

# Communication in general practice: differences between European countries

A van den Brink-Muinen, PFM Verhaak, JM Bensing, O Bahrs<sup>a</sup>, M Deveugele<sup>b</sup>, L Gask<sup>c</sup>, N Mead<sup>c</sup>, F Leiva-Fernandez<sup>d</sup>, A Perez<sup>d</sup>, V Messerli<sup>e</sup>, L Oppizzi<sup>e</sup> and M Peltenburg<sup>e</sup>

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**Background.** Based on differences in national health care system characteristics such as the gatekeeping role of GPs (at the macrolevel) and on diverging GP and patient characteristics (at the microlevel), communication may differ between countries. Knowledge of the influence of these characteristics on doctor–patient communication will be important for setting European health care policies.

**Objectives.** Our objectives were (i) to compare doctor–patient communication in general practice between European countries; and (ii) to investigate the influence of the gatekeeping system and GP and patient characteristics on doctor–patient communication in general practice.

**Methods.** Fifteen patients per GP (in total 2825 patients) of 190 GPs in six European countries were included. Participating countries were The Netherlands, Spain, the UK (gatekeeping countries), Belgium, Germany and Switzerland (non-gatekeeping countries). Data were collected by means of patient and GP questionnaires and observation of videotaped consultations, and analysed by one-way and multilevel, multivariate analysis.

**Results.** Differences in communication between countries were found in: affective and instrumental behaviour; biomedical and psychosocial talk; GPs' patient-directed gaze; and consultation length. The study showed that GPs' gatekeeping role (with registered patients) was less important for doctor–patient communication than was expected. Patient characteristics such as gender, age, having psychosocial problems, and familiarity between the doctor and the patient were the most important in explaining differences in communication.

**Conclusion.** The gatekeeping role of GPs is hardly important in explaining doctor–patient communication. The relationship is more complex than expected. Patient and GP characteristics are more important. Cultural factors should be included in future studies.

**Keywords.** Doctor–patient communication, general practice, health care systems, international comparison, primary care.

## Introduction

Studies on communication in health care have repeatedly shown the importance of GPs' communication skills.<sup>1</sup> By

communicating with a patient, a GP gets to know the patient's problem and creates the therapeutic relationship necessary for its management and, where possible, its solution. For the patient, communication serves the need to 'know and understand' the health problem as well as the need to 'be known and understood', what is wrong and how best to recover.<sup>2</sup> History taking, making the diagnosis and determining the treatment are carried out through exchanging verbal and non-verbal information.<sup>3</sup> In addition, a GP's communication style influences patient satisfaction and compliance.<sup>4,5</sup> Therefore, good communication is likely to increase the quality of care.

Communication studies have shown the influence of GP and patient characteristics on doctor–patient communication. However, until now, most studies were

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NIVEL, Utrecht, The Netherlands, <sup>a</sup>University of Göttingen, Germany, <sup>b</sup>University of Ghent, Belgium, <sup>c</sup>University of Manchester, UK, <sup>d</sup>Unidad Docente de Medicina Familiar y Comunitaria, Servicio Andaluz de Salud, Malaga, Spain and <sup>e</sup>Arbeitsgemeinschaft 'Arzt-Patienten Kommunikation', Switzerland. Correspondence to Atie van den Brink-Muinen, PhD, NIVEL, Netherlands Institute for Health Services Research, PO Box 1568, 3500 BN Utrecht, The Netherlands; E-mail: A.vandenbrink@nivel.nl

restricted to Anglo-Saxon countries and performed within one country. Moreover, comparison of the results of studies in different countries was difficult, because different theoretical models and methods were used to investigate the communication.<sup>6</sup> The importance of studying communication in different countries has increased, because European health care policies are expected to be integrated in the near future.<sup>7</sup> If the integration happens on a greater scale than so far, knowledge of the influence of health care system characteristics on doctor–patient communication will be important for setting this policy.

In a health care system where GPs serve as gatekeepers, their role is central and in favour of continuity of care.<sup>8</sup> They are the first physicians to have contact with health problems and they decide whether patients are referred to medical specialists. GPs are usually responsible for making the first diagnosis, requiring a thorough evaluation of the medical and emotional aspects of the symptoms and the possible psychological nature of the complaints. This gatekeeping system is in contrast to those systems where patients have direct access to medical specialists and patients themselves decide what kind of care they need. In countries with a gatekeeping system, patients are usually registered with one GP (i.e. there are fixed patient lists), whereas in countries where the GPs have no gatekeeping role, there is no obligation for patients to register with one GP. The patients are free to choose a doctor and may even visit different doctors.

In non-gatekeeping systems (without registered patients), GPs may be less familiar with their patients and the patients' history.<sup>9</sup> Time may be lost asking patients routine questions, leaving less time for psychological investigations. A better knowledge of the patients, their problems and their living circumstances may lead to better understanding and better recognition of psychosocial problems. It is therefore expected that in gatekeeping countries (with registered patients), GPs show more empathy, partnership and concerns, and talk less about biomedical but more about psychosocial issues.

#### *Research questions*

The present study was conducted to examine (i) whether doctor–patient communication differs between European countries; and (ii) whether the gatekeeping system is related to doctor–patient communication, taking into account various characteristics of GPs (gender, age, workload, part-time versus full-time working) and patients (gender, age, education, health status, type of health problems, doctor–patient familiarity).

## Methods

#### *Data collection*

Data were derived from The Eurocommunication Study (1996–1999).<sup>10</sup> Six European countries (The Netherlands,

the UK, Spain, Belgium, Germany and Switzerland) took part in the study. Universities and research institutes in the six countries were responsible for the data collection. NIVEL co-ordinated the study and reported the results.

The study design was cross-sectional. Per country, 27–43 GPs participated: 27 GPs from the UK and Spain; 31 GPs from The Netherlands, Belgium (20 Flemish and 11 Walloon GPs) and Switzerland (20 from German-speaking and 11 from French-speaking Switzerland); and 43 GPs from Germany (14 from the Eastern and 29 from the Western part of Germany).

The sampling method differed per country, because each country required a different approach to be feasible. GPs were recruited by means of a random national sample (The Netherlands and Flemish-speaking Belgium), existing GP research networks (the UK and Germany), quality circles (Switzerland and French-speaking Belgium) and health centres (Spain). In Germany, there was a call in specialist publications and the snowball method was also used. One of the intentions of the Eurocommunication Study was to aim at the participation of an equal number of male and female GPs, in order to study gender differences between the four gender dyads in a continuation of the present study.

In order to know to what extent the GPs of the Eurocommunication Study are representative of the entire GP population in each participating country, a comparison was made with the study population of the Task Profile Study.<sup>8</sup> The latter study is considered representative for the participating countries, and comparable questionnaires among GPs were used.

The aim of the over-representation of women was reached best in The Netherlands, Spain and Switzerland, and therefore their representation was higher than in the Task Profile Study. In the UK, Belgium and Germany, the aim was not realized; the proportions of female doctors reflect the actual male–female ratio. A further comparison revealed that, except for Belgian and Swiss doctors, more doctors had finished their vocational training as a GP; the mean age was about the same; in all countries, more GPs worked in a group practice (not solo); more practised in the inner cities and fewer in rural areas; and the GPs' workload was lower for all GPs.<sup>11</sup> In summary, in all countries, there were relatively more (sub)urban group practices with a relatively low workload.

All patients were asked for informed consent to allow their visit to be videotaped. The overall response rate was 79%. Non-response analysis showed hardly any bias resulting from patients' refusal. In each country, consultations of 15 patients per GP (in total 2825) were rated. On average, five extra consultations were videotaped for several reasons, such as skipping the first consultations to avoid bias because of adaptation to the video camera, withdrawal of consent afterwards and unforeseen damage to recordings.

### Measurement instruments

**Questionnaires.** The patients filled in a questionnaire before the consultation; the GPs reported on a registration form information about patients after the consultations.

**Video observations.** Verbal (affective and instrumental) behaviour during the videotaped visits was measured by means of Roter's Interaction Analysis System (RIAS).<sup>12</sup> This observation system distinguishes both instrumental (task-focused) and affective (socio-emotional) verbal behaviour in doctors and patients, reflecting the cure-care distinction. Utterances were assigned to the mutually exclusive RIAS categories.

Affective behaviour included social talk: personal remarks (laughs, jokes, approval); signs of agreement (such as yes, hmmm); rapport building [showing empathy, legitimization, support, concern, worry, (asking for) reassurance, encouragement, optimism]; facilitation: (paraphrases, checks for understanding, asking for clarification, opinion, or repetition).

Instrumental behaviour was distinguished into biomedical and psychosocial talk. Talk included asking questions, giving information and (only GP) counselling about medical and therapeutic issues (biomedical talk), and about issues of lifestyle, social context, psychosocial problems and feelings (psychosocial talk).

GPs' patient-directed gaze (non-verbal behaviour), consultation length and length of physical examination were also measured. GPs' speaking time, expressing verbal dominance, was calculated by dividing the GP's total of utterances by the total of the patient's and GPs' utterances.

### Inter-rater reliability

In each country, two or more observers (native speakers) were trained by the same person (AvdBm) in rating following the RIAS protocol. Difficulties and problems arising during rating of the videotaped consultations were discussed by e-mail. In each country, the observers rated the same 20 consultations of their own country in order to calculate the inter-rater reliabilities (IRRs) of each country separately. It appeared that 79% of the IRRs were quite good (0.7 or higher); 15% were between 0.5 and 0.7, and 6% were too low (<0.5, mainly the category other and unintelligible utterances). The categories yielding rating problems (and therefore low IRRs) were similar in content, and therefore mostly were combined afterwards. Therefore, the results presented are reliable.

### Controlling variables

- (i) At the country level: having a gatekeeping role or not was assigned to each individual GP.
- (ii) At the GPs' level: gender; age; part-time or full-time (>32 h. per week) working; objective workload per week (number of consultations).

Because of the different weights of practice consultations, home visits and phone calls, they were counted by the ratio 2:1:0.5.<sup>11</sup>

- (iii) At the patients' level: age; educational level (low = no/primary school, middle = secondary school, high = higher vocational training/university); reporting psychosocial problems (ICPC-coded); emotional problems, overall health (COOP/WONCA charts<sup>13</sup>); GPs' psychosocial diagnosis (ICPC-coded); GPs' assessment of psychosocial background of the patients' problems (5-point scale: 1 = pure somatic to 5 = pure psychosocial); doctor-patient familiarity (5-point scale: 1 = bad to 5 = good).

### Data analysis

For the description of doctor-patient communication, communication categories were expressed as percentages of the total of utterances. Differences between the six countries were analysed using one-way analysis (*post hoc* Bonferroni test). Pearson's correlation coefficient was used to calculate the IRRs of the RIAS scores.

By means of multilevel multivariate analysis, the influence of macro- and microlevel factors on communication was analysed. Multilevel analysis was necessary in order to account for the clustering of patients within GPs and of GPs within countries.<sup>14</sup> Length of consultation was included, because the numbers of utterances that were used for this analysis are inevitably associated with the time available.

The significance level was  $P \leq 0.05$  (two-sided), which is the usual level in this type of research.

## Results

### GP and patient characteristics

In Spain and The Netherlands, relatively more female GPs took part in the study, due to the sampling method (Table 1). The Spanish GPs were younger than the other GPs. The workload of the German GPs was the highest, whereas the Swiss and Belgian doctors had the lowest workload. About half of the Dutch GPs worked part-time; in Spain, Belgium and Germany, (almost) all GPs worked full-time.

In all countries, most patients were women, in Spain more than elsewhere. The Dutch patients were the youngest; the Swiss and British were the oldest. In Spain and, to a lesser extent, in Germany, relatively more patients (aged 18 years and older) had a low educational level, whereas in Belgium and The Netherlands, more patients had finished university or a higher vocational training. Psychological problems were presented and diagnosed relatively often in the UK and Switzerland. The Swiss, Belgian and, to a lesser extent, German GPs registered that they knew their patients better than the other GPs.

TABLE 1 GP and patient characteristics, by country

	1 Netherlands	2 UK	3 Spain	4 Belgium	5 Germany	6 Switzerland
GP level						
% male	48.4 <sup>2,4,5</sup>	85.2 <sup>1,3</sup>	44.2 <sup>2,4,5,6</sup>	74.2 <sup>1,3</sup>	74.4 <sup>1,3</sup>	71.0 <sup>3</sup>
Age						
Mean (SD)	45.2 (7.2) <sup>3</sup>	43.1 (6.9)	38.5 (3.9) <sup>1,4,5,6</sup>	44.9 (6.4) <sup>3</sup>	46.2 (6.7) <sup>3</sup>	47.7 (5.8) <sup>3</sup>
Workload per week <sup>a</sup>						
Mean (SD)	188.6 (50.2) <sup>5,6</sup>	204.6 (69.8) <sup>4,5,6</sup>	182.9 (62.7) <sup>5,6</sup>	149.3 (59.6) <sup>2,5</sup>	308.6 (64.6) <sup>1,2,3,4,6</sup>	126.1 (43.8) <sup>1,2,3,5</sup>
% full-time working (>32 h per week)	53.3 <sup>2,3,4,5,6</sup>	77.8 <sup>3,4,5</sup>	00.0 <sup>1,2,6</sup>	96.8 <sup>1,2,6</sup>	97.6 <sup>1,2,6</sup>	80.6 <sup>1,3,4,5</sup>
No. of GPs	31	27	27	31	43	31
Patient level						
% male	37.2 <sup>4</sup>	43.4 <sup>3</sup>	31.6 <sup>2,4,5,6</sup>	44.3 <sup>1,3</sup>	42.9 <sup>3</sup>	42.0 <sup>3</sup>
Age						
Mean (SD)	40.6 (21.6) <sup>2,3,5,6</sup>	48.6 (18.2) <sup>1,4</sup>	45.5 (19.8) <sup>1</sup>	43.5 (21.2) <sup>2,6</sup>	45.5 (20.7) <sup>1</sup>	48.3 (19.9) <sup>1,4</sup>
% educational level						
Low	27.9 <sup>2,3,4,5</sup>	5.8 <sup>1,3,4,5,6</sup>	60.7 <sup>1,2,4,5,6</sup>	35.2 <sup>1,2,5</sup>	52.0 <sup>1,2,3,4,6</sup>	31.6 <sup>2,3,5</sup>
Middle	46.6 <sup>2,3,4,5,6</sup>	56.3 <sup>1,3,4,5</sup>	21.1 <sup>1,2,4,5,6</sup>	36.5 <sup>1,2,3,5,6</sup>	29.7 <sup>1,2,3,4,6</sup>	57.8 <sup>1,3,4,5</sup>
High	25.5 <sup>2,3,5,6</sup>	38.0 <sup>1,3,4,5,6</sup>	18.3 <sup>1,2,4,6</sup>	28.2 <sup>2,3,5,6</sup>	18.3 <sup>1,2,4,6</sup>	10.7 <sup>1,2,3,4,5</sup>
% psychosocial problems	8.7 <sup>4,5</sup>	11.6 <sup>4,5</sup>	12.0 <sup>4,5</sup>	4.2 <sup>1,2,3,6</sup>	5.2 <sup>1,2,3,6</sup>	9.9 <sup>4,5</sup>
% emotional problems <sup>b</sup>	56.0 <sup>2,3,4,5,6</sup>	74.7 <sup>1,3,4</sup>	63.2 <sup>1,2,5</sup>	62.7 <sup>1,2,5</sup>	69.1 <sup>1,3,4</sup>	68.8 <sup>1</sup>
% poor health <sup>b</sup>	43.2 <sup>4,6</sup>	46.2 <sup>4,5,6</sup>	49.1 <sup>4,5,6</sup>	27.6 <sup>1,2,3,5</sup>	37.8 <sup>1,2,3,5</sup>	27.3 <sup>1,2,3,5</sup>
% psychosocial diagnosis	18.1 <sup>2,4,6</sup>	31.0 <sup>1,3,4,5</sup>	20.5 <sup>2,4,6</sup>	9.2 <sup>1,2,3,5,6</sup>	21.3 <sup>2,4,6</sup>	32.0 <sup>1,3,4,5</sup>
Psychosocial background <sup>c</sup>						
Mean (SD)	2.6 (1.5) <sup>3,6</sup>	2.7 (1.4) <sup>1,2,5,6</sup>	2.3 (1.3) <sup>1,2,5,6</sup>	2.4 (1.4) <sup>2,5,6</sup>	2.7 (1.5) <sup>3,4</sup>	2.9 (1.4) <sup>1,3,4</sup>
Familiarity <sup>d</sup>						
Mean (SD)	3.4 (1.3) <sup>4,6</sup>	3.4 (1.4) <sup>4,6</sup>	3.4 (1.4) <sup>4,6</sup>	3.9 (1.1) <sup>1,2,3,5</sup>	3.6 (1.3) <sup>4</sup>	3.7 (1.2) <sup>1,2,3</sup>
No. of patients	443	357	437	465	679	444

<sup>a</sup> Workload = number of consultations + (2 × number of home visits) + (1/2 × number of phone calls) per week.

<sup>b</sup> From the patient's perspective, measured by COOP/WONCA charts.

<sup>c</sup> GP's assessment of the psychosocial background of the patient's problem (1 = pure somatic, 5 = pure psychosocial).

<sup>d</sup> GP's familiarity with the patient (1 = bad, 5 = good).

<sup>1</sup> Score differs significantly from score of country 1 (The Netherlands); <sup>2</sup> score differs significantly from score of country 2 (the UK); <sup>3</sup> score differs significantly from score of country 3 (Spain); <sup>4</sup> score differs significantly from score of country 4 (Belgium); <sup>5</sup> score differs significantly from score of country 5 (Germany); <sup>6</sup> score differs significantly from score of country 6 (Switzerland).

### Verbal and non-verbal behaviour

Social talk between doctors and patients occurred most often in Belgium, Spain and the UK, and less in German and Dutch consultations (Table 2). Back-channel responses (hmmm) and other signs of understanding (yes, I see, OK) were more usual in the UK than in the other countries, especially Spain and Belgium. Expressions of concern, worry, empathy and reassurance (rapport building) occurred most frequently in Switzerland and Germany. The Spanish and Dutch doctors and the English patients paraphrased and checked their understanding (facilitation) more often than did others.

Question asking, information giving (including answers) and advice about medical and therapeutic matters took up the greatest part of the conversation during the medical encounter in all countries (Table 2). Biomedical talk took place relatively most often in The

Netherlands and Spain. Most discussion about psychological or social topics took place during Belgian and Swiss consultations. In all countries, the patients spoke less than their doctors, whereas German doctors were slightly more verbally dominant than the other doctors, and the English and Spanish GPs were somewhat less dominant.

Patient-directed gaze was longest among the English doctors and shortest among the German and Spanish GPs.

### Consultation characteristics

Consultations in Germany and Spain were the shortest, in Switzerland and Belgium the longest, with those in England and The Netherlands falling in between (Table 3). In Belgium, physical examinations were numerous and took up more time of the consultation than in other countries, particularly in the UK and Spain.

TABLE 2 Percentages<sup>a</sup> of verbal and non-verbal behaviour, by country

	1 Netherlands	2 UK	3 Spain	4 Belgium	5 Germany	6 Switzerland
Verbal behaviour						
GP						
Social talk	7.0 <sup>2,3,4</sup>	9.3 <sup>1,5,6</sup>	8.7 <sup>1,5</sup>	9.2 <sup>1,5,6</sup>	6.7 <sup>2,3,4</sup>	7.2 <sup>2,4</sup>
Agreements	13.9 <sup>2,3,5,6</sup>	21.7 <sup>1,3,4,5,6</sup>	10.6 <sup>1,2,4,5,6</sup>	12.7 <sup>2,3,5,6</sup>	15.7 <sup>1,2,3,4</sup>	17.0 <sup>1,2,3,4</sup>
Rapport building	2.9 <sup>2,3,5,6</sup>	4.2 <sup>1,3,4,5,6</sup>	1.9 <sup>1,2,4,5,6</sup>	2.7 <sup>2,3,5,6</sup>	6.7 <sup>1,2,3,4,6</sup>	5.9 <sup>1,2,3,4,5</sup>
Facilitation	11.4 <sup>2,3,4,6</sup>	9.6 <sup>1,3,4</sup>	13.7 <sup>1,2,4,5,6</sup>	5.0 <sup>1,2,3,5,6</sup>	9.2 <sup>1,3,4</sup>	8.5 <sup>1,3,4</sup>
Biomedical talk	42.1 <sup>2,5,6</sup>	33.0 <sup>1,3,4,5,6</sup>	40.6 <sup>2,6</sup>	40.6 <sup>2,6</sup>	39.2 <sup>1,2,6</sup>	36.2 <sup>1,2,3,4,5</sup>
Psychosocial talk	8.5 <sup>3,4,6</sup>	8.5 <sup>3,4,6</sup>	11.3 <sup>1,2,5</sup>	11.3 <sup>1,2,5</sup>	7.8 <sup>3,4,6</sup>	10.8 <sup>1,2,5</sup>
Patient						
Social talk	7.7 <sup>2,3,4,6</sup>	9.8 <sup>1,5</sup>	10.7 <sup>1,5</sup>	9.6 <sup>1,5</sup>	8.0 <sup>2,3,4,6</sup>	9.9 <sup>1,5</sup>
Agreements	14.0 <sup>2,5,6</sup>	22.3 <sup>1,3,4</sup>	13.3 <sup>2,3,5,6</sup>	15.8 <sup>2,3,5,6</sup>	21.5 <sup>1,3,4</sup>	22.0 <sup>1,3,4</sup>
Rapport building	1.4 <sup>2,3,5,6</sup>	2.7 <sup>1,3,4,5</sup>	3.7 <sup>1,2,4,5</sup>	1.0 <sup>2,3,5,6</sup>	4.9 <sup>1,2,3,4,6</sup>	3.0 <sup>1,2,4,5</sup>
Facilitation	3.0 <sup>4,5,6</sup>	3.6 <sup>4,5,6</sup>	3.2 <sup>4,5,6</sup>	2.3 <sup>1,2,3</sup>	2.6 <sup>1,2</sup>	2.5 <sup>1,2</sup>
Biomedical talk	51.0 <sup>2,3,4,5,6</sup>	34.3 <sup>1,3,4,5</sup>	46.0 <sup>1,2,4,5,6</sup>	38.8 <sup>1,2,3,6</sup>	40.7 <sup>1,2,3,6</sup>	33.7 <sup>1,3,4,5</sup>
Psychosocial talk	17.6 <sup>4,6</sup>	20.2	19.3 <sup>4</sup>	22.6 <sup>1,3,5</sup>	18.2 <sup>4</sup>	21.4 <sup>1</sup>
% GPs' speaking time	55.4 <sup>2,3</sup>	52.4 <sup>1,4,5,6</sup>	52.9 <sup>1,4,5</sup>	55.1 <sup>2,3</sup>	56.3 <sup>2,3,6</sup>	54.3 <sup>2,5</sup>
Non-verbal behaviour						
% eye contact	46.8 <sup>2,3,4</sup>	55.2 <sup>1,3,4,5,6</sup>	35.5 <sup>1,2,5,6</sup>	31.6 <sup>1,2,5,6</sup>	47.5 <sup>2,3,4</sup>	50.4 <sup>2,3,4</sup>

<sup>a</sup> Percentage relative to the total count of utterances.

<sup>1</sup> Score differs significantly from score of country 1 (The Netherlands); <sup>2</sup> score differs significantly from score of country 2 (the UK); <sup>3</sup> score differs significantly from score of country 3 (Spain); <sup>4</sup> score differs significantly from score of country 4 (Belgium); <sup>5</sup> score differs significantly from score of country 5 (Germany); <sup>6</sup> score differs significantly from score of country 6 (Switzerland).

TABLE 3 Consultation characteristics, by country

	1 Netherlands	2 UK	3 Spain	4 Belgium	5 Germany	6 Switzerland
Consultation length (min)						
Mean	10.2 <sup>3,4,5,6</sup>	9.4 <sup>3,4,5,6</sup>	7.8 <sup>1,2,4,6</sup>	15.0 <sup>1,2,3,5</sup>	7.6 <sup>1,2,4,6</sup>	15.6 <sup>1,2,3,5</sup>
SD	5.0	4.7	4.1	7.2	4.3	8.7
% physical exam	79.7 <sup>2,3,4,5</sup>	65.3 <sup>1,4,6</sup>	59.3 <sup>1,4,5,6</sup>	89.9 <sup>1,2,3,5,6</sup>	66.4 <sup>1,3,4,6</sup>	76.4 <sup>2,3,4,5</sup>
% time spent on physical exam	17.5 <sup>2,3,4,5</sup>	7.9 <sup>1,3,4,5,6</sup>	11.8 <sup>1,2,4,6</sup>	24.5 <sup>1,2,3,5,6</sup>	14.2 <sup>1,2,4</sup>	16.7 <sup>2,3,4</sup>

<sup>1</sup> Score differs significantly from score of country 1 (The Netherlands); <sup>2</sup> score differs significantly from score of country 2 (the UK); <sup>3</sup> score differs significantly from score of country 3 (Spain); <sup>4</sup> score differs significantly from score of country 4 (Belgium); <sup>5</sup> score differs significantly from score of country 5 (Germany); <sup>6</sup> score differs significantly from score of country 6 (Switzerland).

### *The influence of the gatekeeping system on doctor–patient communication*

Taking into account GP and patient characteristics, the relationship between gatekeeping (with registered patients) and affective behaviour was only found with respect to GPs' and patients' facilitating behaviour (Table 4). Paraphrases, checks for understanding and requests for clarification and opinion (facilitation) were found more often in consultations of the gatekeeping countries.

### *The influence of GP and patient characteristics on doctor–patient communication*

**Affective communication.** At the GP level, the doctor's gender was associated with rapport and partnership building and giving agreement by the patient. The female GPs showed empathy and concern and reassured

and encouraged their patients more often than their male counterparts. Similarly, the female doctors more often used paraphrases and checked whether patients had understood what they had been told. Utterances of concern and worry and other rapport-building expressions were made more often by part-time doctors and by patients visiting a doctor working part-time.

Patient characteristics were associated more often with affective doctor–patient communication than GP characteristics. There was social conversation and agreeing more often by the female than the male patients. Rapport building was done more by both patients and doctors when the patient was female. On the other hand, doctors showed more partnership in their consultations with male patients than with female patients. The older the patient, the more affective talk there was. Social talk occurred more with the fairly healthy patients and with

TABLE 4 Multilevel analysis (regression coefficients) of communication categories, controlled for the gatekeeping system, GPs and patients characteristics (means are calculated in hierarchical linear models)

	Social talk		Agreements		Rapport building		Facilitation		Biomedical talk		Psychosocial talk	
	GP	Patient	GP	Patient	GP	Patient	GP	Patient	GP	Patient	GP	Patient
Country level												
Gatekeeper role (1 = yes)	1.92	1.37	3.88	0.11	-1.66	-0.49	4.09*	0.89*	-1.25	7.88	1.47	2.82
Employed (1 = yes)	-1.78	-0.94	-9.83*	-7.37	-2.07	1.45	0.86	-0.27	-5.99	-5.72	3.36*	0.88
GP level												
Gender (1 = {female})	0.13	-0.25	2.10	2.83*	1.63*	0.33	2.65*	-0.07	0.84	-0.45	1.45	2.72
Age	0.08	0.03	-0.20*	-0.03	0.02	-0.03	0.12	0.00	-0.13	-0.32*	0.19*	0.25
Workload per week	-0.00	-0.01	0.01	0.01	-0.00	0.00	0.01	0.00	0.04*	0.00	0.02*	0.04*
Full-time (1 = yes)	-0.30	0.14	-0.73	-0.08	-0.40*	-0.24*	-0.15	-0.06	0.17	0.57	0.54	-0.61
Patient level												
Gender (1 = {female})	0.56	1.62*	1.08	2.39*	0.62*	0.84*	-0.71*	-0.02	0.17	2.67*	0.63	1.82
Age	0.02	0.07*	0.09	0.04*	0.02	0.02*	0.01	0.03*	0.03	0.17	-0.11*	-0.03
Education (1 = low, 3 = high)	0.44	0.55	0.73*	1.36*	0.06	-0.12	-0.20	0.13	0.89	0.96	0.47	1.10
Psychosocial problem (1 = yes)	-0.74	-0.66	-0.40	0.27	-0.13	-0.19	-0.29	-0.21	-9.29*	-11.02*	6.40*	14.76*
Emotional feelings (1 = yes)	-0.74	-0.57	0.77	-0.27	-0.10	0.01	0.01	-0.04	-0.20	0.21	-0.68	1.30
Poor health (1 = yes)	-1.40*	-2.06*	-0.59	0.22	0.00	0.63*	1.52*	-0.02	3.59*	4.97*	-1.64*	-4.16*
Psychosocial diagnosis (1 = yes)	-0.11	0.30	2.65*	-0.58	0.64	0.16	0.66	0.04	-4.05*	-2.21	3.11*	10.64*
Psychosocial ass. (1 = no, 5 = yes)	-0.53*	-0.35	0.72*	-0.20	0.38*	0.29*	0.36*	-0.07	-2.18	-0.51	1.74*	4.02*
Familiarity (1 = bad, 5 = good)	0.92*	0.74*	0.42	-0.82*	0.08	0.04	-0.41*	0.08	-2.04*	-0.37	0.14	0.55
Consultation length	0.45*	0.53*	1.31*	1.19*	0.34*	0.24*	0.63*	0.16*	2.85*	2.30*	1.35*	2.62*

\* $P \leq 0.05$ .

the doctors when no psychosocial background of the patient's problem was assessed and when doctors and patients were more familiar with each other. Agreements were given more by doctors to patients with psychosocial problems, while the more highly educated patients gave more signs of agreement with the doctor than the less well educated patients. A contrary finding was that the doctors more often gave agreements when they were better acquainted with a patient, whereas in this case the patients gave fewer agreements. Rapport building was shown more by the patients with poor health and by both doctors and patients when psychosocial aspects were important. Finally, the doctors expressed more partnership building with patients who had poor health and a psychosocial diagnosis, and when the patient was less well known to them.

*Instrumental communication.* A doctor's gender was not related to instrumental talk, whereas older doctors were associated with asking more questions and more psychosocial talk. However, patients asked the younger doctors questions more often and talked more with them about biomedical aspects of health.

At the patient level, many associations were found. The female and older patients asked more questions and gave more information, especially about biomedical topics. The younger and less well educated patients, on the other hand, asked their doctors more questions. Information was given more often to the more highly educated people. The doctors asked more questions

if they had made a psychosocial diagnosis and they had more psychosocial and less biomedical discussion. The patients' behaviour tended to reflect their doctors' communication in this respect. Poor health was related to more biomedical and less psychosocial talk between doctors and patients. Finally, the doctors asked their patients more questions, especially about biomedical issues, when they did not know them very well, whereas patients asked more questions if they were familiar with the doctor.

## Discussion and conclusions

The first research question to be answered in this study was whether doctor-patient communication differs between European countries. In general, there were many similarities in doctor-patient communication between countries. The differences found between countries were mostly not along the line of gatekeeping/non-gatekeeping. The rough comparison of the communication patterns of GPs and patients in the various countries yields the following picture (Table 5).

In comparison with the other countries, the British and Swiss doctor-patient communication is affective and psychosocial oriented, whereas in The Netherlands and Spain the communication is more instrumental and biomedical oriented. In Belgian consultations, there is much information exchange (instrumental talk), which is relatively more psychosocial, and in Germany

TABLE 5 Comparison<sup>a</sup> of consultation characteristics and communication patterns between six European countries

	Consultation length	Eye contact	GPs' speaking time	Affective behaviour	Asking questions	Information/ advice	Ratio instrumental/ affective behaviour <sup>b</sup>	Ratio biomedical/ pysocial talk <sup>c</sup>
Netherlands	0	0	+	-	0	+	+	+
UK	0	+	-	+	-	-	-	-
Spain	-	-	-	-	+	+	+	+
Belgium	+	-	+	-	+	0	+	-
Germany		0	+	+	0	0		+
Switzerland	+	+	+	+	-	-	-	-

<sup>a</sup> + is more than average; 0 is average; - is less than average.

<sup>b</sup> + Relatively more instrumental and less affective behaviour compared with other countries.

<sup>c</sup> + Relatively more biomedical and less psychosocial behaviour compared with other countries.

communication is more affective and oriented towards biomedical issues.

Indications that differences in communication are due to cultural differences may be found in talking about non-medical matters (less in Germany); GPs' patient-directed gaze (much in Switzerland and the UK); and GPs' rapport building which conveys doctors' involvement with their patients and their stories and is therefore important for creating a therapeutic relationship (much in Switzerland and Germany).

The second question addressed was whether the gatekeeping system was related to doctor-patient communication, taking into account GP and patient characteristics. The influence of the gatekeeping role of GPs was restricted; patient characteristics and, to a lesser extent, GP characteristics were the major predictors of the communication style of doctors and patients. Only facilitating behaviour (paraphrasing, checking or asking for understanding, asking for clarification) was related to the gatekeeping role of GPs. Statements directed at facilitation were given more often by the doctors as well as the patients when the GPs served as gatekeepers.

A relationship of GPs' gatekeeping role to more psychosocial and less biomedical talk was not found. This was expected on the basis of the assumption that gatekeeping GPs have a better knowledge of the patients, their problems and their living circumstances. However, gatekeeping GPs seemed less instead of more familiar with their patients than non-gatekeeping doctors. The greater familiarity is possibly due to the greater length of time these GPs take for their patients in their consultations, giving more room to get acquainted with them and their problems. Another explanation may be that continuity of care is probably of equal importance for all patients, irrespective of the health care system characteristic. Therefore, patients in non-gatekeeping countries may also visit their own doctors who are familiar to them and know them well, although they are free to choose another GP. In view of the expected advancing development of cross-border health care and

health care reforms in different European countries, this is an important finding. European health care politicians are advised to take this issue into consideration when striving to attain the integration of health care policies in Europe.

This study showed that patient characteristics are the major predictors of the communication style of doctors and patients. The relationship between psychosocial problems and psychosocial communication was expected and can be readily understood. Similarly, if doctors suspect that a patient's problem has a psychosocial character, these aspects are indeed discussed.

Gender differences were apparent in the more affective as well as the instrumental communication of female patients. The doctors' gender was only related to more rapport and partnership building, an association often found in earlier studies. These studies showed that female doctors were more likely to show affective behaviour, to accept patients' feelings, to pay more attention to psychosocial aspects and to allow a patient to make a greater contribution.

In this study, cultural norms, values, beliefs and attitudes towards health and health care were not included, but they certainly may influence the communication between doctors and their patients too and, therefore, the quality of health care and the patients' health. For example, in the way patients present their problems, especially psychosocial problems, make (or get) room to tell their story, and the extent to which they comply with the treatment advised. For the doctor, the content and way in which the information is given by the doctors to their patients may differ by culture, possibly because of a more psychosocial orientation or different power relationships. It is a challenge for future research to determine which cultural characteristics are reflected in the communication between doctors and patients. Besides differences in language, differences in health attitudes and health beliefs may also play a role in (mis)communication between doctors and patients. Differences in communication patterns in intercultural

medical encounters and their effect on patient outcomes is thus an important field of research for the future.

#### *Methodological issues*

The sampling method differed by country for many practical reasons. A consequence of the differences between the sampling methods may have been that the doctors were not representative of their colleagues in their own country, so that comparisons between countries may be biased. However, in all countries, the bias was in the same direction. Apart from the method used, the doctors who participated in the study were probably more interested in doctor-patient communication than their colleagues; they were not reluctant to take part in an observational study (in which video recordings were used). All the participating doctors seemed to have a particular interest in general practice research, teaching general practice medicine and continuous education, including courses in communication skills. It was therefore considered that a comparison could be made between the six countries, although the picture of the GPs' communication may be somewhat over-positive. If GP characteristics seemed to influence doctor-patient communication, the possible bias caused by over- or under-representation of doctors with these characteristics has been mentioned.

In spite of the limitations mentioned above, this first cross-national study on doctor-patient communication revealed interesting results and recommendations for health care policy and the education of GPs.

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