Consultation length in general practice: cross sectional study in six European countries

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Abstract

Objectives To compare determinants of consultation length discussed in the literature with those found in consultations with general practitioners from different European countries; to explore the determinants of consultation length, particularly the effect of doctors' and patients' perceptions of psychosocial aspects.
Design Analysis of videotaped consultations of general practitioners from the Eurocommunication study and of questionnaires completed by doctors and by patients.
Setting General practices in six European countries.
Participants 190 general practitioners and 3674 patients.
Results In a multilevel analysis with three levels (country, general practitioner, and patient), country and doctor variables contributed a similar amount to the total variance in consultation length (23% and 22%, respectively) and patient variables accounted for 55% of the variance. The variables used in the multilevel analysis explained 25% of the total variation. The country in which the doctor practised, combined with the doctors' variables, was as important for the variance in consultation length as the variation between patients. Consultations in which psychosocial problems were considered important by the doctor and the patient lasted longer than consultations about biomedical problems only. The doctor's perception had more influence in this situation than the patient's. Consultation length is influenced by the patients' sex (women got longer consultations), whether the practice was urban or rural, the number of new problems discussed in the consultation (the more problems the longer the consultation), and the patient's age (the older the patient the longer the consultation). As a doctor's workload increased, the length of consultations decreased. The general practitioner's sex or age and patient's level of education were not related to the length of consultation.
Conclusion Consultation length is determined by variables related to the doctor and the doctor's country as well as by those related to patients. Women consulting in an urban practice with problems perceived as psychosocial have longer consultations than other patients.

Introduction

Most surveys show that patients are satisfied with the care they receive through general practice, but patients often say that their consultations are too short and that doctors do not use this time well.[1] Studies about the length of consultations have investigated the effect of the characteristics of the doctors and the patients and the reason for the consultation on the length of consultation. The characteristics of doctors that have the most effect on consultation length are doctor's age, sex, and attitude and the size of the doctor's list of patients.[1] Older doctors, women doctors, and doctors with positive attitudes to mental health problems tend to have longer consultations.[2–5] The size of a doctor's list is not an important determinant of consultation length, except when lists are extremely large or extremely small.[6 7] The patient's age and social class are determinants of consultation length—the older the patient or the higher their social class, the longer the consultation.[2] Doctors spend more time with patients who have new problems than those with already discussed problems.[8 9] Consultations about psychosomatic and behavioural problems are longer than those for other problems.[10 11] Doctors are less likely to prescribe during long consultations.[12]

Researchers measuring the relation between consultation length and the characteristics of patients, doctors, and consultations encounter two problems. The first is how to determine the exact length of consultation. Some studies used the time booked in for appointments, some the mean length of consultation (calculated by dividing the duration of the surgery session by the number of patients seen), and others the general practitioners' estimates of the average length of consultation. Stopwatches accurately measure the length of consultations, and videotaping is accurate and valid and does not alter doctors' behaviour in consultations.[1 13] The second problem is that determinants identified by studies in one country cannot be extrapolated to other countries. Important differences in consultation length exist between countries because of differences in the structure of healthcare organisations and the role of general practitioners.[1]

Our cross sectional study was based on the larger Eurocommunication study.[14] We aimed to compare determinants of consultation length given in the literature with those identified in general practice. We explored the determinants that we identified, giving

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special attention to the effect of psychosocial problems on consultation length.

Methods

We chose general practitioners from six European countries with different healthcare systems who took part in the Eurocommunication study.[14 15] A sample size of a minimum of 27 general practitioners in each country and 15 patients for each general practitioner was needed to detect an effect size of 0.30 at a significance level of 0.05 with a power of 0.80. On this basis, we selected 190 general practitioners. We videotaped 20 consultations with patients for each doctor and analysed 15 of these for each doctor.

Measurement instruments

We identified determinants of consultation length with previously described questionnaires completed by doctors and by patients.[15] In the analysis, we differentiated between the presence of psychological problems and their importance. "Presence of psychosocial problems" for the doctor meant that the diagnosis could be coded into one of the psychosocial categories of the International Classification of Primary Care.[16] For the patient, it meant that the patient's reason for the encounter could be coded into one of the psychosocial categories. General practitioners assessed "the importance of psychosocial problems" on a five point Likert scale (5 = very important (could be awarded even if a psychosocial problems was not the reason for the consultation); 1 = less important). The "importance of medical and psychosocial aspects of the consultation" for the patient was measured by a questionnaire derived from the patient request form that used 10 of the 42 items on the form (see table 3).[14 17]

The length of consultations was measured with a stopwatch. Interruptions were subtracted from the total consultation time.

Statistical analysis

We differentiated between the presence of psychosocial problems and their importance in consultations. We performed an analysis of principal components with a Varimax rotation on answers to questions on the patients' questionnaire about the importance of psychosocial and medical aspects of the consultation. This looked for factors with eigenvalue greater than one (for this analysis, this meant an explanation of a variance of 10%). The data were analysed with SPSS 9.0.

We used MLwiN 1.1 to do a regression analysis that discerned three levels: patient, doctor, and country levels.[18] This analysis accounted for the clustering of patients within general practices and the clustering of doctors within countries. The analysis only included six countries, so the variation in consultation time attributable to the country level is subject to a large standard error.

At the patient level, we used the independent variables age, sex, and level of education of the patient; importance of psychosocial and medical aspects assessed by the patient; importance of psychosocial problems assessed by the general practitioner; presence of psychosocial problems within the consultation assessed by the doctor (the diagnosis) and by the patient (the reason for the encounter); new or known problems; and whether medication was prescribed. At the general practitioner level, we used the variables age and sex of the doctor, doctors' years of experience, weekly workload (the average number of encounters with patients plus twice the number of home visits plus half the number of telephone calls), and practice location (urban or rural). At the country level, we did not introduce any specific variables because we did not aim to explore differences between countries.

Table 1 General practitioners and patients taking part in the Eurocommunication study.[14] Values are numbers (percentages)

	General practitioners			Patients		
Country	Men (n=127)	Women (n=63)	Total (n=190)	Men (n=1503)	Women (n=2171)	Total (n=3674)
Belgium	23 (74)	8 (26)	31	266 (44)	335 (55)	601
Germany	32 (74)	11 (26)	43	393 (44)	496 (56)	889
Netherlands	15 (48)	16 (52)	31	223 (39)	356 (61)	579
Spain	12 (44)	15 (56)	27	170 (32)	369 (68)	539
Switzerland	22 (71)	9 (29)	31	253 (41)	367 (59)	620
United Kingdom	23 (85)	4 (15)	27	198 (44)	248 (56)	446

Results

Preliminary analysis

We included 190 general practitioners from the Eurocommunication study (table 1). We compared the characteristics of these general practitioners with those in the task profile study (a study on a representative sample of European general practitioners) to find out whether our doctors were representative of general practitioners in their countries, a comparison was made with the task profile study (a study on a representative sample of European general practitioners) (table 2)[19]; this comparison showed that, on average, the workload of the general practitioners in the Eurocommunication study was lower than for those in the task profile study. The percentage of women doctors in our study was higher than that in the task profile study, except in the United Kingdom. More city practices were included in our study than in the task profile study; this difference was significant only for the United Kingdom ($P \leq 0.001$) and Spain ($P \leq 0.01$).

Overall, 3674/4650 patients agreed to participate; 2171 (59%) of these were women (table 1). In total, 976 (21%) patients refused to participate; this was comparable with numbers that refused in other studies that used video recording.[20 21] More women than men refused to participate. The age and educational background of patients who participated and those who refused to participate were similar. Patients with musculoskeletal problems, respiratory problems, and problems of the female genital system refused to participate more often than those with other problems.

We performed a factor analysis of patients' questionnaires to look at how important medical and psychosocial aspects of consultations are in determining consultation length. This analysis produced two subscales—a biomedical scale with six items and a psychosocial scale with four items (table 3). Cronbach's α was 0.84 for the biomedical scale and 0.83 for the psychosocial scale. For further statistical analysis, we used the summed scores of an aspect divided by the total number of items on that aspect.

Table 2 Comparison of general practitioners from the Eurocommunication study and the task profile study[14 19]

Country	General practitioners: No	Mean (SD) age (years)	Sex ratio (men:women)	Ratio of practice types (urban:rural)	Mean (SD) workload a week†
Belgium:					
Eurocommunication study	31	44.9 (6.4)**	74:26	22:78	149 (60)**
Task profile study	511	42.3 (8.7)	86:14	18:82	216 (114)
Germany:					
Eurocommunication study	43	46.2 (6.7)	74:26	15:85	309 (65)*
Task profile study	166	49.1 (8.4)	84:16	11:89	392 (145)
Netherlands:					
Eurocommunication study	31	45.2 (7.2)	48:52***	22:78	189 (50)***
Task profile study	208	44.8 (6.4)	81:19	11:89	264 (95)
Spain:					
Eurocommunication study	27	38.5 (3.9)*	44:56*	56:44**	183 (63)***
Task profile study	577	41.5 (8.5)	66:34	29:71	244 (120)
Switzerland:					
Eurocommunication study	31	47.7 (5.8)	71:29***	13:87	126 (44)***
Task profile study	198	48.1 (8.5)	93:7	7:93	223 (79)
United Kingdom:					
Eurocommunication study	27	43.1 (6.9)	85:15	46:54***	205 (70)
Task profile study	296	46.3 (9.7)	78:22	17:83	273 (107)
All countries:					
Eurocommunication study	190	44.5 (6.8)	76:34	29:71	212 (106.7)
Task profile study	1956	44.3 (9.1)	81:19	15:85	215 (98.2)

†Average number of patient encounters plus twice number of home visits plus half the number of telephone calls.
*P≤0.05;
**P≤0.01;
***P≤0.001.

Consultation length in different countries

The mean length of consultation for all consultations was 10.7 (SD 6.7) minutes (table 4). The six countries could be divided into three pairs that differed significantly from each other with respect to total consultation time. Belgium and Switzerland had the longest consultation times, Germany and Spain had the shortest consultation times, and consultation times for the Netherlands and the United Kingdom were in between. For four countries (Belgium, the United Kingdom, the Netherlands, and Switzerland), we compared our results with those from other studies in which consultation times were measured; for no country did the length of consultation in our study differ significantly from that in other studies from that country.

Determinants of consultation length

The total variance in consultation length was 44.2. Multilevel analysis showed that this variance split into 24.4 (55%) at the patient level, 9.8 (22%) at the doctor level, and 10.0 (23%) at the country level. Factors at the patient level accounted for more than half of the total variance; the remaining variance was almost equally divided between factors at the doctor and country levels. The variables used in the multilevel analysis at the different levels accounted for 25% of the explained variation (R^2=0.252).

Consultations in city practices lasted 1.5 minutes longer than those in rural practices, those with women patients lasted about 1 minute longer than those with men, and those about at least one new problem lasted 51 seconds longer than those about known problems. Consultations were longer when the doctor or patient felt that psychosocial problems were important (by 50 seconds for the doctor's perception and 30 seconds for the patient's perception) than when they did not. The presence of psychosocial problems in a consultation was related to the consultation's duration only when a psychosocial problem was diagnosed by the general practitioner, but not when it was mentioned by the patient as a reason for the consultation.

As the patient's age increased by one year, the consultation time increased by one second. The consultation time decreased as the doctor's workload increased—the consultation time reduced by 0.6 seconds for every additional unit of workload in a week. Length of consultation was not significantly correlated with the educational level of the patient, the patient's sex or age, or the experience or prescribing behaviour of the doctor (table 5).

We studied second order interactions. The few correlations that we found were small (1–2 seconds) or in line with our results (for example, women with psychosocial problems had longer consultations).

Table 3 Factor load after Varimax rotation of 10 items of questionnaire answered by patients in principal component analysis

Item	Factor load: Biomedical	Psychosocial
Used to show relevance of biomedical aspects:		
I would like the doctor to tell me what my symptoms mean	0.73	0.14
I want doctor to talk to me about my problem	0.65	0.33
I want doctor to explain the likely course of my problem	0.77	0.19
I want doctor to explain how serious my problem is	0.76	0.20
I want to be examined for the cause of my condition	0.71	0.11
I would like doctor to explain some test results	0.72	0.00
Used to show relevance of psychosocial aspects:		
I feel anxious and would like some help from my doctor	0.29	0.66
I have emotional problems for which I would like some help	0.06	0.89
I am having a difficult time and would like some support	0.10	0.83
I want doctor to explain my emotional problems	0.19	0.81

Table 4 Length of consultation with general practitioner

Country	Mean (SD) time (minutes)
Germany	7.6 (4.3)
Spain	7.8 (4.0)
United Kingdom	9.4 (4.7)
Netherlands	10.2 (4.9)
Belgium	15.0 (7.2)
Switzerland	15.6 (8.7)
Overall	10.7 (6.7)

Discussion

Consultation length is determined by variables related to the doctor and the doctor's country as well as by those related to the patient. The country in which general practitioners work and the individual variation between general practitioners seem to be important determinants of the length of consultations. A women consulting a general practitioner in an urban practice with a problem that the doctor and patient both perceive as psychosocial is more likely than other patients to have a long consultation.

Intercountry variation

The variation in consultation length between countries was the most striking finding of our study. In Germany and Spain, general practitioners have, on average, more than 200 encounters with patients a week.[22] This high "demand" on doctors' time could lead to a "culture" of shorter consultation times.

In Belgium and Switzerland, general practitioners operate in an "open market," in which patients have direct access to more than one general practitioner and to specialists. This means that the doctor has to "invest time" in order to satisfy patients and encourage them to return with their next problem ("patient binding"). Moreover, general practitioners in Belgium and Switzerland are paid mostly by direct payment from the patient at the end of the consultation. This creates a relation between the doctor and patient that is based on "value for money" or, ultimately, "time for money" for doctor and patient. These factors could explain the longer consultation times seen in Belgium and Switzerland.

The United Kingdom and the Netherlands, which had intermediate consultation times, have well organised primary healthcare systems, with restricted patient lists and gatekeeping. General practitioners in these countries are predominantly paid by capitation (the government supplies a fee per patient). This contributes to an "average consultation time" of about 10 minutes in the United Kingdom and Netherlands.

Table 5 Multilevel analysis with length of consultation as dependent variable

Variable	Regression coefficient (95% CI)
At general practitioner level:	
Practice located in the city	1.50 (0.32 to 2.68)
Weekly workload of general practitioner†	−0.01 (−0.003 to −0.02)
At patient level:	
Importance of psychosocial problems perceived by general practitioner (Likert scale)‡	0.83 (0.58 to 1.08)
Woman patient	0.99 (0.40 to 1.58)
At least one new problem	0.86 (0.27 to 1.46)
Patient's age (years)	0.02 (0.01 to 0.04)
Presence of psychosocial problems: diagnosis by general practitioner according to International Classification of Primary Care	0.95 (0.08 to 1.81)
Importance of psychosocial aspects by patient (summed score of patient's questionnaire)	0.52 (0.10 to 0.95)

†Average number of patient encounters plus twice number of home visits plus half the number of telephone calls.
‡Likert scale ranges from 5 (very important) to 1 (less important).

Psychosocial problems

The presence of psychosocial problems in the consultation was an important factor influencing the length of consultation, and doctors' and patients' perceptions about psychosocial problems affected the length of the consultation. The difference between the effects of doctors' and patients' perceptions was remarkable. When doctors perceived a psychosocial problem, the duration of the consultation increased; this was as true when the doctor thought that a psychosocial element was important, even if it was not mentioned in during the consultation, as when he or she made a psychosocial diagnosis. From the patient's perspective, the consultation time was longer when the patient expected some help on psychosocial aspects from the doctor than when they did not. The length of consultation was not significantly longer for consultations in which psychosocial aspects were given as a reason for the encounter by the patient.

Whitehouse asked "Do doctors need more time to explore psychosocial problems or do they need extra time to deal with these problems when they are involved?"[4] Our results show that when a doctor explores an issue other than the main reason for the encounter, the consultation time increases. If a doctor explores or manages a problem openly introduced by the patient, the length of the consultation is not affected.

When the doctor perceived a psychosocial problem, the increase in consultation time was nearly twice as long as that when the patient perceived a psychosocial problem. The doctor had the largest impact on the duration of the consultation. Our results agree with Wilson, who said that most differences in the lengths of consultations disappear when factors relating to doctors are controlled for.[1]

Other determinants

New and old problems—Our finding that consultations lasted longer for new problems supports our conclusions about exploration. For new problems the doctor needs to explore the problem, but for follow up consultations the doctor can rely on information from earlier encounters.

Practice characteristics—When we looked at characteristics of practices, location was the most important determinant of the length of consultations. Consultations lasted longer in city based practices than in rural practices. In urban practices, patients presented more problems within one consultation. This could be a plausible explanation for the long consultation times in city based practices.

Doctors' characteristics—Of doctors' characteristics reported as important in the literature, our study confirmed only the positive orientation to psychosocial problems; the age and sex of the doctor had no impact on the duration of the consultation. This contradicted a previous study, which showed that women doctors had longer consultations than men doctors.[23]

Doctors' workload—Workload had a negative influence on consultation time, but this relation was weak

What is already known on this topic

Patients are satisfied with care from general practice but often say that consultations are too short

Studies have investigated the determinants of consultation length, but different studies use different methods to determine the exact length of consultation

Determinants identified by studies in one country cannot be extrapolated to those in another

What this study adds

Consultation length varies from country to country

Characteristics of patients have as much effect on consultation length as the characteristics of countries and doctors combined

Consultations are longest for women patients seeing general practitioners in urban practices about problems that doctor and patient perceive as psychosocial

when calculated as seconds. The mean length of consultation decreased by about 6.5 seconds for every increase of 10 contact units a week in a doctor's workload. Busy doctors still spent time with their patients. In contrast with literature findings, whether a doctor prescribed drugs had no relation on the consultation length in our study.[1 24]

Patients' characteristics—Consultation times were longer for women patients than for men. Women patients are often described as more talkative than men, and they are more likely to discuss psychosocial problems.[23] Age seemed to influence the length of consultation, but its influence was too small to take into account—doctors spent about 1.2 seconds more time with patients for every year increase in the patients' age. The level of education attained by the patient did not influence the length of consultation. This contradicts results from several studies that reported an influence of social class on consultation length.[1 2]

Limitations of the study

Although the patients in our study probably were representative of the population of the participating countries, the groups of general practitioners were not. Our general practitioners had lower workloads than the average doctor in the same country in the task profile study, there was a higher proportion of urban practices in our study, and more women doctors took part. Some of our results have to be generalised with care.

All of the doctors in our study agreed to have their consultations videotaped. This may mean that they were more interested in communication and had more experience with research and training than the average doctor. This positive attitude towards communication could have biased our findings.

Conclusion

Women consulting in an urban practice for problems perceived as psychosocial have longer consultations. Studies based on observations of real encounters contradict, or at least tone down, conclusions from other types of research. Our hypothesis that the differences in consultation length between countries could be related to differences in the organisation of the healthcare system deserves further exploration. More detailed research into the interaction between doctors and patients is necessary to assess the appropriateness of consultation time in relation to quality of care. Further analysis of our videotapes will look at this issue.

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