

Prescribing and referral in general practice: a study of patients' expectations and doctors' actions

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SUMMARY

Background. *What decisions do patients expect the general practitioner to take within the consultation and to what extent are these expectations fulfilled? What factors influence patients' expectations and general practitioners' actions?*

Aim. *This study aimed to examine these questions with reference to prescribing and hospital referral.*

Method. *The study covered 1080 consultations with 12 general practitioners in two north London practices. Information was collected by self-administered questionnaires from patients before the consultation and from the general practitioners after the consultation.*

Results. *Fifty one per cent of patients expected and 55% received a prescription; 13% expected hospital referral and 10% were referred. Factors related to their presenting problem were most strongly associated with patients' expectation of receiving a prescription. The actions which the general practitioners took were most strongly associated with patients' expectations. Patients' anxiety about their health problem also appeared to influence their expectations of referral and the doctor's prescribing decision.*

Conclusion. *This study suggests that patients' expectation of management and their anxiety associated with the presenting problem may be two of the factors which influence general practitioners' prescribing and referral behaviour and may explain some of the observed variations in behaviour.*

Keywords: *prescribing patterns; referral to hospital for investigation; patient expectations; consultation process; doctor-patient relationship.*

Introduction

GENERAL practitioners' prescribing and referral patterns are currently under scrutiny. Variations in prescribing¹ and referral behaviour² are well documented. The reasons for these variations are less well understood. Non-clinical variables such as the doctor's age and experience² and patients' age and sex² and clinical variables such as case mix³ have failed to explain variation in referral behaviour. Little work has been done on the possible influence on prescribing and referral behaviour of the doctor-patient relationship and patient-associated factors such as patients' level of anxiety and their expectations of the consultation. While there is evidence that acknowledging and addressing patients' expectations has a positive influence on their satisfaction and compliance⁴ and possibly on physical health outcomes,⁵

little is known about the factors associated with these expectations and whether or not they influence doctors' behaviour.

The aims of this study were to examine factors which may influence patients' expectations of what the doctor will do in the consultation, to look at the relationship between patients' expectations and actions taken by their general practitioners, and to assess the extent to which patients' expectations are fulfilled.

Method

The study was carried out in two north London practices between November 1989 and February 1990. One practice is in a suburban area and has a list size of 9700 patients and five partners. The second is in an urban area and has a list size of 11 800 and at the time of the study had six partners and one trainee. The majority of patients in both practices are in social class 3 with the urban practice having a higher proportion of patients in social classes 4 and 5 than the suburban practice. Combined list systems operate in both practices and patients can make an appointment to see any of the doctors.

The 12 doctors were asked to complete a short encounter form for all patients aged 16–75 years of age whom they saw on designated recording days (two days each week), which rotated through the days of the week, over the four month study period. The doctors' encounter form was designed to be completed quickly after each patient had been seen. The doctors were asked to record the patient's name, age, sex, the main presenting problem and the diagnosis if one had been made. They recorded the action which had been taken during the consultation, by ticking a list of possible actions. All patients aged 16–75 years attending surgery on recording days were asked by the reception staff to complete a short questionnaire before going in to see the doctor. Patients who consulted for a second or subsequent time on another recording day were not asked to complete a second questionnaire. The questionnaires were handed back to the reception staff in sealed envelopes. The patients' questionnaire asked for a description of the presenting problem, and its duration. Questions based on those used by Mushlin and Appel⁶ asked patients to rate the degree of perceived functional limitation and any anxiety associated with the problem. They were also asked if they had other health problems and how they rated their general health. Patients' expectations of the consultation were obtained by asking: 'How do you think the doctor will be able to help you with your problem?' and instructing patients to tick as many of the following which were applicable: give you a prescription, refer you to hospital, give you advice, help you in some other way. Both the patients' questionnaire and the doctors' encounter forms were piloted in another north London practice. The data collected on patients' expectations of receiving either a prescription or a hospital referral and the corresponding actions taken by the general practitioner are presented here.

Completed questionnaires and encounter forms were collected from the practices by a member of the research team who then attempted to match the two sets of data using the patient's name, date of birth, and the consultation date recorded on each. The data were then coded. The general practitioner's definition of the main presenting problem was coded using a simple system developed by the authors which classified the problem into one

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of 16 categories based on either the body system, for example locomotor, or the primary reason for consulting such as pregnancy. The coding system was easy to use and consistency of coding was checked throughout the study. The data were entered onto a mainframe computer and analysis was carried out using the *Minitab* and *SAS* statistical packages. Associations of patient variables with binary measures (such as expectation of hospital referral and prescription, and occurrence of these) were assessed first using the chi square test and secondly with multiple logistic regression to identify variables independently related to these measures. Odds ratios of variables which were significantly and independently related are reported.

Results

Nine hundred and eight encounter forms and 648 patient questionnaires were collected from the suburban practice over 22 recording days and 1453 forms and 650 questionnaires from the urban practice. There were 111 questionnaires from the suburban practice and 107 from the urban practice where insufficient information was given by patients to enable a match to be made with the doctor's encounter forms. Thus, 537 encounter forms (59.1%) were matched with a patient questionnaire for the suburban practice and 543 (37.4%) for the urban practice — this difference was significant ($\chi^2 = 104$, 1 degree of freedom, $P < 0.001$). Questionnaires with a limited amount of missing information were included in the analysis, and therefore the percentages quoted are sometimes of baselines less than 1080.

Of the 2214 patients whose age and sex were known from the doctors' encounter form, 1483 (67.0%) were women, 904 (40.8%) were aged 16–35 years and 526 (23.8%) were aged 56–75 years. There were no significant differences in age, sex or presenting problem between the patients whose encounter forms were matched with a questionnaire and those for whom no match was made. The patients whose encounter form was not matched with a questionnaire were significantly more likely to be given a prescription by the general practitioner during the consultation than those whose form was matched — 59.0% ($n = 1279$) versus

54.6% ($n = 1078$); $\chi^2 = 4.71$, 1 df, $P < 0.05$. There was no difference in the proportion of patients referred to hospital between those whose forms were matched and unmatched.

Prescribing

Patients' expectations. Five hundred and twelve patients (51%) expected to be given a prescription for their presenting problem (Table 1). There was a significant relationship between the nature of the presenting problem and the patient's expectation of receiving a prescription — those with respiratory problems were the most likely to expect a prescription and those attending for reasons relating to pregnancy were the least likely to expect one. Male patients and those who had seen a general practitioner before for the same problem, those who reported more functional limitation associated with the problem and those who reported having it for either a short time (less than one week) or for a longer period (more than six months) were more likely to expect a prescription (Table 2). When the variables were entered into a multiple logistic regression model the nature of the presenting problem, its duration and having seen a general practitioner previously were still significant factors in determining whether or not a prescription was expected by the patient (Table 3).

General practitioners' prescribing behaviour. Just over half of the patients in the study (55%) received a prescription (Table 1). The percentage of consultations where a prescription was given ranged from 40% to 72% (median 52%) for the 12 general practitioners studied ($\chi^2 = 29.7$, 11 df, $P < 0.01$). Whether or not the general practitioner gave a prescription was significantly associated with the patient's expectations of receiving a prescription (Table 4). It was also associated with the nature of the patient's presenting problem (Table 1), its duration and the patient's associated anxiety (Table 4). Multiple logistic regression showed that those who expected a prescription were five times more likely to be given one than those who did not (Table 5). Age was also a significant factor — elderly patients were more likely to be given a prescription than younger patients. Patients' anxiety about their problem was also associated with

Table 1. Number of patients who expected and were given prescriptions or hospital referral for each of the categories of problems presented.

| Main presenting problem | Total no. (%) of patients ^a | No. (%) of patients with presenting problem | | | |
|----------------------------------|---|---|---------------------------------|--------------------------------|----------------------------|
| | | Prescription expected ^b | Prescription given ^c | Referral expected ^b | Referral made ^a |
| Locomotor | 132 (12) | 39 (33) | 69 (52) | 30 (25) | 24 (18) |
| Upper respiratory | 110 (10) | 73 (68) | 73 (66) | 11 (10) | 8 (7) |
| Skin | 92 (9) | 46 (53) | 58 (63) | 9 (10) | 11 (12) |
| Gynaecological | 90 (8) | 38 (45) | 38 (45) | 15 (18) | 8 (9) |
| Lower respiratory | 87 (8) | 68 (81) | 71 (82) | 3 (4) | 4 (5) |
| Abdominal/gastrointestinal tract | 80 (7) | 38 (51) | 47 (59) | 11 (15) | 8 (10) |
| Psychiatric | 80 (7) | 47 (61) | 58 (73) | 4 (5) | 10 (13) |
| Central nervous system/eyes | 55 (5) | 30 (55) | 35 (64) | 9 (16) | 2 (4) |
| Hypertension | 50 (5) | 26 (57) | 23 (46) | 2 (4) | 1 (2) |
| Other cardiovascular | 36 (3) | 15 (44) | 17 (47) | 5 (15) | 5 (14) |
| Family planning | 32 (3) | 14 (50) | 23 (72) | 4 (14) | 3 (9) |
| Urinary tract | 27 (3) | 8 (30) | 14 (52) | 9 (33) | 6 (22) |
| Diabetes/endocrine | 21 (2) | 11 (58) | 12 (57) | 1 (5) | 1 (5) |
| Pregnancy | 18 (2) | 2 (14) | 2 (11) | 5 (36) | 9 (50) |
| Breast | 12 (1) | 2 (18) | 4 (33) | 3 (27) | 3 (25) |
| Other ^d | 148 (14) | 55 (40) | 42 (29) | 15 (11) | 7 (5) |
| Total | 1070 (100) | 512 (51) | 586 (55) | 136 (13) | 110 (10) |
| Chi square ^a | | 89.2 | 114.9 | 51.0 | 64.3 |
| P value | | <0.001 | <0.001 | <0.001 | <0.001 |

^aData missing for 10 patients. ^bData missing for 72 patients. ^cData missing for 12 patients. ^dIncludes consultations for certifications, vaccination and those where there was insufficient information to code elsewhere. ^eAll 15 degrees of freedom.

Table 2. Patient variables associated with patients' expectations of receiving a prescription or being referred to hospital.

| Patient variable | No. of patients | % of patients | |
|---|-----------------|-----------------------|-------------------|
| | | Prescription expected | Referral expected |
| Sex | | | |
| Male | 356 | 54.2 | 15.2 |
| Female | 659 | 48.4 ** | 12.4 |
| Age (years) | | | |
| 16-35 | 459 | 48.8 | 14.8 |
| 36-55 | 353 | 49.9 | 13.0 |
| 56-75 | 200 | 55.0 | 11.0 |
| Duration of problem | | | |
| ≤ 2 days | 42 | 54.8 | 4.8 |
| 3-7 days | 190 | 65.8 | 7.4 |
| >7 days to 1 month | 190 | 47.4 | 10.5 |
| >1 month to 6 months | 180 | 35.6 | 20.6 |
| >6 months | 305 | 54.1 *** | 17.0 *** |
| Seen GP before with problem | | | |
| Yes | 605 | 55.2 | 15.4 |
| No | 382 | 43.5 *** | 11.0 |
| Associated anxiety | | | |
| Moderate/considerable | 573 | 51.0 | 18.5 |
| None/slight | 442 | 49.8 | 6.8 *** |
| Associated functional limitation | | | |
| Moderate/considerable | 464 | 54.5 | 16.2 |
| None/slight | 551 | 47.0 * | 11.1 * |
| Other health problems | | | |
| Yes | 355 | 52.1 | 14.9 |
| No | 650 | 49.2 | 12.8 |
| Self-perceived health | | | |
| Excellent/good | 697 | 49.9 | 12.6 |
| Fair/poor | 318 | 51.6 | 15.1 |

P value given for univariate analysis using chi square test: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

whether or not they received a prescription; those who reported moderate or considerable anxiety were 50% more likely to receive a prescription than those who reported no or slight anxiety. The general practitioner seen and the nature of the presenting problem remained important predictors of prescribing after multiple regression.

Referral

Patients' expectations. One hundred and thirty six patients (13%) expected to be referred to hospital (Table 1). Patients' expectations of referral differed significantly with the doctor consulted (range 6-28% of consultations (median 12%) for the 12 general practitioners; $\chi^2 = 30.3$, 11 df, $P < 0.001$) and the nature of the presenting problem. Patients consulting with hypertension or lower respiratory symptoms were the least likely to expect referral and those presenting for reasons relating to pregnancy or with urinary tract complaints the most likely (Table 1). Patients reporting high levels of anxiety and functional limitation associated with the presenting problem and those who had had it for one to six months were more likely to expect to be referred (Table 2). However, using multiple logistic regression and controlling for presenting problem and functional limitation, anxiety

Table 3. Logistic regression: variables associated with patients' expectations of receiving a prescription or being referred to hospital.

| Variable | Odds ratio | (95% CI) |
|--|------------|--------------------|
| Prescription expected | | |
| Age (per decade increase) | 1.04 | (0.95 to 1.15) |
| Being male | 1.16 | (0.87 to 1.34) |
| Having seen GP before with problem | 1.97 | (1.45 to 2.68)*** |
| Duration of problem^a | | |
| 3-7 days | 1.97 | (1.19 to 3.24)** |
| >7 days to 1 month | 0.94 | (0.58 to 1.52) |
| >1 month to 6 months | 0.57 | (0.35 to 0.94)* |
| >6 months | 1.00 | (0.64 to 1.58) |
| Presenting problem^b | | |
| Locomotor | 0.99 | (0.46 to 2.11) |
| Upper respiratory | 3.86 | (1.75 to 8.53)*** |
| Skin | 2.65 | (1.19 to 5.89)* |
| Gynaecological | 1.77 | (0.78 to 4.01) |
| Lower respiratory | 6.68 | (2.81 to 15.90)*** |
| Abdominal/gastrointestinal tract | 2.02 | (0.89 to 4.56) |
| Psychiatric | 2.66 | (1.17 to 6.03)* |
| Central nervous system/eyes | 2.49 | (1.05 to 5.91)* |
| Other cardiovascular | 2.25 | (0.91 to 5.56) |
| Family planning | 1.93 | (0.66 to 5.59) |
| Urinary tract | 0.62 | (0.19 to 1.98) |
| Diabetes/endocrine | 2.41 | (0.77 to 7.53) |
| Pregnancy | 0.38 | (0.07 to 2.04) |
| Breast | 0.58 | (0.10 to 3.27) |
| Other | 1.19 | (0.56 to 2.51) |
| Referral expected | | |
| Age (per decade increase) | 0.91 | (0.81 to 1.03) |
| Being male | 1.15 | (0.79 to 1.48) |
| Being moderately or considerably anxious | 3.19 | (2.08 to 4.90)*** |

CI = confidence interval. ^aCompared with having problems for ≤ 2 days. ^bCompared with hypertension. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

was found to be the only significant factor associated with patients' expectation of being referred — those who reported considerable or moderate anxiety over their presenting problem were three times more likely to expect a referral than patients who reported either slight anxiety or none (Table 3).

General practitioners' referral behaviour. One hundred and ten patients (10%) were referred to hospital during the study period (Table 1), the majority (69) to outpatient clinics. No significant difference was found between the 12 general practitioners in the proportion of patients they referred to hospital during the study (range 5-14% of consultations; median 11%). Whether or not the general practitioner referred a patient was significantly associated with the nature of the patient's presenting problem (Table 1). The doctors were more likely to refer men patients, those who had had their problem for between one and six months and those who expected to be referred (Table 4). Multiple logistic regression showed that patients who expected a referral were six times more likely to be referred than those who did not, and that men were 80% more likely to receive a referral than women (Table 5). In the multivariate model the presenting problem and its duration were no longer significant factors.

Fulfilment of expectations

If fulfilment of expectations is defined as either receiving an expected action or not receiving a non-expected action,⁷ then

Table 4. Patient variables associated with general practitioners' prescribing and referral actions.

| Patient variable | No. of patients | % of patients | |
|---|-----------------|--------------------|---------------|
| | | Prescription given | Referral made |
| Sex | | | |
| Male | 375 | 56.8 | 14.4 |
| Female | 700 | 53.3 | 8.0 ** |
| Age (years) | | | |
| 16-35 | 478 | 50.8 | 11.3 |
| 36-55 | 372 | 57.0 | 10.5 |
| 56-75 | 222 | 58.6 | 7.7 |
| Patient expected prescription/referral | | | |
| Yes | 512/136 | 74.4 | 31.6 |
| No | 502/880 | 34.5 *** | 6.9 *** |
| Duration of problem | | | |
| ≤2 days | 43 | 60.5 | 2.3 |
| 3-7 days | 194 | 61.9 | 4.6 |
| >7 days to 1 month | 194 | 56.2 | 5.2 |
| >1 month to 6 months | 189 | 45.0 | 17.5 |
| >6 months | 321 | 60.1 ** | 12.8 *** |
| Seen GP before with problem | | | |
| Yes | 634 | 56.8 | 10.3 |
| No | 395 | 52.7 | 10.6 |
| Associated anxiety | | | |
| Moderate/considerable | 602 | 60.0 | 11.6 |
| None/slight | 473 | 47.6 *** | 8.5 |
| Associated functional limitation | | | |
| Moderate/considerable | 467 | 56.7 | 11.3 |
| None/slight | 608 | 52.8 | 9.4 |
| Other health problems | | | |
| Yes | 358 | 56.4 | 9.2 |
| No | 661 | 52.3 | 10.9 |
| Self-perceived health | | | |
| Excellent/good | 750 | 52.5 | 11.1 |
| Fair/poor | 325 | 59.1 | 8.3 |

P value given for univariate analysis using chi square test: ** $P < 0.01$, *** $P < 0.001$.

70.0% (713/1018) of patients' expectations about prescribing and 84.7% (862/1018) of referral expectations were fulfilled.

Discussion

The low overall rate of matched data (46%) reflects the difficulties involved in asking busy reception staff to hand out questionnaires to patients and to collect them during surgeries, and also the difficulty of matching data from two sources. Patients with matched and unmatched encounter forms were similar in age, sex and presenting problem. However, those with unmatched encounter forms were significantly more likely to receive a prescription from the general practitioner and it is possible that patients in this group were more severely ill and were therefore less likely to complete the questionnaire while waiting to see the doctor.

Variations in prescribing and referral rates between doctors were observed, although the general practitioners who took part

Table 5. Logistic regression: variables associated with general practitioners' prescribing and referral actions.

| Variable | Odds ratio | (95% CI) |
|--|------------|-------------------|
| Prescription given | | |
| Age (per decade increase) | 1.14 | (1.03 to 1.27)* |
| Being male | 0.77 | (0.55 to 1.06) |
| Expecting to be given a prescription | 5.28 | (3.90 to 7.14)*** |
| Being moderately or considerably anxious | 1.56 | (1.15 to 2.11)** |
| GPs^a | | |
| GP2 | 1.04 | (0.51 to 2.14) |
| GP3 | 1.35 | (0.72 to 2.53) |
| GP4 | 2.06 | (1.18 to 3.60)* |
| GP5 | 1.73 | (0.92 to 3.26) |
| GP6 | 2.10 | (1.16 to 3.80)* |
| GP7 | 0.98 | (0.49 to 1.95) |
| GP8 | 0.72 | (0.38 to 1.36) |
| GP9 | 2.66 | (1.40 to 5.09)** |
| GP10 | 1.88 | (1.03 to 3.42)* |
| GP11 | 1.81 | (0.93 to 3.52) |
| GP12 | 1.73 | (0.80 to 3.75) |
| Presenting problem^b | | |
| Locomotor | 1.82 | (0.81 to 4.08) |
| Upper respiratory | 2.34 | (1.00 to 5.44)* |
| Skin | 2.77 | (1.17 to 6.55)* |
| Gynaecological | 1.12 | (0.47 to 2.71) |
| Lower respiratory | 4.05 | (1.62 to 10.15)** |
| Abdominal/gastrointestinal tract | 2.22 | (0.92 to 5.34) |
| Psychiatric | 3.45 | (1.39 to 8.53)** |
| Central nervous system/eyes | 2.26 | (0.90 to 5.69) |
| Other cardiovascular | 1.08 | (0.41 to 2.87) |
| Family planning | 3.73 | (1.18 to 11.77)* |
| Urinary tract | 2.03 | (0.66 to 6.21) |
| Diabetes/endocrine | 1.72 | (0.49 to 6.03) |
| Pregnancy | 0.39 | (0.07 to 2.19) |
| Breast | 1.19 | (0.26 to 5.51) |
| Other | 0.49 | (0.22 to 1.13) |
| Referral made | | |
| Age (per decade increase) | 0.93 | (0.80 to 1.07) |
| Being male | 1.82 | (1.53 to 2.79)** |
| Expecting to be referred | 6.00 | (3.83 to 9.40)*** |

CI = confidence interval. ^aCompared with GP1. ^bCompared with hypertension. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

in this study did not show as much variation, particularly in referral rates, as those who participated in Wilkin and colleagues' study in Manchester.¹

What factors influence patients' expectations of what the doctor will do? Previous work has shown that patients' expectations are associated with ethnicity,⁸ patients' uncertainty about the health problem,⁹ patients' coping style¹⁰ and patients' attitude towards prescribing.¹¹ In this study, factors associated with patients' presenting problems including anxiety were the most important of those investigated in determining their expectations. Contrary to the finding of other studies,^{12,13} it was found that the individual general practitioner consulted was not an important factor in influencing patients' expectations, once other variables were taken into account. This suggests that in our study it is patients' knowledge and experience of their health problem and what general practitioners in general will do when presented with that problem, rather than their experience of any one individual general practitioner which has the greatest influence on their expectations. This finding may be partially explained by the fact that the participating general practitioners do not have individual

lists and patients may therefore consult several general practitioners over a period of time.

Patients' expectations of what the general practitioners would do were important predictors of the general practitioners' actions. There are two possible interpretations of this finding; first, that as patients' expectations are based on past experience and knowledge, most patients are able to predict quite accurately a general practitioners' management for a specific presenting problem. The second interpretation is that patients are making their expectations known to the general practitioner, and this is influencing the general practitioner's decision making. It has been suggested that patient pressure might influence general practitioners' prescribing and referral behaviour,^{11,14} and that patients' expectations are a factor in many prescribing decisions where the doctor feels uncertain or concerned about the decision taken.¹⁵

A relationship between other patient factors and the actions taken by the general practitioners has been demonstrated. Men were more likely to be referred than women and older patients were more likely to receive a prescription than younger ones. There was no relationship between age and referral or patient sex and prescribing.

An interesting finding was that those patients who reported more anxiety over their health problems before the consultation were no more likely to expect a prescription than patients with less anxiety but were more likely to receive one. In contrast, the more anxious patients were three times more likely to expect a referral to hospital but were no more likely to be referred than those patients with slight or no anxiety. Another study has found that patients who had more problem-related anxiety were no more likely to expect medication, but were more likely to expect tests than those with less problem-related anxiety.⁹ These findings illustrate the complexity of the relationship between what takes place between patient and doctor in the consultation and the decisions which are made.

In a study based on data from the second national morbidity survey, Fleming and colleagues demonstrated a positive relationship between age and referral rates and showed that men had a higher referral rate than women, the latter as in this study.¹⁶ However, they concluded that practice-determined rather than patient-determined factors were the main source of variation in practice referral behaviour. This conclusion was based on the observed high level of practice concordance in referral activity across patient age, sex, social class and disease classification. They suggest that this supports the concept of doctors having 'referral thresholds' based on their perception of health and disease.³ Our findings suggest that doctors' awareness of and response to patients' expectations may influence the setting of this threshold. In addition, patients' level of anxiety associated with their presenting problem may influence doctors' prescribing thresholds.

Several studies have matched patients' expectation of consultations with doctors' actions during those consultations.^{7,11,13,17} Cartwright's postal survey found that of 212 consultations which had occurred in the previous two weeks, 52% of patients expected a prescription and 71% reported that they had received one.¹⁷ More recent studies,^{7,11,13} which used questionnaires at the time of the consultation, report similar percentages of patients who expected a prescription but lower rates of prescribing. These more recent studies also matched individual patient expectations with the corresponding general practitioner's actions and found that the majority of patients' expectations were fulfilled. The data from our study support these findings.

The value of using self-administered questionnaires to increase understanding of the doctor-patient relationship and its effect on decision making within the consultation is limited. However, our

findings are in line with those of other studies which have used different methodologies and which have demonstrated the importance of patient-associated factors in making referral^{14,18} and prescribing^{15,19} decisions. It is not possible from this study to explain the ways in which patients' expectations may influence general practitioners' actions within the consultation. However, the possibility that patients' expectations and anxiety associated with their presenting problem may influence doctors' behaviour merits further work.

In conclusion, it would appear that in this study patients' expectations were based on their experience and knowledge of their health problems rather than on the individual general practitioner seen. Patient-related factors, including their expectations, appear to be significantly associated with general practitioners' actions as suggested by recent studies which have used qualitative methods.^{15,18} This may explain some of the observed variation in general practitioners' prescribing and referral behaviour and deserves further exploration.

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