Scandinavian Journal of Primary Health Care

ISSN: 0281-3432 (Print) 1502-7724 (Online) Journal homepage: https://www.tandfonline.com/loi/ipri20

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To cite this article: Wolfgang Himmel, Elke Lippert-Urbanke & Michael M. Kochen (1997) Are patients more satisfied when they receive a prescription? The effect of patient expectations in general practice, Scandinavian Journal of Primary Health Care, 15:3, 118-122, DOI: 10.3109/02813439709018500

To link to this article: https://doi.org/10.3109/02813439709018500

Are patients more satisfied when they receive a prescription?

The effect of patient expectations in general practice

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Received May 1996. Accepted October 1996.

Scand J Prim Health Care 1997;15:118–22. ISSN 0281-3432

Objective **– To test the hypotheses that patient expectations are a driving force in drug prescribing and that fulfilment of expectations is followed by higher satisfaction.**
Design **– Pre- and post-consultation survey of patients; parallel doctor survey (matched pairs).**
Setting **– Primary health care in Göttingen, a town of about 130 000 inhabitants in Germany.**
Subjects **– Ten general practitioners and 185 randomly addressed patients.**
Main outcome measures **– Patient expectations with respect to the result of the consultation; doctor's perception of patient expectations; agreement between patient and doctor; patient satisfaction.**
Results **– Nearly half of the patients (86/185) expected a drug prescription from their doctor; 68% (125/185) received a prescription. The doctors recognized the expectation of a prescription in only 40.7% of the patients. A high percentage (82.6%) of patients expecting a drug were issued a prescription. Nearly all the patients (45/48) who expected a drug according to their doctor's judgement left the surgery with a prescription, and 58.4% of the remaining patients were prescribed a drug. There was no difference in satisfaction scores between patients whose expectations were or were not fulfilled.**
Conclusion **– These results are in some contrast to the main hypotheses. As fulfilment of expectations was not associated with higher satisfaction, physicians need not necessarily worry that patients will change their doctor if he or she refuses a pharmacologically dubious prescription.**

Key words: **family practice, prescription of drugs, physician-patient relation, patient satisfaction, patient participation.**

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Pharmacotherapy should ideally be appropriate, effective, safe, and economic. These criteria of "rational" prescribing, laid down by Parish (1), are not always fulfilled by general practitioners (GPs) (2). The first and most important question of drug therapy – whether or not to prescribe – is often influenced by non-pharmacological factors such as personal, social, or economic factors (3). As a consequence, doctors are sometimes blamed for prescribing too many and/or inappropriate drugs (4,5).

There are two opposing explanations for this prescribing behaviour. According to one view, patients are considered to be the driving force if doctors issue pharmacologically irrational prescriptions (3,6). They often expect a (specific) drug and if the doctor refuses they even threaten to change doctor (7,8). According to the other view, the prescription is seen as an effective "closing strategy" for a consultation so that doctors "get rid of the patient"; at the same time the prescription serves as a ritualized means for doctors to demonstrate that the patient's complaints are taken seriously (3,9).

The aim of the present study was to determine if and to what degree patient expectations might contribute to the issuing of a prescription. We explored patient expectations with respect to a prescription and doctors' perceptions of patients' wishes. The following hypotheses were tested:

1. In most cases doctors are aware of patients' expectations.
2. Most of these expectations are fulfilled.
3. Patients whose expectations are fulfilled by the doctor are more satisfied.

METHODS

We had to overcome some difficult methodological problems to assess patients' expectations and doctors' perception:

1. Expectations with regard to the consultation may exist before the patient enters the consultation room and form, to some degree, the interaction with the doctor. Thus, we had to ask the patient before the consultation, but without picking out drug prescribing as a central issue, to avoid bias towards prescriptions during the subsequent consultation.
2. The term "expectation" has two meanings – wants and predictions (10). To avoid confusion the questions in the survey were formulated in the sense of "wants".

3. Since assessment of the consultation is often a matter of time (11), we decided to wait some days before asking the patient to evaluate the office visit.
4. To avoid answers only given to please the doctor we explained to the patient, before the interview and in the letter some days later, that the Department of General Practice was independent of the practice and that all statements would be handled confidentially.
5. To avoid undue sensitivity for patient expectations during consultation, we waited until the end of the study day before asking the doctor about his or her opinion about what the patients had expected.

Doctor and patient recruitment

All certified GPs (n=33) in the catchment area of Göttingen, a city of about 130 000 inhabitants in the north of Germany, received a letter of invitation to take part in a study about "interaction problems" arising between patient and GP. The detailed aims of the study were not revealed. Ten (30%) of the invited doctors agreed to participate (nine male, one female, all working in solo practices). The participating doctors were, on average, older than the total sample of GPs in Göttingen. In all study practices one of the authors (E L-U) interviewed patients on one randomly selected day of the week. When one interview was finished the practice nurse informed the next patient attending the practice about the study.

The Questionnaires

Patients who gave informed consent were interviewed in a separate room before the consultation. An open-ended questionnaire focused on patient expectations with respect to the consultation. Patients' answers were categorized immediately after the interview. The categories had been constructed earlier on the basis of a pilot study with 20 patients in two practices. Categories largely followed GPs' typical performances such as issuing prescriptions and certificates or performing routine checks or giving advice. As we restricted ourselves to a few clear-cut items, no major problems arose. Some patients, asked for their expectations, gave the lucid answer: "to become healthy"... We categorized such statements as "expecting advice".

Subsequently, we gave the patients a German translation of Virji and Britten's short questionnaire (12) to assess their attitudes towards drug treatment compared with self care. The six items referred to i) preference for (non-pharmacological) self care and ii) preference for drug treatment (e. g. "If you have a cold or cough it is best to get an antibiotic to get rid of it" – rated on a 5-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree"). At the end of this interview we asked the patient for a general assessment of drugs and, later, divided the answers given into a "positive" or "negative" attitude.

The result of the consultation was documented by the doctor immediately after the patient's visit. At the end of the day we asked the doctor what, in his/her opinion, each patient in the sample had expected.

Some days later all the patients were sent a German translation of Baker's consultation questionnaire (13). The questionnaire had 18 items dealing with three different aspects of the consultation, and an overall satisfaction aspect. All questionnaires and documentation sheets were numbered so that doctor's and patient's answers could be analysed as matched pairs.

Statistical analyses

Data were analysed with the Statistical Analysis System (SAS). Pearson's chi^2test, or Wilcoxon's rank sum test and the Kruskal-Wallis test, were used to test for differences in categorical or ordinal data, as appropriate. Agreement between patient expectations and the perception of patient expectations by the doctors was estimated by Cohen's kappa (14).

RESULTS

One hundred and eighty-five patients were interviewed, 114 (61.6%) of them female. Twelve other invited patients refused to take part in the study. The age and sex of the participating patients were compared with the patients in the German EVaS-study (15), a large documentation study in ambulatory practices which chose a similar recruitment method as in our study. A test for the goodness-of-fit revealed no significant differences between the age groups of the two studies (chi^2=0.58; df: 4; p=0.97). The same goes for the sex of the patients (61.7% women in the EVaS-study).

Patients' expectations and results of the consultation

Most of the patients expected advice from their doctor (53.5%) and 46.5% expected a prescription (Table I). This rate, which did not vary significantly according to the type of disease (acute patients, 44.2%; chronically ill patients, 50.6%), increased slightly with age (42.8% of patients younger than 30 years expected a prescription and 55.1% older than 60 years). Sixty-four per cent (118/185) of the patients were rated as positively biased towards drugs. The remainder expressed some scepticism. Different attitudes, however, were not strongly associated with the frequency of expecting a prescription (Table II). A single item-analysis of Virij and Britten's questionnaire (12) confirmed this result. Half of the patients who agreed with the statement "If the doctor does not give a prescription, I sometimes feel I have wasted his time" expected a drug prescription (14/28). Almost the same percentage (46%) of the patients who disagreed with this statement or were undecided expected a prescription. The same goes for the other five items.

Table I. Patient expectations and degree of fulfilment.

Patient expectation	Frequency		Degree of fulfilment	Doctor's perception	
	n	%[1]	%[2]	n	%
Advice	99	53.5	78.6	62	62.6
Drug prescription	86	46.5	82.6	35	40.7
Control (diabetes, hypertension, dressing etc.)	45	24.3	57.8	22	48.9
Diagnosis	29	15.7	51.7	14	48.3
Sickness certification	14	7.6	92.8	9	64.3
Referral	8	4.3	25.0	1	12.5
Prescription for massage or cure	5	2.7	40.0	1	20.0
Other	22	11.9	-	10	45.5

[1] in relation to n=185; multiple answers possible
[2] in relation to the respective frequency (n)

Table II. Patients' attitudes towards drugs and expectation of a prescription.

Attitudes towards drugs	Drug expectation		
	Yes	No	Total
"Positive"	58 (49.2%)	60 (50.8%)	118 (63.8%)
"Negative"	28 (41.8%)	39 (58.2%)	67 (36.2%)
Total	86 (46.5%)	99 (53.5%)	185 (100%)

chi^2: 0.36; df:1; NS

Table III. Prescription rates; according to doctor's perception of patient expectations.

Variables	Doctor's assumption of patient expectation	
	Prescription expected	Prescription not expected
Patient expectations[1]		
– Prescription expected	35 (40.7%)	51 (59.3%)
– Prescription not expected	13 (13.1%)	86 (86.9%)
Drug prescription[2]		
– Yes	45 (93.8%)	80 (58.4%)
– No	3 (6.2%)	57 (41.6%)

[1] Agreement between patient's and doctor's answers: 0.28 (kappa)
[2] chi^2: 20.3; df: 1; $p<0.001$

About 68% (125/185) received a prescription. The expectation for a drug prescription or advice was fulfilled for 82.6% and 78.6% of the patients. Fifty-five per cent of patients (55/99) received a prescription for a drug without having expected it.

Doctor survey

The doctors quite often recognized when patients sought advice or wanted a sick leave certification (Table I), but had more difficulties recognizing when patients expected a massage or referral. The wish for a drug prescription was adequately perceived in 41% (35/86) of the patients (kappa: 0.28). Nearly all of these (33/35) were given a drug prescription (94.3%). The doctors considered that a total of only 48 patients expected one or more drugs, of whom 93.8% left the surgery with a prescription. Also, 58% of the remaining patients received a prescription (Table III). Similar proportions could be found for the individual practices: doctor's perception for the patients' drug expectation ranged from 25% to 81%. Between 67% and 100% of these patients received a prescription.

Patient satisfaction

The degree of patient satisfaction was extremely high for the general items. Other items of more detailed and specific nature met with less approval. The following analysis was restricted to the four factors of patient satisfaction and their mean (low values indicate higher satisfaction). There was no difference between patients having or not having expected a drug prescription (Table IV). The same goes for patients whose expectations were or were not fulfilled by the doctor. And even patients whose wish for a prescription was fulfilled were no more satisfied than patients who expected a prescription but did not obtain it. The curious tendency that patients whose drug expectations were not fulfilled appeared to be a bit more satisfied might be random.

DISCUSSION

The present study is in the long tradition of surveys about patient expectations towards drug prescribing (11,12,16,17). Although the sample of practices cannot be regarded as representative, our findings may stimulate a new look at an old discussion: whether patient expectations are a driving force in drug prescribing and whether fulfilment of expectations is followed by higher

Table IV. Patient satisfaction; according to their expectation.

Patient groups[2]	Factors of satisfaction[1]			
	General satisfaction	Satisfaction with professional care	Satisfaction with perceived time	Satisfaction with depth of relationship
Drug prescription expected?				
– Yes	1.74	1.81	2.14	2.23
– No	1.66	1.81	1.84	2.43
Expectation fulfilled?				
– Yes	1.76	1.84	2.05	2.32
– No	1.58	1.76	1.84	2.39
Type of expectation and fulfilment				
– Prescription expected and received	1.74	1.84	2.14	2.21
– Prescription expected, but not received	1.73	1.65	2.15	2.34
– No prescription expected and none received	1.78	1.85	1.93	2.47
– No prescription expected, but one received	1.55	1.78	1.77	2.40
All	1.69	1.81	1.97	2.34

[1] The mean of the factors are given; smaller values indicate higher satisfaction; statements of 156 to 160 patients could be analysed.
[2] No differences between any patient groups were significant (according to Wilcoxon's rank score test or to the Kruskal-Wallis test).

patient satisfaction. In our survey of 185 patients in ten general practices, these associations could not be found with respect to drug prescriptions.

Most studies that strongly accentuate patients' influence and pressure on doctors' decisions to prescribe or not to prescribe (3,6) rely on doctors' general assessments of patients' pressure. We know of only one (18) that determined in how many instances the doctors perceived a demand for an antibiotic drug (49%) and in what proportion of these cases he or she issued a prescription (77%). In our study the doctors issued a prescription for nearly all of the patients in whom they correctly recognized a drug expectation (94%). However, the doctors recognized this expectation in only 41% of instances. Doctors' capacity to predict patient expectation was little better than chance, as indicated by a kappa-value of 0.28 (14). This seems to be a substantial argument not to overestimate patients' influence.

Doctors seem to vary in their ability to recognize their patients' wishes. Some doctors correctly perceived a drug demand in less than one third of their patients, while others did better. However, the number of doctor-patient contacts per practice was too small definitely to decide whether these differences were due to chance.

Patient expectations for medications did not depend on their general attitudes towards drugs. Virji and Britten (12), for example, supposed a strong association between attitudes and preferences. However, a significant association between a positive attitude towards drugs and a wish for a prescription can be found in only two of the six items of their questionnaire. These two items reflect illness behaviour and anxiety rather than attitudes towards drug prescribing. In fact, it may be simplistic to imagine that patients can be identified as drug-utilizers and drug-refusers according to their attitudes. This would stigmatize one group of patients as being mainly prescribing-oriented and make them responsible for inadequate drug prescribing.

Our finding that patients whose expectations were not fulfilled were by no means less satisfied is in some contrast with patients surveyed by Brody et al. (19) who were less satisfied with their doctors when they desired medicines but did not receive them. This association, however, explained only a small part of the variance in their study. We suggest that patients' previsit desire for a certain treatment or a drug prescription is weak and not an important criterion for his or her assessment of the medical performance. Thus, most patients are not necessarily disappointed when their expectation is not realized. This assumption is supported by the study of Hamm et al. (18) in U.S. family practices. Whether or not patients received what they expected with respect to antibiotics did not influence their satisfaction with the consultation.

In summary, hypotheses 1 and 3 must be rejected. The doctors have great difficulty in identifying patients' wishes, and patients are not more satisfied when their drug expectation is fulfilled. Hypothesis 2 may be accepted in the sense that a high proportion of patients who expect a drug are given a prescription (83%) but

not necessarily because the doctor is aware of this desire and willing to satisfy it. We suggest that the hypothesis of patient expectation as a factor for prescribing is rather frequently a "rationalization" for the doctor's own uncertainty or for an effective "closing strategy" (9) and "short cut" to replace more time-consuming, but satisfying, interaction between doctor and patient. This interpretation is supported by Cormack and Howells' (4) finding that high prescribers distinguished themselves from low prescribers in believing that patients expected a prescription.

The present study has several limitations. First, the age of the doctors was biased towards the upper end. Perhaps the older doctors were more self-conscious so that they more frequently agreed to participate in the study. They may have been less up to date in prescribing than younger doctors, as Sturdy et al. (20) showed in the case of asthma treatment. Second, the consultation was treated as a "black box"; we had only the chance to study the input-output relation. Third, doctors might have had problems in remembering in the evening what, in their perception, a patient had expected in the morning. The doctors were given the possibility of referring to the patient chart to activate a lively picture of the consultation; nevertheless, some mistakes due to distorted memory cannot be excluded. Fourth, although the patient satisfaction questionnaire chosen for this study was validated, most items showed an even stronger bias towards the satisfied end of the scale than they did in Baker's study (13). The bias might have been amplified by a stronger acceptance of the sick role and medical paternalism with German patients. In this case a high degree of patient satisfaction does not express fundamental satisfaction but rather the non-existence of opinion and/or acceptance of medical paternalism (21).

Since our study demonstrated that doctors are not very sensitive to their patients' demands, it might be a good recommendation directly to address patient expectations (17,22). According to our data, this procedure will not necessarily increase drug consumption because a justified rejection of the patient's wish is unlikely, in the majority of cases, to have negative effects on the patient's assessment of the office visit.

ACKNOWLEDGEMENT

We are indebted to Dr Colin P Bradley, MD, FRCGP, for his valuable comments on the manuscript and the participating GPs for their co-operation.

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