Paper IV

Congruence in attitudes between doctors and patients results in lower referral rates. A questionnaire survey among Norwegian general practitioners and their patients

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A questionnaire survey among Norwegian general practitioners and their patients.

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Abstract

Background

There is a well-known variation in referral rates among general practitioners (GPs). GPs that are positive towards shared decision-making refer less to secondary care, but how congruence in attitudes between doctors and patients influences referral rates has not been investigated. In this study, we analyse whether congruence in attitudes between GP and patient towards shared decision-making affects the GP's referral rate.

Methods

Questionnaire survey distributed by 56 Norwegian GPs, each to 50 consulting patients. The level of congruence in attitudes toward shared decision-making of GPs and corresponding patients was measured by the Patient–Practitioner Orientation Scale. The survey also included self-reported referral rates.

Results

1268 patients (45%) returned the questionnaires. Respondents were eliminated if they did not fully answer the questionnaire, resulting in a working sample of 835 patients. We found that congruence of attitudes towards shared decision-making between GP and patients has a negative effect on referral rate. Of the control variables, only the GP's sex had a significant effect on referral rate, indicating that male GPs refer more than female GPs.

Conclusion

The study shows that congruence of attitudes towards shared decision-making between GP and patients influences referral decisions, indicating that matching attitudes enhances the effort to solve the medical problem within the GP's practice. If possible, health authorities should enhance the possibilities for patients to choose a GP of matching attitudes.

Keywords: primary health care, physician patient relationship, referral patterns, variation in practice style, shared decision-making

Introduction

There is a well-documented, large and persistent variation in general practitioners' (GPs) practice across countries, regions, between practices and individual doctors.[1] Referral rate is often the key outcome measure in studies of variation in practice.[2-5] Decisions regarding referral are of crucial importance because they have substantial implications for resource allocation in health care. Both the effectiveness and fairness of health care services are affected by referrals.

Some degree of patient involvement is the rule in current general practice and shared decision-making is largely accepted as the ideal practice style.[6-7] Knowledge of how GPs' attitudes and practice style towards patient involvement influence resource allocation is scarce, although patient involvement in consultations seems to be associated with lower costs.[8] A few studies have investigated the association between GPs' decision-making style and referral decisions, and there is a consensus that shared decision-making is associated with lower referral rates.[9-10] However, these studies focus either on the doctor's attitude and conduct or on how the patient perceives the doctor's attitude. Studies acknowledging the influence of the patient's preferences regarding shared decision-making are lacking, and no study has analysed how congruence in role preferences of doctor and patient influence referral decisions.

In this study, we used a previously validated survey instrument to analyse whether congruence in attitudes between GPs and their patients towards shared decision-making affects the GPs' referral rate.

Data and methods

During the summer of 2004, 56 GPs in the municipality of Bergen volunteered to participate in the survey after a postal invitation to all GPs in the region (n=181). The GPs were asked to distribute the questionnaire consecutively to 50 of their patients above the age of 16. The GPs were also supposed to complete a doctor's questionnaire.

The GP's questionnaire contained demographic questions about the GP as well as questions on the practice such as list size and preferences for list size. Norwegian general practice is a list-based system, where every inhabitant has the right to be under the responsibility of a regular GP. The GPs are allowed to have up to 2500 patients on their lists but may put a maximum limit to the list below this level.

The main part of the questionnaire was adapted from a previously validated measure; the Patient–Practitioner Orientation Scale (PPOS). This is a multi-item Likert-scale instrument developed to measure attitudes of patients and doctors towards shared decision-making by degree (six levels) of agreement with a set of statements on sharing of information and power in consultations.[12] The highest score (=6) reflects preference for a high degree of patient involvement in the consultation. (See Appendix 1 for the list of statements). Additionally, GPs reported their number of referrals and the total number of consultations during the previous five working days.

The patients were asked to assess the same statements about shared decision-making as the GPs. Additionally the patient questionnaire contained questions relating to background characteristics (demographics and formal relation with the GP). Data were analysed using Stata 8.0. To determine whether congruence in attitudes between GP and patients has an effect on referral decisions and to search for other predictors, we used a linear regression model with referral rate as dependent variable and some of the well-known predictors of referral rate (such as age and sex of patient and GP) as independent variables. We also used list size and preferred list size as control variables.

A *sharing score* was calculated from the average of the score of all the PPOS items. The congruence between GP and patient was measured through a *difference score*, which is the absolute value of the difference between each GP's sharing score and the mean value of the sharing scores of the GP's responding patients. We tested for sex differences by constructing a variable capturing the interaction effect between the GP–patient difference score and the sex of the GP.

Results

Patient's questionnaires were distributed by 56 GPs, but 15 of these failed to return their own questionnaire. Hence, for the purpose of matching GPs' and corresponding patients' questionnaires, we have data from 41 practitioners. The participating GPs were similar to the whole population of GPs in Norway in terms of age, sex and list size (Table 1). The mean sharing score for the GP sample was 4.31; for female GPs the mean score was 4.42 and for

male GPs it was 4.26. The mean referral rate was 13% of consultations, with a minimum of 4% and a maximum of 30%.

We received 1268 patients' questionnaires, giving a response rate of 45%. After eliminating respondents where the corresponding GP questionnaire was missing, as well as respondents below the age of 16 and those who had failed to complete all items of the questionnaire, a working sample of 835 patients remained (Table 2). The mean age of the working sample was 49.3, with a male–female ratio of 29%:69%. The mean sharing score for patients was 4.47; distinguished by sex the mean scores were 4.51 for female patients and 4.38 for male patients.

The linear regression of determinants of referral rate (Table 3) showed that the difference score had a relatively strong and significant positive effect on referral rate (0.08 (95% confidence interval from 0.03 to 0.13), i.e. the larger the difference in attitudes towards shared decision-making between GP and patients, the higher the referral rate. The average difference score in our data was 0.39. If the difference score between GPs and patients would decrease from for instance 0.39 to 0.30, the number of referrals would decrease by 11%. Of the other control variables, only the GP's sex had a significant effect on referral rate. Male GPs had a 0.04 higher referral rate (around 28%) in the regression model (CI from 0.001 to 0.076) compared to female GPs. About half of the variance in referral rate was explained by the factors included in the study ($R^2 = 0.51$).

We also correlated the referral rate with the GP and patient sharing scores respectively to check how attitudes were associated with referral rate. We found a strong and significant negative correlation ($r = -0.46$) between the GP sharing score and referral rate, meaning that

GPs with a preference for patient involvement are less likely to refer. We found no significant association between patient sharing score and referral rate.

Discussion

We found that GPs who prefer shared decision-making refer less, which supports earlier studies.[8-11] A novel finding was that the level of congruence in attitudes predicts referral rate; the more doctor and patient differ in attitude towards patient involvement, the greater the probability that the GP will refer the patient to specialist care.

If we assume that a high difference score indicates disagreement about which roles the two parties should play in the consultation, i.e. there is discrepancy in expectations of the consultation, this finding is comparable to that of the recent study by Little et al:[11] When the patient's expectation of a participatory consultation style was not met, referral was a more likely outcome. In light of this, we could interpret the effect of the difference score on referrals as a result of patient pressure to be referred because of dissatisfaction with or lack of trust in the GP.

However, in contrast to the study by Little et al., we also incorporated the GP's attitude in our analysis, because we assumed that GPs' actions reflects an interaction of attitudes that are realised in the consultation. According to this view of medical decision-making, one could interpret the low difference score as a sign that GP and patient understand each other and communicate well. In this type of consultation environment, it might be easier for the patient to explain her symptoms and concrete expectations of treatment. Likewise, the GP would find it worthwhile to explain what type of intervention the condition calls for or why a referral is

perhaps unnecessary. Several studies conclude that patient expectation is an important predictor of referral rate,[2-3] and there is also some evidence that the GP's perception of patient expectations is an even stronger predictor of referrals and other medical decisions.[11-13] Altogether this suggests that congruence in attitudes enhances the effort to solve the medical problem within the GP's practice.

Another explanation of the result could be that when there is discrepancy in attitudes between GP and patient, it is most likely that the GP will be less positive to shared decision-making than the patient (as the patients on average proved to be more patient centred than the GPs). We also know from the results that the GPs that are negative towards patient centredness are more likely to refer, but we did not find any significant association between the patients' attitudes and the probability of being referred. Hence, in this pair, there is a dominating GP who would like to refer and a dominating patient that probably do not have very strong preferences about being referred or not. This is plausible since a referral is not an intrusive or risky intervention to the patient, but perhaps one that could be considered a benefit in a gatekeeper system. Indeed a British study from 1990 found that more patients wanted a referral than those who got one, and that the GPs were strongly influenced by the patients' expectations.[14]

Strengths and limitations of the study

This is the first study to our knowledge that matches doctors and patients' attitudes towards patient involvement in medical decision-making in order to explain variation in referral rates. We believe that our findings are strengthened by adopting a measure of attitudes to shared decision-making used in earlier studies. In addition, we consider it an advantage that we were not aiming to explain absolute scores or the scores of patients or doctors separately.

There are a few limitations to this study that should be considered. Firstly, the participating GPs are all from the municipality of Bergen and they are not necessarily representative for all Norwegian GPs. The reason for asking GPs from only one municipality to participate was that the density of specialists and distance to hospital are known to be an important factor of influence on referral rate.[2] These factors vary considerably between municipalities in Norway. By collecting data within a single municipality, we would keep this variable constant. However, as mentioned above, the participating GPs are similar to the GP population in Norway in all of the three characteristics were data are available (Table 1).

We decided to leave the distribution of the survey to the GPs because of ethical considerations regarding anonymity and because we believed this would result in a higher response rate than e.g. a postal survey. Certainly, the patient response rate was adequate, but on the other hand, it was complicated by the fact that we left the distribution of the survey to the participating GPs. We therefore had no way of controlling whether the questionnaires actually were distributed according to our instructions. This probably resulted in some random errors in the distribution but there were no apparent incentives for the GPs to screen the patients for distribution. Still we know little about the non-respondents, although the pattern and values of the Sharing scores are similar to the other studies using the PPOS instrument.[12, 15-16] Nonetheless, this calls for a certain caution when drawing conclusions based on the findings.

Regarding the reported referral rates, we would have preferred observational data to self-reported referral data, but such data are not yet available in Norway. There is no obvious reason to believe that the participants would be biased when reporting referrals, but as the number of participating GPs is small, random errors in the reporting might have reduced the probability of significant findings. In support of our finding however, a Norwegian study from

1989 reports a referral rate of 11% varying between 0 and 33%.[17] There is also reason to emphasise that the outcome variable is one-dimensional, as we do not differentiate between referrals to specialists and hospitals or between different diagnoses. Additionally, we do not know the outcome of the referral decisions. Hence, the study does not say anything about the appropriateness of the referral decisions.

Conclusions

The study indicates that it is important to investigate both GPs' and patients' attitudes to medical decision-making to understand variations in GP practice. This study is a first step in exploring how congruence in attitudes of doctor and patient or perhaps that doctor and patient are in tune, influences referral decisions in general practice and thereby the filtering to secondary care. The method could also be applied to other kinds of discretionary choices influencing resource allocation and quality of care.

Norwegian health authorities have proclaimed it an overall objective to treat patients at the lowest appropriate level of care (the LEON-principle),[18] and there is an assumption that GPs use their professional discretion to secure that those patients most in need get the appropriate treatment. Cost containment can therefore be viewed as a goal in itself. Nevertheless, we believe that further studies are necessary to explore how the quality of referral decisions is influenced by congruence in attitudes. There seems to be reason to claim that a close doctor-patient match may contribute to the LEON-principle and to contain costs of secondary care. In light of this, and assuming that patients prefer a GP that matches their own preferences, our

findings could be interpreted as support of the system of free choice of GP and the right to change GP at will.

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Conflicts of interest: None declared.

Key-points

- Referral decisions are influenced by the general practitioner's practice style.
- Knowledge of how the interplay between general practitioners' and patients' attitudes affects referral decisions is lacking.
- This study shows that congruence in attitudes between general practitioner and patients leads to a lower referral rate.
- To understand variations in referral rates it is necessary to investigate both doctors' and patients' attitudes.

- When health authorities aim at treating patients at the lowest appropriate level of the health care system, patients should be free to choose a general practitioner of matching attitudes.

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Table 1: Characteristics of the GP-sample (n = 41) and all GPs in Norway (n = 3767).

Variable	Sample	All GPs in Norway[i]
GP mean age (min-max values)	47.2 (32-65)	46.3
Number of male GPs (% of male GPs)	27 (66)	(70)
Listsize (min-max values)	1161 (285-2200)	1199
Number of GPs who prefer longer list (%)	8 (20)	
Referral rate in % of consultations (min-max values)	13 (4-30)	
GP PPOS score (min-max values)	4.31 (3.25-5.25)	
Male GP PPOS score (min-max values)	4.26 (3.25-5.00)	
Female GP PPOS score (min-max values)	4.41 (3.50-5.25)	
GP-patient difference score (min-max values)	0.39 (0-1.19)	

[i] Data from the National Insurance Administration. Available at: http://www.trygdeetaten.no/tall_mrog_mrfakta/Statistikker/folgerapporter/20040211/02.html. Accessed 7 December 2004. Taraldset, A. (2003) Allmennleger – antall og utvikling (General Practitioners - numbers and development. Utposten, 4 (32). Available at http://www.uib.no/isf/utposten/2003nr4/utp03410.htm . Accessed 7 December 2004.

Table 2: Characteristics of the patient sample (n = 835).

Variable	Patient sample
Mean age (min-max values)	49.3 (16-95)
Females (% females)	597 (71)
Education (3 levels)	2.15 (1-3)
Patient PPOS score (min-max values)	4.47 (2-6)
Male patient PPOS score (min-max values)	4.38 (2.75-6)
Female patient PPOS score (min-max values)	4.51 (2-6)

Table 3: Linear regression analysing determinants of referral rate.

Variable	Coeff.	P>|t|	95% confidence interval
PPOS difference score	0.079	0.004	0.027 to 0.132
Patient age/100	0.059	0.619	-0.179 to 0.296
Patient sex[i]	-0.044	0.257	-0.122 to 0.034
Patient education (3 levels)	0.021	0.424	-0.032 to 0.074
GP age	0.002	0.190	-0.001 to 0.005
GP sex[i]	0.039	0.045	0.001 to 0.076
List size/100	-0.002	0.363	-0.006 to 0.002
Preferred list size	0.013	0.260	-0.010 to 0.035

[i] The marginal effect is for discrete change of dummy variable from 0 to 1, where 0 = female gender

Appendix 1

Patient–provider orientation scale items (PPOS)[12]

The level of agreement with the statements is marked on a Likert-scale from 1 to 6.

(1) The patient is the one who should decide what gets talked about during a visit.

(2) It is often best for patients if they do not have a full explanation of their medical condition.

(3) Patients should not only rely on their doctor's knowledge but try to find out about their conditions on their own.

(4) Many patients continue asking questions until they understand the information given by the doctor.

(5) Patients should be treated as if they were partners with the doctor, equal in power and status.

(6) When patients disagree with their doctor, this is a sign that the doctor does not have the patient's respect and trust.

(7) Most patients appreciate to take their time in the doctor's office.

(8) The patient must always be aware that the doctor is in charge.

(9) When patients look up medical information on their own, this usually confuses more than it helps.