

Attitudes to medical care, the organization of work, and stress among general practitioners

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SUMMARY. Eighty five volunteer general practitioners in Lothian region recorded clinical and contextual information on 21 000 consultations during 1987–88. During their recording sessions they reported their perceived levels of stress using a previously validated scale. Subsequently, 80 of the doctors completed a previously validated multi-dimensional scale about their attitudes to patient care. Three attitude subscales (psychological orientation, appropriateness of consultations and responsibility for decisions) correlated with processes of care previously identified as indicators of good care. The 20 doctors who scored most highly on these patient-centred scales recorded self-perceived stress in 27% of their consultations compared with 11% of the consultations of the 33 doctors who scored lowest on these scales. Among the 20 most patient-centred doctors those booking patients at eight patients per hour or more reported stress at twice as many consultations as those with a longer booking interval; doctors whose preferred working styles conflicted with their booking patterns reported stress in up to 62% of consultations.

Doctors with a higher patient-centred orientation find their work more stressful. Longer booking intervals remove much of that stress, particularly when doctors' preferred style of consulting requires them to spend more time at individual consultations. Previously described work stressors offer a theoretical explanation for a problem which is important for both doctors and patients.

Keywords: quality in general practice; occupational stress; patterns of work; workload; doctors' attitude.

Introduction

RECENT work on the quality of care in general practice has taken two different although overlapping approaches. One approach¹ assumes that identifying standard policies for processes of care is possible and desirable and that, having done this, educational interventions (audit), contractual requirements (health checks) or inducements (targets) will lead to these policies being implemented. There is evidence that this approach works, although the clinical significance of what can be achieved in terms of quantity or nature of benefit is less clear.² The other approach³ concentrates on trying to identify the reasons for variations between doctors in what they do and how they do it, hoping that better understanding will lead to a more informed debate about different clinical judgements on apparently similar problems.

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High quality care is created by an ideal mix of individual characteristics, clinical skills and operational setting. The importance of individual characteristics has been suggested by Wilson⁴ in a review of work on the effect of consultation length on the nature of care given. He comments that, after allowing for differences in patient mix, the variables which may account for differences in consultation length include the age, sex, training and attitudes of the doctor, as well as practice list size.

In a recent study of the work of 85 Lothian general practitioners,⁵ an attempt to categorize doctors on the basis of their mean consultation times in routine surgeries led to the development of a proxy measure of quality of care based on the ratio of long to short consultations. Irrespective of the rate at which the doctors normally worked, organizational factors such as over-booking and running late reduced the number of long consultations and increased the number of short consultations they offered. This was associated with poorer quality of care as indicated by the attention given to concurrent long term health problems and psychosocial problems, and by a lower level of patient satisfaction.

In previous work⁶ we proposed a model in which the quality of care was linked to a variety of demands on the doctor. The model included an opportunity to consider the effects of different personal characteristics in the process of care. We suggested that a mismatch between personal and organizational factors could have important implications for the creation of stress in doctors. Wilson has confirmed the beneficial effects of changing from booking rates of eight to six patients per hour in terms of reduced stress for doctors,⁷ but did not attempt to describe the individual characteristics of the doctors themselves. Previous research which has linked organizational and personal factors has also noted an association between the attitudes of doctors to their work and the nature of the care they deliver and their satisfaction with their work.⁴

Using a validated questionnaire for assessing general practitioners' attitudes to their work, this study aimed to explore the interaction between doctors' attitudes and the way they organize and deliver care, and the implications of these interactions for doctors and patients.

Method

The Lothian study

Eighty five volunteer general practitioners in Lothian region (representing 20% of general practitioners and 46% of practices in the area) recorded clinical and organizational information on one day in 15 for one year. The methods have been described elsewhere in detail.^{5,8,9} Just over 21 000 consultations in the surgery (excluding antenatal and other special clinics) carried out in 1987–88 were studied. Information was available on the age and sex of the doctors and on the organizational characteristics of the practices and the surgeries carried out by the doctors. Doctors in single handed practices were under-represented in the sample (5% versus 8% in Lothian region as a whole), as were women doctors (25% versus 32%) and both younger doctors (aged less than 35 years, 20% versus 24%) and older doctors (aged 45 years and over, 27% versus 40%). Note was made of the age and sex of the patients seen and the nature of and management of their clinical problems, including whether a decision to prescribe or to refer was taken, whether recognized

concurrent physical illnesses or psychosocial problems were dealt with, and whether health education was undertaken.

Doctor style was categorized as fast, intermediate or slow according to mean consultation time (6.99 minutes or less, 7.00 to 8.99 minutes, or 9.00 minutes or more per patient, respectively) as previously described.⁵ Consultations carried out by doctors of all three styles were categorized as short (five minutes or less), intermediate (six to nine minutes) or long (10 minutes or more). The booking interval described the number of patients normally booked per hour before extras had to be added; the waiting time was the delay between the appointment time (where relevant) and when the consultation started.

Attitudes to medical care

An instrument developed in Australia by Cockburn and colleagues¹⁰ for measuring the attitudes of general practitioners to their work was sent to all 85 doctors a year after they had finished recording data in the Lothian study. Eighty doctors returned the questionnaire.

The instrument has seven discrete dimensions representing different attitudes to medical practice. Respondents use a seven-point scale from 1 (strongly agree) to 7 (strongly disagree) to record opinions. Six of the dimensions — psychological orientation, preventive medicine, mutuality, communication, responsibility for decisions and appropriateness of consultations — are the basis of the analyses reported here. The seventh dimension, government role, was not directly related to British general practice and was not studied further. Full details of the items contributing to the various dimensions are listed in Appendix 1.

Stress at consultations

Doctors in the Lothian study recorded self-perceived stress on a validated seven-point scale (using 'tense' and 'relaxed' as the descriptive terms at the extremes) at half-hourly intervals during their recording days.¹¹ Scores of five, six and seven at the 'tense' end of the distribution were regarded as indicating stress. Each consultation was tagged with the stress value recorded immediately after it.

Results

The attitude instrument and its various dimensions

In order to examine whether general practitioners' orientation to their work was associated with previously noted selected indicators of quality of care,⁵ scores on each of the six attitude

dimensions were correlated with aggregated data on the content and length of consultations for each general practitioner. Scores on the dimensions were only approximately normally distributed, and therefore non-parametric correlation coefficients (Spearman's rho) were calculated. In general, coefficients were low. Three of the dimensions (preventive medicine, mutuality and communication) did not correlate significantly with any of the indicators of quality. All those which were significant at $P < 0.05$ are shown in Table 1. Table 1 also shows correlations between stress reported at consultations and three of the dimensions under study. Preventive medicine and mutuality did not correlate with stress, but communication showed a correlation of -0.19 . The meaning of this correlation has not been explored further here.

The three dimensions — responsibility for decisions, psychological orientation and appropriateness of consultations — were variously associated with longer consultations, lower prescribing rates, and greater recognition of psychological issues as relevant to a consultation, and were also significantly associated with the percentage of consultations at which the general practitioners felt stressed. The inter-correlations between the three dimensions were also studied — between psychological orientation and appropriateness of consultations Spearman's rho was found to be 0.30 ($P < 0.01$), psychological orientation and responsibility for decisions 0.24 ($P < 0.05$) and appropriateness of consultations and responsibility for decisions 0.26 ($P < 0.01$). Although these were significant, the correlations were not considered high enough to justify forming a single scale. In any case, the instrument was chosen because of its multi-dimensional nature.

Grouping the doctors

It was decided to group the 80 doctors who returned questionnaires according to their responses on the three dimensions referred to above. Doctors were regarded as high scorers if they fell within the upper quartile of doctors' scores for that dimension. Group one included 20 doctors: three who were high scorers on all three dimensions and 17 who were high scorers on two dimensions. Group two included 27 doctors who were high scorers on one dimension, and group three included the remaining 33 doctors who had no high scores.

Organization of work and time spent at consultations

Table 2 shows the distribution of time in surgeries, the size of the surgeries and the booking intervals for the three groups of

Table 1. Significant correlations between general practitioners' scores on attitude subscales and aggregated data on indicators of quality of care and consultations at which general practitioner felt stressed (data for 80 general practitioners based on 20 281 consultations).

	Spearman correlation coefficient for:		
	Appropriateness of consultations	Psychological orientation	Responsibility for decisions
<i>Indicators of quality</i>			
Mean consultation time	0.26**	—	0.19*
% of consultations in which psychosocial issues were reported as relevant	0.23*	—	0.29*
% of consultations in which relevant psychosocial issues dealt with	0.27**	—	—
% of consultations in which prescription issued	-0.21*	-0.19*	—
% of consultations in which long term health problems were relevant	—	—	0.28*
% of consultations at which GP stressed	0.24*	0.20*	0.22*

* $P < 0.05$. ** $P < 0.01$. *** $P < 0.001$.

Table 2. Comparison of organization of surgeries and time spent at consultations among the three groups of general practitioners.

	Group one ^a	Group two ^b	Group three ^c
Number of GPs	20	27	33
Mean age of GPs (years)	44	40	41
% of GPs who are men	90	70	73
Number of consultations	4962	6507	8812
<i>Organization of surgeries</i>			
% of consultations in surgeries of less than 10 patients	23	25	19
% of consultations in surgeries of more than 17 patients	19	14	24
% of consultations starting 15 or more minutes late	56	53	55
No. (%) of GPs booking eight or more patients per hour ^d	9 (45)	12 (46)	15 (52)
<i>Time spent at consultations</i>			
Mean consultation time (minutes)	8.4	7.6	7.5
Ratio of long:short consultations	1.5:1	1.1:1	1.1:1
% of fast GPs	15	29	36
% of slow GPs	35	26	21
% of consultations where GP recorded dissatisfaction	13	13	14

^aHigh scorers on two or three dimensions. ^bHigh scorers on one dimension. ^cDoctors who had no high scores. ^dNot all general practitioners operated an appointment system.

doctors. Owing to the high number of consultations examined, most of the differences between the groups are statistically significant. Therefore, *P* values are not presented.

Doctors in group one were more likely to have fewer patients booked at their sessions than doctors in group three and less likely to book eight or more patients per hour, but these differences were not marked. The mean consultation time of doctors in group one was slightly longer and the ratio of long to short consultations slightly higher than for the remaining doctors. Doctors in group one included an excess of slower doctors and doctors in group three an excess of faster doctors, but doctors with intermediate consultation times formed the largest proportion of all three groups. About half of the consultations in all groups started more than 15 minutes late. The mean age of the doctors in all these groups was similar but a higher percentage of the doctors in group one than in the other two groups were men.

Doctor stress and clinical actions

Table 3 shows the percentage of consultations at which the general practitioners felt stressed, where psychosocial issues were recognized as relevant, where relevant psychosocial problems were dealt with and where a prescription was issued. It can be seen that consultations carried out by doctors in group one were two and a half times more likely to be associated with doctor stress than those carried out by doctors in group three.

When the doctors in group three were separated into fast, intermediate and slow doctors, according to mean consultation time, the percentage of consultations at which the general practitioner felt stressed fell progressively from 14% to 10% to 6%. For the doctors in group one the corresponding figures were 31%, 21% and 35%, respectively. Thus, it is clear that stress scores

Table 3. Perceived stress and content of consultations carried out by general practitioners in each of the three groups.

	% of consultations		
	Group one ^a (n = 4962)	Group two ^b (n = 6507)	Group three ^c (n = 8812)
At which GP stressed	27	19	11
In which psychosocial issues were reported as relevant	48	46	39
In which relevant psychosocial issues dealt with	80	73	71
In which prescription issued	53	55	60

n = number of consultations with GPs in group. ^aHigh scorers on two or three dimensions. ^bHigh scorers on one dimension. ^cDoctors who had no high scores.

are higher for doctors in group one than group three, even after controlling for the doctor's speed of working.

Doctors in group one recognized more consultations as including relevant psychosocial problems and dealt with more of those they recognized than doctors in group three. The result was that an emotional or social problem was likely to be dealt with at 38% of the consultations of doctors in group one (80% of 48%) compared with 28% of the consultations of doctors in group three (71% of 39%). Doctors in group one also wrote prescriptions at fewer consultations than doctors in group three.

In an attempt to examine case mix for different groups of doctors, scores on a standardized measure of perceived distress (the Nottingham health profile) which were available for the adult patients of 43 of the 85 general practitioners,⁵ were analysed. No significant differences were found.

Stress and booking times of doctors in group one

Table 4 examines the stress scores at consultations for the general practitioners in group one according to whether they were fast, intermediate or slow doctors and whether they booked eight or more patients an hour or less. The 11 doctors whose booking times were compatible with the rate at which they actually saw patients reported feeling stressed at approximately 15% of their consultations; the three intermediate doctors booking eight patients or more per hour reported stress at 38% of their consultations, and the three slow doctors booking at this rate reported stress at 62% of their consultations.

The three slow doctors with mismatched booking rate to consulting rate were compared with the four slow doctors with appropriate booking rates. The former prescribed at more consultations (58% versus 42%), had longer mean patient waiting times (25 minutes versus 16 minutes), and a lower long:short consultation ratio (3.4:1 versus 5.4:1). Both groups dealt with psychological problems at a similar proportion of consultations (46% versus 47%).

Doctor dissatisfaction

Doctors were asked to rank each consultation on a five-point scale from 1 (very dissatisfied) to 5 (very satisfied).⁵ There was no difference in the percentage of consultations rated as 'dissatisfying' when doctors were grouped according to their attitude scores. However, when the dissatisfaction scores were redistributed to take the number of patients booked per hour into consideration, the highest level of dissatisfaction reported was by the fast working doctors in group three (20%), and the lowest level by the slow working doctors in group three (5%).

Table 4. Stress at consultation for doctors in group one by working style and appointment booking interval.

Doctor style	% of consultations at which GP felt stressed, by booking interval (no. of GPs)		
	<8 patients hour ⁻¹	8+ patients hour ⁻¹	All
Fast ^a (n=0/690)	—	31 (3)	31 (3)
Intermediate ^b (n=2006/688)	15 (7)	38 (3)	21 (10)
Slow ^c (n=880/698)	16 (4)	62 (3)	35 (7)

n = number of consultations for doctors booking <8 patients per hours/8+ patients per hour. ^aMean consultation time ≤6.99 minutes. ^b7.00–8.99 minutes. ^c9.00+ minutes.

Discussion

Studies involving volunteer subjects in areas where gold standards are lacking and issues are subjective, inevitably raise uncertainties about validity and reliability. The 85 doctors in this study were reasonably representative of all doctors in Lothian region coming from 46% of practices in the area, although single-handed doctors, older and younger doctors and women doctors were under-represented.

The attitude questionnaire used has been carefully researched and has been validated in the setting of Australian general practice where it was devised and, although it has not been re-validated in the UK, the issues raised in it have strong face validity. The questionnaire was well completed and comments from the general practitioners were positive.

The general practitioners were grouped on the basis of their responses to three of the dimensions in the questionnaire. On the basis of the content of the items contributing to these dimensions, the term 'patient-centred' can be used to describe the general approach of doctors in group one. However, two of the other dimensions (mutuality and communication) contain items which also suggest a patient-centred approach, and yet overall scores in these dimensions did not correlate with any of the processes of patient care studied. Given the relatively small sample of doctors, it has not been possible to investigate these issues further.

The self-reporting instrument for the measurement of stress has strong face validity and has also been validated against the best available measure of perceived stress, the stress arousal check list.¹¹ The decision to tag consultations with the nearest subsequent half-hourly stress self-rating by the doctor introduces a subjective judgement; several analyses were tried tagging consultations with the nearest previous half-hourly stress-recording with similar results. Taking part in the 'stress study' was itself a cause of stress to some of the doctors. However, this could have applied to all the doctors taking part in the study and there is no obvious solution if a study of this nature is to be based on observational information of other than a superficial nature.

Previous research has described the interactive effects of 'job demands' and 'job decision latitude' (degree of control over the work setting and demands of the job) on mental strain and job dissatisfaction,¹² and the relationship between job demands and personal values on 'person role conflict' (conflict arising from doing work which does not accord with personal values or interests), dissatisfaction and stress.¹³ A combination of these approaches enables us to describe our observations of general practitioners within a theoretical framework. Patient-centred medicine is associated with a higher ratio of long to short consultations and this mix is more commonly found in slower doctors. Slower doctors are particularly constrained when their booking patterns are not compatible with their preferred rate

of working. Among the 20 most patient-centred doctors in this study, those slow doctors who booked eight or more patients per hour exhibited the most stress. These doctors experience person role conflict arising out of the interaction of their commitment to patient-centred doctoring and to high quality of care, with high work rate and little opportunity to control the pace at which they work. It is for them that the exercise of job decision latitude is the greatest problem.

The way in which the doctors have been grouped and the process measures which have been looked at in this study imply a positive valuing of the patient-centred approach to consultations. Previous work has shown that consultations which emphasize this domain take longer, are more common in doctors with longer mean consultation times and are less likely for such doctors when there is overbooking and when they run late.¹⁴ Patients express more satisfaction with consultations which last longer.

In previous work comparing fast and slow doctors it was surprising to find that the case mix of the two groups of doctors was similar.⁵ In the same way, no case mix difference has been found between the different groupings of doctors used in this study. How patients come to have consultations with different doctors is an area which we have not been able to address and which requires further research.

Although it cannot be concluded that fast doctors who are least patient-centred provide a less good service, it is noticeable that these doctors report 20% of their consultations as dissatisfying. This suggests that fast consulting using non-patient-centred consulting techniques is not a good recipe for a fulfilling professional life.

Other authors¹⁵ have described the many issues and events that stress doctors by increasing job demands or reducing job decision latitude: partners being on holiday, interruptions and emergencies, out-of-hours work, illness and personal problems. Information collected as background to the study reported here has confirmed the importance of these.⁹ Our conclusion in the short term is, however, that poor time management is the largest and possibly most soluble cause of acute stress.

This work has been carried out in a relatively small sample of volunteer doctors with mean list sizes of approximately 1800.⁵ It would be interesting to know if the findings can be generalized to other groups of doctors particularly in areas where higher list sizes are the norm.

Appendix 1. Seven dimensions and the subscales of the general practitioner attitude questionnaire (*items scored in reverse).¹⁰

Psychological orientation

I think that it is my job to treat physical disease and to leave tasks such as counselling to other professions.

Patients are more likely to follow my advice concerning their physical complaints than advice concerning their social or emotional problems.

I usually don't attempt to help patients with psychological problems because they are the result of life situations over which I have little or no control.

Preventive medicine

I feel that it is a waste of time trying to persuade patients to give up smoking.

Identification of modifiable risk factors such as smoking is a very important aspect of my work.*

I believe that GPs are very influential in persuading patients to change their lifestyles.*

Mutuality

I believe that effective medical treatment depends on a partnership in which the patient plays an active part.*

Providing emotional support for my patients is important for my personal satisfaction.*

It is important for me to be frank and open with patients.*

The more information I give patients about their diagnosis and treatment, the more likely they are to comply with instructions.*

Communication

I believe that I should always inform patients about their prescribed treatment, making sure they understand my explanations.*

An important part of my role as a GP is simply to listen to patients' worries.*

Counselling patients with personal problems can help them to cope better in future.*

Responsibility for decisions

The majority of patients do not wish to be involved in decision making about their treatment.

Most patients would prefer the doctor to take responsibility for their medical problems.

Appropriateness of consultations

My medical expertise is often wasted because I see so many people who are not sick.

Often patients make a convenience of me by bringing problems which they should solve themselves or take elsewhere.

Government role

Considering the amount of stress and responsibility involved, doctors' incomes are barely adequate.

I think that all doctors should be paid a fixed salary.*

I believe that the only efficient health care system is one based on free enterprise.*

Only a fee for service system can guarantee patients their right to choose their own doctor.

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