

Attitudes to risk taking in medical decision making among British, Dutch and Belgian general practitioners

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SUMMARY. *The attitudes of groups of general practitioners in Belgium, the UK and the Netherlands to risk taking in medical decision making have been determined. The results indicate that many doctors seek to minimize the risks that they take when treating patients. Doctors in Belgium had the highest levels of 'no risk-taking' attitudes with 60% preferring not to take risks; Dutch doctors had the lowest levels with only 24% preferring not to take risks. Possible explanations for this difference include the differences in doctor-patient relationship and the systems of medical education in these two countries.*

Introduction

MOST of the problems brought to a general practitioner can be classified as minor and are little influenced by medical intervention. However, a small proportion may be potentially serious and early diagnosis and treatment are necessary. Using their medical and epidemiological knowledge and experience, general practitioners have to assess the importance of each symptom. There is seldom a guaranteed way of predicting whether a particular symptom will indicate a serious outcome.¹ The doctor has to work with probability and thus uncertainty. Mistakes will inevitably occur but each doctor has to live with this uncertainty and come to terms with it.

Doctors vary in their reactions to uncertainty; some are more willing to live with it than others.² Uncertainty can cause uncomfortable feelings which some doctors prefer to avoid, for example, fear of making a mistake and losing one's self-esteem, or fear of getting into conflict with a patient over a management decision. The doctor's reaction to uncertainty is partly developed during formal medical education.³ Students are usually taught to take no risks with patients and young doctors often finish their training with a professional attitude in which missing serious diseases or making mistakes is regarded as unacceptable performance. The few studies in this area⁴⁻⁶ indicate that doctors have major worries about missing serious disease and making wrong decisions. Although this attitude is logical in specialist practice with its selected population, it is less rational in general practice. Most problems presented in general practice can be classified as minor and self-limiting; in only a

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Submitted: 13 December 1988; accepted: 29 August 1989.

© *British Journal of General Practice* 1990, 40, 134-136.

small proportion are medical actions (therapy or referral) really obligatory. The doctor who seeks to minimize uncertainty and avoid risks may overemphasize rare conditions and fail to recognize common or non-medical explanations for presented symptoms. This can be the start of somatic fixation for the patient.⁷

In this study we have attempted to measure the attitudes of general practitioners in the UK, Belgium and the Netherlands to taking risks in medical decision making. Different cultures, forms of medical education and legal systems may lead to differences in attitudes to risk taking and some of the characteristics of general practice in the three countries are summarized in Table 1. Differences in the payment of doctors and methods of access to medical specialists can have an influence on doctors' attitudes.

Table 1. Characteristics of general practice in the UK, Belgium and the Netherlands in 1987.

	UK	Belgium	Netherlands
Registration of patients ('list')	Yes	No	Yes
Direct access to medical specialist	No	Yes	No
Payment of GP	Largely capitation	Fee for service	Largely capitation
Percentage of single handed practices	<10	85	54
Obligatory vocational training	2 years hospital 1 year as trainee in general practice	2 years in own practice	1 year as trainee in general practice

Method

Development of the questionnaire

A questionnaire of 11 items which were relevant to no risk taking in medical decision making and management was constructed in the department of general practice in Nijmegen, the Netherlands. The items were devised on the basis that it is not rational, from an epidemiological point of view, for a general practitioner never to take risks, always to want to refer to a specialist in uncertain situations and always to want to be aware of serious illness. Following a pilot study five of these questions were selected. This shortened questionnaire was completed by 112 general practitioners practising near Nijmegen. The questions were marked on a five-point Likert scale ranging from strongly agree to strongly disagree. The frequencies, variations and consistency were studied. All items spread satisfactorily and loaded more than 0.50 in an unrotated factor analysis on the principal factor (46.7% explained variance). The item reliability was 0.80 (Cronbach alpha).

The questionnaire has been used in several further studies of Dutch general practitioners including trainees during their vocational training.⁸ In every study the same factor structure and consistency was found.

Validating the questionnaire

It was hypothesized that general practitioners who do not wish to take risks as measured by the questionnaire, will make more referrals to medical specialists, will carry out more unnecessary medical actions and will perform less rationally in daily practice. There are several studies that support this hypothesis and which can be used to validate the questionnaire.^{9,10}

The questionnaire was completed by 57 Dutch general practitioners. These same doctors were observed in their practices by trained observers for two days. Their performances in consultations were also audiotaped. On average 15 consultations were assessed by trained general practitioners for each doctor. Detailed criteria of performance, formulated on the basis of morbidity data, a literature search and consensus meetings by experienced general practitioners were used in the assessment.¹¹ Twenty four 'protocols' with criteria for history taking, examination, information sharing, therapy, referral and follow up were used and these covered 55% of all problems presented in Dutch general practice.¹¹ Each protocol consisted of 30–40 obligatory actions. For each general practitioner, therefore, a mean percentage based on over 15 consultations or 450–600 medical actions, taken from different protocols, could be used to determine 'obligatory medical performance'. By applying factor analysis it appeared that a higher score on a single protocol indicated a higher score on the others. In the same way a score was added for 'superfluous performance': the median number of non-obligatory medical actions per contact. The inter-rater reliability was found to be very good (κ 0.71–0.75). Sick fund data of the referral patterns of these doctors was also available for analysis.¹¹ For each doctor the mean annual number of referrals per 1000 insured persons per year over the last five years was determined. The correlations between attitudes to risk taking in medical decision making as determined from the questionnaire and actual performance in the practice is shown in Table 2. As expected there was a strong correlation between referral behaviour and attitudes to risk. In Belgium, a comparable study with trained observers in the practices was carried out with 84 general practitioners.¹² The correlations between the doctors' attitudes and some of the performance parameters are presented in Table 3; there are strong correlations with antibiotic prescribing for minor problems.

Table 2. Correlation between attitudes to risks and performance in the practice for 57 Dutch general practitioners (Pearson correlations).

	More willing to take risks
Fewer referrals to medical specialists	0.36**
Performing more obligatory medical actions	0.23*
Performing fewer superfluous medical actions	0.25*

* $P < 0.05$; ** $P < 0.01$.

Table 3. Correlation between attitudes to risks and performance in the practice for 84 Belgian general practitioners (Pearson correlations).

	More willing to take risks
Fewer referrals to medical specialists for circulatory problems	0.11*
Less prescribing of antibiotics for:	
Respiratory problems	0.20**
URTI/common cold	0.28**

* $P < 0.05$; ** $P < 0.01$. URTI = upper respiratory tract infection.

It is clear from this validation that playing safe and constantly considering potentially serious disease are associated with more referrals to specialists, less adequate performance according to defined criteria and more prescribing of antibiotics in situations where their use is questionable. It can therefore be concluded that the questionnaire is a valid measure of general practitioners' defensive attitude to medical decision making.

Comparative study

Populations of general practitioners in the UK, the Netherlands and Belgium were selected and their answers to the five defensive attitude questions compared.

UK. After translation the questionnaire was sent to all general practitioners in Avon in south-west England in 1987. Avon is a mixture of urban and rural areas and the population numbers about one million. Three hundred and seventy one general practitioners completed the questionnaire (79% response rate). Respondents did not differ from non-respondents in terms of age, sex or list size.

Belgium. In Belgium the questionnaire was given to general practitioners in the Dutch speaking region of Flanders, a mixed urban and rural region, during an interview in 1986. Eighty four general practitioners completed the questionnaire (93% response rate).

The Netherlands. In the Netherlands the questionnaire was sent to a stratified sample of all 189 general practitioners in the region around Arnhem in 1987. Stratification used urbanization and referral rates. Seventy five doctors completed the questionnaire (71% response rate).

Results

The attitudes of the general practitioners in the three countries are presented in Table 4. The results show a variation in the way doctors in each country answer the questions, some agreeing and others disagreeing with the statements. There are also clear differences in the responses of doctors from the three countries. Belgian general practitioners have the highest median score — 60% prefer not to take risks when making medical decisions. The figure is not greatly different for British doctors (54%). However, only 24% of Dutch doctors have this attitude to medical decision making.

Discussion

International studies such as this need to be interpreted with care. One potential problem is the translation of the questionnaire from Dutch into English. Certain words or sentences may have a different connotation in the two languages and the fact that the Belgian general practitioners used the Dutch questionnaire may also have been a source of error, although they speak Dutch in their work.

A further methodological problem is the comparability of the samples of general practitioners in the different countries. These findings cannot be extrapolated to national levels as three regional groups of general practitioners have been compared. An international study of general practitioners' defensive attitudes should therefore be mounted to check the results of this study. Another problem is the interpretation of the results. It is not completely clear what was measured by the questionnaire. Was it a defensive attitude, a self-interested, hedonistic attitude of avoiding all kinds of uncomfortable feelings and situations or an anxious attitude of not being able to tolerate mistakes? Roland¹³ suggested that the relationship between psychological characteristics of doctors, such as tolerance of diagnostic uncertainty, and referral rates should be investigated because of the

Table 4. Percentage of general practitioners that agreed or agreed strongly with statements concerning risk taking in medical decision making.

	% of GPs agreeing with statement			P
	UK (n = 371)	Belgium (n = 84)	Netherlands (n = 75)	
When in doubt it is preferable to refer to a specialist than to wait and see	42	54	8	<0.001
A GP must prefer the certain to the uncertain	32	52	20	<0.001
A GP must not take any risks with physical illness	44	65	16	<0.001
For physical complaints a GP should do everything possible to establish the cause of a complaint	65	57	28	<0.001
As a GP you must always be aware that each complaint can be the beginning of a serious disease	88	72	47	<0.001
Median	54	60	24	<0.001

n = total number of respondents.

implications for education. McIntyre and Popper state that 'making mistakes is part of life. It is impossible not to make them. Doctors have to learn from their mistakes, and hiding them has to be considered a mortal sin'.¹⁴

The differences between the responses of doctors in the three countries need to be interpreted in the light of knowledge of the differences between the countries. The highly defensive attitudes of Belgian general practitioners may relate to the freedom of Belgian doctors to set up practice where they wish and the freedom of Belgian patients to consult which doctor they wish with no restriction on the frequency of consultation. This results in patients frequently changing their general practitioner and considerable competition for patients between general practitioners. Patients in Belgium are very much 'in control' of their primary medical care providers and the doctors will be encouraged to act defensively to retain the allegiance of their patients. What will happen in the Netherlands and the UK as the 'market principle' becomes more and more dominant in health care? The differences between Dutch and British general practitioners are more difficult to explain. There is a difference in vocational training in the two countries. British general practitioners have worked for at least three years in hospital specialties with their selected epidemiology during their training (including the pre-registration year in hospital posts). They may become more focussed on serious conditions than Dutch trainees, who spend their vocational training totally within general practice. The low scores of the Dutch doctors could be an effect of educational initiatives in the region, where general practitioners have been made aware of the dangers of a defensive attitude to medicine.^{7,8}

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Acknowledgements

We thank the general practitioners who took part in these studies and members of our departments for their help. The Avon study was supported from the Glaxo Research Fund and the Nijmegen study by the Prevention Fund.

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