study was to describe GPs' thoughts on prescribing and on evidence-based knowledge concerning drug therapy. This might eventually contribute to the identification of target areas for future implementation of EBM among GPs.

Material and methods

Focus-group interviews, a method particularly useful for exploring people's knowledge, experiences, and thoughts [18], were used to access the thoughts of the GPs. In this study thoughts mean the GPs' thoughts based on knowledge, views, and experiences as expressed in the focus groups. Of a total of 178 GPs in the south-eastern part of Västra Götaland, 24 were strategically selected and personally invited by mail. The selection aimed at including GPs with different experiences, both men and women. Of the 24 invited GPs, 16 agreed to participate (Tables I and II).

Tapes were subsequently transcribed and analysed by the three authors (two GPs, one of them MD/PhD and one nurse-sociologist/PhD). After several

Table II. Facts regarding the focus-group interviews.

Number of groups	4
Number of participants in each group	4
Length of interviews	Two hours
Tape-recorded	Yes
Question guide	Yes, dealing with experiences of prescribing, how knowledge is acquired/obtained, reviews on EBM and thoughts about knowledge and information in future
Moderator	Yes (IS), medical doctor, helped by facilitator with prior experience of the method, assisting in the first group
Notes were taken during the interviews	Yes, by moderator
Listen to the tapes	Each tape was listened to within 24 hours by moderator
Assessment	A comprehensive assessment was written by moderator after the interviews. This was used to recall the first impression during the analysis
Subsequently transcribed verbatim	Yes

Table III. Themes and categories forming the core category “Prompt and pragmatic benefit”.

Themes	Categories	Core category
Curing	Benefit	Prompt and pragmatic benefit
Limiting		
Economizing		
Conducting	Time and space	
The available time sets the limits		
Knowledge on a day-to-day basis		
Information scrutiny and sorting out	Expert knowledge	
Patients as the doctor's source of knowledge		
Part of the art of medicine		
Retaining and preserving knowledge		
“Law of medical inertia”		
Theory versus practice		
Custom made		

readings the text was divided into meaning units. Units with the same contents were compiled under different themes. The themes were then assembled into categories. One category was more pertinent than the others, included the others and was therefore labelled a core category. The method may be considered qualitative, descriptive although some interpretations may have been at hand [19].

The results were validated by 12 of the 16 informants being asked to assess whether they approved of our designation of the core category in the analysis. In the results section, categories and heading themes are indicated.

Results

Benefit and prompt and pragmatic benefit

Benefit, in various aspects, was the category emerging most clearly from the interviews. In every decision-making situation, positive elements collaborated and enhanced the possibility that a given treatment would be chosen over another (Table III). The benefit was a merge of positive elements, all aspects of the GPs' tasks: curing, limiting, economizing, and conducting. It included benefit for the patient, the doctor, the caring situation, the working

situation, and the unit. The benefit should be prompt and pragmatic, delivered immediately, useful and handy. It was not a benefit for society or for a very long-term perspective (Table IV).

Curing. The GPs emphasized the endeavour to be useful and to help and they regarded it as a part of the profession. Medications were considered a potent concrete tool and thus a means for the GPs to fulfil the endeavour. If it was difficult to identify the benefit to the patient yielded by therapy, doctors often hesitated to advise the patient to begin taking medication, for example to treat high blood pressure. It was a more rewarding experience for the GP to prescribe medication that offered a prompt result compared with medication showing results at some time in the future.

Limiting. Setting limits on medication against the patient's wishes but for the benefit of health was described as a mentally stressful experience. This applied to the case of addictive drugs; power became an abstract tool for the doctor in whose opinion refusal to prescribe often was more beneficial to the patient than the desired medication. Limiting is closest to a long-term aspect.

Table IV. Themes derived from meaning units forming the categories “benefit” and “time and space”.

Curing	“He sank into a depression. Then he got help and bounced back after a month, in great shape. ‘Now that’s a fellow we’ve never seen before!’ said the staff.”
Limiting	“A person who has to run around his whole life addicted to drugs, showing up on the doctor’s doorstep the minute the pill bottle is empty, must be a very unhappy person. You simply don’t want to make them that unhappy.”
Economizing	“Actually, I rather like thiazides but all my patients’ potassium levels go down, so I use furosemide instead.”
Conducting	“The prescription helps us bring the parts of a consultation together; it is a conclusion and something concrete for the patient to take with him/her.”
The available time sets the limits	“The only obstacle is that it’ll be hell to come back, you have to pay back to take the time.”

Economizing. When it came to economic benefit, the doctors focused exclusively on the patient's economy. The need to follow up prescribed drugs with blood tests and check-ups was also significant for the doctors' assessment of benefit to the patient.

Conducting. Prescription of medications was a symbolic tool or ritual, performing a rounding-off which did, when correctly applied, carry the work forward. It was not mentioned as entirely positive and some doctors stated that they wrote a prescription because they thought it was wanted, or to end the consultation faster. In many cases the consultation could be concluded without prescription.

Time and space

According to the doctors, relating to time was about making it suffice. Taking benefit into consideration was also part of the picture and most often entailed giving priority to working directly with one's patients, a choice considered to be obvious. It was thus hard to find the time to meet other demands in addition to working with patients. *The available time sets the limits*, especially concerning continuing education. Listening to a verbal presentation of a book or report, obtaining information quickly from a book or by phone, or attending a well-prepared lecture were examples of circumstances facilitating and improving the utilization of time. The Internet was considered time-consuming and complicated (see Table IV).

Factors crucial to the doctor's handling of knowledge and prescription were physically close at hand, implying a low consumption of time. A district nurse to collaborate with, instructions for taking clinical

tests, good written and oral information, and simple routines for adhering to treatment were important.

Expert knowledge

When the doctors spoke of knowledge the emphasis was on how knowledge is used, where it is obtained, how it is maintained and how it relates to the EBM concept (Table V).

The practice base *knowledge* of different drugs, obtained by those prescribing medication on a *day-to-day basis*, was an important source of knowledge when treatment was selected.

Information from the pharmaceutical industry required *scrutiny and sorting out* in order to be beneficial but practical advice regarding drugs that were already familiar was appreciated. The patient's opinion was important when evaluating side effects and also when considering treatment. The perceived side effects, rather than scientific studies, were the focal point. At this point, the *patients* become the *doctor's source of knowledge*.

Retaining and preserving knowledge was described as important since it took time to compile it. The "*law of medical inertia*" means that a change in prescribing goes slowly. First, a new drug would not be chosen instead of an old one without further consideration. Second, the arduously created confidence in the patient-doctor relationship could easily be demolished by treatment failure. Some participants stated, however, that doctors should introduce beneficial innovations early.

The issue of *theory versus practice* was especially apparent when evidence-based advice was to be followed. The advice had to be *custom-made* for general practice. Other specialists lecturing in their

Table V. Themes derived from meaning units forming the category "expert knowledge".

Knowledge on day-to-day basis	"There is much knowledge in primary healthcare just to be gathered by someone."
Information scrutiny and sorting out	"I think information that's not tied to the manufacturer is an important alternative. There are lots of good things about the pharmaceutical industry but we need to learn the economically important bits from an organization not associated with the manufacturer."
Patients as the doctor's source of knowledge	"There are many hindrances if you really listen to the patient's story. There are side effects and they get tired from beta-blockers, cough from ACE inhibitors, and pee from diuretics."
Part of the art of medicine	"It just goes without saying; you're practising medicine when you write prescriptions."
Retaining and preserving knowledge	"It is good to have in mind what will happen in some years concerning side effects. It's good to know how the drug can be used in practice. I learn from my colleagues' practice at the hospital."
"Law of medical inertia"	... "This law of medical inertia has often saved us from throwing ourselves into therapeutic measures that didn't turn out so well. It's about maintaining trust, perhaps for many decades."
Theory versus practice	"You get the impression that it was written by old professors that scrutinized something and then crankily said, 'There's no evidence for that' but basically I think [evidence-based summaries] are a good principle. The field that has emerged throughout the years is gigantic."
Custom made	... "In a previous edition of Läkemedelsboken [physicians' reference guide for pharmaceutical treatment], we found the specialists' opinions, based on patients who were so ill that they were seeing the specialist, and all of a sudden half of humanity has these symptoms. We can't follow advice like that; we have to skim off the cream quickly and efficiently, otherwise the healthcare system would collapse."

fields resulted in benefit only if they adhered to the GPs' reality.

Discussion

Maximizing benefit

In this paper prompt and pragmatic benefit, which is utilitarian in nature, is used to describe the essential part of GPs' thoughts relating to prescribing medication and EBM. Utilitarianism, originating from the Christian love ethic, was created as a philosophical theory by John Stuart Mill in the mid-nineteenth century [20] and is currently the dominant approach to ethical issues [21]. It has two basic tenets: the moral rightness of an act can be measured according to its probable consequences and the degrees of happiness/unhappiness and pleasure/pain for those affected by the act are assessed. It is an ethic of benevolence and altruism [22]. A contemporary interpreter of utilitarianism summarizes it thus: "An act is right if, and only if, there is no better alternative that might lead to better consequences" [23]. Maximizing benefit and what should be maximized are the objects of today's utilitarian discussion. There are contestants, however, regarding the interpretation [24]. By taking that which is known as our point of departure and aiming at the act that we judge to maximize the expected benefit, we have done our best. Thinking in terms of benefit is widespread in current society although not on a clear philosophical level, occurring almost as an unconscious process.

How is benefit maximized when medications are prescribed?

The benefit to the patient and the perceived effect of the treatment were most important for the treatment selected. The doctor treating hypertension today rarely sees the short-term benefit and does not know if the individual patient will derive any long-term benefit. This may partially explain why hypertension is often not treated according to existing guidelines [25]. High blood pressure is shown to be neglected both by the doctor and by the patient [26]. The doctor's hesitation might be transmitted to the patient [27].

In substance abuse, the long-term effects are foremost. A "no" from the doctor can lead to maximization of happiness in the long run, at the expense of the doctor's extra effort and discomfort. If the efforts are too high, benefit will not be maximized.

A good relationship with the patient is important for maximizing benefit. This is not risked lightly. "The law of medical inertia", entailing waiting for the experience of others before trying it oneself, can

lead to maximization of benefit, unless the inertia is excessive. From the doctor's point of view, maximizing benefit primarily consists of creating something beneficial; the doctor becomes the "components of happiness", according to John Stuart Mill's philosophy. When time allows, various degrees of pleasure and happiness emerge [21]. Lack of time is a negative factor for the doctor's own benefit and for treatment of the patient [7]. Time for continuing education give precedence to work with patients as a type of prompt and pragmatic benefit. What happens to benefit maximization in the long run?

The answer to this is a hot topic. It is quite clear that aspects pertaining to public economy were not emphasized at all by doctors in our interviews. The patients' financial situation does, on the other hand, influence choice of medication, which has also been observed in research in health economics [28]. This is a similar process to the well-being of the individual patient being put forward by the doctor against society's need for less bacterial resistance [17].

How is benefit measured?

Medical treatment can at times be quantified. Other areas are a quality of life issue, e.g. the return of an individual's zest for life. Benefit, as defined in this paper, is not a tool that can be handled and measured.

The doctors do calculate expected results relative to required resources but not in a deductive way. Their assessment of maximized benefit is of considerable significance in the choice of treatment.

Support in the decision-making process

Utilitarianism as a decision-making process entails making the best possible judgement based on the knowledge available. Evidence-based pharmaceutical information often consists exclusively of knowledge. EBM can be fragmentary, imperative, and can increase the complexity resulting in lack of effectiveness [29]. The doctor must, as a rule, make the decision unaided. Emotions and gut feelings pertaining to benefit are seldom brought into the picture. Benefit delivered immediately is convenient and can be of great help to the doctor and useful in implementation of guidelines. There might be components of benefit in the rules of thumb for GPs [30]. A method with verbal protocols has promised to be fruitful for understanding why doctors reach different decisions and why guidelines are not followed [31].

The pharmaceutical industry works consciously with emotional messages. Choices endorsed by pharmaceutical industry representatives and hospital doctors are probably very important for the GPs' prescription pattern but can, of course, also be

regarded from the prompt and pragmatic perspective [32].

Finally, doctors gain experience from their patients, who in turn receive impressions from their surroundings, including the pharmaceutical industry. The patients' knowledge of medications has changed [33]. The various components influencing GPs' decision-making are complicated but they can be improved.

Methodological considerations

A qualitative method contributes to the understanding of particular areas of human life, in this case GPs' prescribing of medication. The doctors were selected strategically. There was general concordance in the focus groups' opinions, confirming the notion that doctors perceive reality with a great degree of accord. The 12 GPs who asked for the results accepted prompt and pragmatic benefit as reasonable to express the core of the findings. This supports the possibility of using the label as a way of thinking in further interventions. Five to six participants in focus groups are recommended but due to schedule difficulties only four were available. However, smaller groups give each participant a better opportunity to talk and a climate for airing controversies was facilitated more easily [19].

The moderator knew all but two participants beforehand as colleagues, which could be both an advantage and an obstacle. No specific reactions on this matter were noted. There were no links of either an economic or an employment nature.

Conclusion

The focus-group interviews showed that GPs' thoughts on EBM and prescribing medication are highly related to reflecting on benefit and results. The benefit should be prompt and pragmatic, which was the utmost benefit: delivered immediately, useful and convenient. In this paper prompt and pragmatic benefit is the core category used to describe the essential part of GPs' thoughts relating to prescribing medication and EBM.

Evidence-based pharmaceutical information requires development in order to better correspond to prescribers' thinking to be able to change the complex behaviour found in prescribing medication. It can thus be put into practice to a greater extent.

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