Is the communicative behaviour of GPs during the consultation related to the diagnosis? A cross sectional study in six European countries.

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Abstract.

<u>Objectives:</u> To explore the relation between the diagnosis made by the general practitioner and his or her communicative behaviour within a consultation.

Research question:

Does the communicative behaviour of general practitioners vary according to the diagnoses?

<u>Design:</u> Analysis of 2095 videotaped consultations of 168 General Practitioners from 6 countries participating in the Eurocommunication Study. The doctors' diagnoses were coded into ICPC chapters and merged into 7 clinically relevant diagnostic clusters. The communicative behaviour was gauged by means of the Roter Interaction Analysis System.

<u>Results:</u> We found the most important differences for consultations about psychosocial problems as compared to all other diagnostic categories. In these consultations doctors show more affective behaviour, are more concerned about having a good relationship with their patients, ask more questions and give less information than in other consultations.

The percentages of utterances in the other diagnostic categories were pretty similar. The communicative behaviour of doctors reflects a global pattern in every consultation. A typical consultation consists of 37 % affective behaviour (7,5 % social talk, 15,5 % agreement, 4,5 % rapport building and 9,5 % facilitation), 58,5 % instrumental behaviour (10 % orientation, 27,5 % information giving, 14 % asking questions and 7 % counselling) and 4,5 % unintelligible utterances. This pattern is the most stable for affective behaviour (social talk, agreement, rapport building and facilitation). Within instrumental behaviour (the other categories), the directions and the information the doctor gives are adapted to the problems presented.

Keywords: Communication, general practice, diagnosis.

Introduction

Some decades ago the shift from doctor centred medicine towards patient centred care was made. Nowadays the doctor is no longer seen as the expert whose advice has to be followed without questioning. The emphasis of treating diseases has shifted towards caring for the whole person. Patients' expectations, their need for reassurance and support became more and more important. Meeting the affective needs (care aspects like support, reassurance, partnership building) and the instrumental needs (cure aspects like medical questioning, examination, giving information, counselling, giving advice) are inevitable (1).

Several studies emphasised the importance of doctors' communication skills in relation to patients' compliance, satisfaction and to clinical outcomes (2,3). Prevention of somatisation (4), recognition of mental disorders (5,6) and referral and prescription rates (7) are also strongly related to the doctor-patient communication.

In general, studies on communication focus on two topics: describing task-related ("cure") aspects of communication (e.g. information giving and information seeking behaviour of doctors and patients) and describing the "care" related behaviour of doctors (e.g. focussing on the context of the patient, empathising and reassuring) (8,9,10,11)

Most of the studies focus on behaviour of doctors and patients without taking into account the diagnosis or the reason for encounter. Some studies have assessed the concordance about reason for encounter between doctor and patient (12). Other studies focus on the communicative behaviour in consultations about a specific medical diagnosis like high blood pressure, weight control or rheumatoid arthritis and medically unexplained complaints (13) or mental illness (5, 6). None of the studies we found compared the communicative behaviour of the doctor in relation to the diagnosis.

Patients have access to medical information and ask for the best available cure for their problem. Randomised controlled trials produce evidence for treatment and this stimulates the development of protocols to handle a disease. The number of guidelines for handling problems suggests that, at least in medical technical respect, every health problem requires its own treatment. The question can be asked if a disease requires not only its own medical technical treatment but also its own communication? The first step in answering this question is looking at the reality within practice. Do general practitioners adapt their communicative behaviour in relation to the diagnosis?

Therefore we focus on the following questions:

- Is the communicative behaviour of GPs different for different diagnoses?
- If so, which are the characteristics of these differences?

Method.

To answer those questions we used the data form the Euro-communication study (14). Doctor patient communication was compared in six European countries: The Netherlands, United Kingdom, Spain, Belgium, Germany and Switzerland. The NIVEL institute (Netherlands Institute for Health Services Research) carried out the co-ordination, analyses and reporting. National co-ordinators from universities and research institutes were responsible for implementing the study and collecting the data in their country.

Study design.

The study was cross-sectional. This study was done on a subgroup of the study group of the Eurocommunication study. Only adult patients (older than 18 years of age) were taken into account. In our study 2095 consultations performed by 168 GPs were included. Each country accounted for minimum 24 and maximum 37 GPs; each GP accounted for approximately 12 patients (range between 4 and 21). Local ethical committees approved the study and patients and doctors gave written consent. For consenting patients the consultation was videotaped. The GPs completed a general questionnaire about relevant background characteristics and working circumstances at the beginning of the study and a short registration form about patient characteristics and diagnosis after each consultation. Patients filled in a questionnaire containing personal information and demographic characteristics before the consultation. The doctor's diagnoses were coded by means of "The International Classification of primary Care" (ICPC) (15).

Observation protocol and measurement instruments.

Analysis of the videotapes.

Communicative behaviour was measured according to the Roter Interaction Analysis System (RIAS) (16). This system is well documented and widely used in the USA (17,18) and has been validated for use in other languages (19,20). The system is designed to code the communicative behaviour of both doctors and patients. It distinguishes affective (socio-emotional) and instrumental (task-oriented) behaviour, reflecting the care-cure distinction. The unit of analysis is the smallest meaningful string of words. All utterances were assigned

to mutually exclusive categories. The original system contains 16 categories, 7 for affective and 9 for instrumental behaviour (16).

For analysis in this study, categories were clustered into 4 categories for affective (social behaviour, agreement, partnership building and rapport building) and 4 categories for instrumental behaviour (giving directions, asking questions, giving information, counselling) (see appendix). All communicative behaviours will be expressed in percentages of the total utterances. Two to four observers per country, all native speakers, were trained until they reached sufficient identical ratings of the videotaped consultations.

The original ICPC chapters were clustered into 7 categories in order to get categories of comparable size. The 7 categories were: 1) blood, digestive and endocrine/metabolic (chapters B, D and T), 2) eye, ear and skin (chapters F, H and S), 3) circulatory and neurological (chapters K and N), 4) musculoskeletal (chapter L), 5) psychosocial (chapters P and Z), 6) respiratory (chapter R) and 7) uro-genital and pregnancy (chapters U, W, X and Y). The chapter general/ unspecified (chapter A) was excluded from the analysis, because it covers a mixture of general and unspecified problems and had provoked interpretation problems in the six countries.

Statistical analysis.

Regression analysis was done by using multilevel analysis discerning three levels: consultation-, doctor- and country-level. Consultations were clustered according to the doctors, doctors according to their country. The top level contains only 6 countries; as a consequence the variance in communicative behaviour attributable to this level will have a large standard error. "Country" was only introduced to be controlled for in the multilevel analysis; there was no intention to compare countries as an objective of the study. The statistical package used was Mlwin 1.1 (21).

Dependent variables were the 8 clusters of communicative behaviour (see appendix). Independent variables were at the consultation level: the diagnostic category, sex and age of the patient and the length of the consultation. On the second level (the GP level), age and sex of the doctor were introduced as independent variables. No country variables were introduced. The diagnostic categories were entered in the analysis as dummies.

Results.

Description of the population studied.

The representativity of the GPs in the Eurocom study was documented in previous publications (13,22) showing that the workload was lower and the percentage of female doctors and city practices were both higher as compared to the mean of the participating countries.

The inter-rater reliability of the video observers in the Eurocom study was measured by calculating Pearson's correlation coefficients between the ratings of pairs of observers, for 20 consultations (per country) of different GPs. The mean inter-rater reliability was .71 (range .40 to .98) (13).

In our study 2095 consultations performed by 168 GPs were included. Each country accounted for minimum 24 and maximum 37 GPs; each GP accounted for approximately 12 patients (range between 4 and 21). For each contact only one diagnosis was coded. This was the diagnosis coded by the doctors as the core diagnosis.

In table 1 the distribution over the 7 diagnostic categories is shown.

Insert table 1

The mean age of our patient-group was 48,67 years (SD 17,68), 39 % were male. Patients with circulatory or neurological problems were significantly older than other patients. No difference was found according to gender except for the group uro-genital and pregnancy which evidently included significantly more women. Consultations dealing with psychosocial problems lasted significantly longer than consultations for other diagnoses.

Variation attributable to the different levels.

From all variables the variation attributable to the lowest level (consultation) was the largest (range from 63 % till 88 % of the total variance). The variation attributable to the second level (the GP) ranged from 11 % till 24 %. The variation range of the highest level (country) was 0,7 % till 16 %. In other words, the variation in communicative behaviour of the GP is predominantly determined by the differences among the consultations (diagnosis, sex and age of the patient) and less by doctor variables or country differences.

Communicative behaviour of doctors.

Insert table 2

In table 2 the mean procentages of the various types of communicative behaviour of the GPs over the different diagnostic clusters is shown. The overall affective / instrumental behaviour ratio was 37 % / 58.5 % (other, unintelligible 4,5 %). The average consultation consisted of 7.5 % social talk, 15.5 % agreement, 4.5 % rapport building, 9.5 % facilitation, 10 % orientation, 27.5 % information giving, 14 % questions asking and 7 % counselling. The overall ratio of affective / instrumental behaviour (41.3 % / 55.2 %, unintelligible 3.5 %) of the doctor was higher in consultations with psychosocial diagnoses. No significant differences were found among the other diagnostic categories.

Looking at the communicative clusters separately no significant differences were found, across the diagnostic categories concerning social talk and counselling.
Among the affective behaviour clusters, agreement and rapport building were significantly more frequently used in consultations about psychosocial problems. Among the other diagnostic categories, in consultation about uro-genetal problems fewer agreement was looked for than in consultations about respiratory or muskuloskeletal problems.
The doctor used less utterances of partnership building in consultations about eye, ear or skin. Consultations about urological or gynaecological problems comprised less utterances of partnership building than consultations about musculoskeletal problems.
Within instrumental behaviour patients with psychosocial problems received less directions than patients with other diagnostic problems. In consultations about respiratory, urological or gynaecological problems the doctor gave more directions than in consultations about the remaining diagnostic categories.
The percentage of utterances used to give information is less towards patients with psychosocial, musculoskeletal problems or uro-genital complaints and pregnancy as compared to other diagnostic clusters. All other diagnoses did not show significant differences.
More questions were asked to patients with psychosocial and musculoskeletal problems than to patients with one of the other diagnostic categories.

Discussion.
Main findings.

Looking at the communicative behaviour across the seven diagnostic categories, based on ICPC chapters, we found the most important differences between consultations about psychosocial problems and the other diagnoses. In these consultations doctors showed more affective behaviour, were more concerned about good relationships with their patients, asked more questions and gave less information than in other consultations.

Across the other diagnostic categories the percentages of utterances were quite similar. This brings us to the conclusion that a consultation in general practice, except for psychosocial problems, is quite resembling.

Doctors communicate differently if they perceive the problem as mainly psychosocial (diagnosis P or Z). This is in line with previous studies where we already showed that psychosocial problems are a major determinant of consultation length and that in that case the doctor's perception of psychosocial problems is more dominant than the patient's (23,24). In consultations for psychosocial problems more utterances were spent to have a good agreement and to built a good relation with the patient. The GP also asked significantly more questions. A psychosocial consultation can therefore be characterised as a meeting where the doctor explores the presented problem within a frame of good co-operation and agreement. This confirms other research findings. Doctors use more open-ended questions and empathic statements, ask more questions about the living condition of the patient, acknowledge and validated more the patients feelings in consultations about psychosocial problems (5, 25). In general patients in primary care strongly prefer a patient centred approach in which partnership, understanding of the whole person and health promotion are core elements. Patients that are vulnerable, either psychosocially or because they are feeling particularly unwell, show this preference most extensively (11). The general practitioners in this study seem to reward this request.

Another difference in consultations about psychosocial problems as compared to other diagnostic categories is that less information is given. However, informational aspects like putting problems in their social context, giving the patient tools to observe the frequency and nature of the problems and explaining relations between problems often are an important start in the solution of the psychosocial problems. In the observation tool used, this behaviour should appear as utterances in the categories "giving information" and/ or "counselling". The fact that utterances of counselling did not differ and utterances of information giving were even less present than in other consultations makes us wonder if GPs have sufficient tools to deal with psychosocial problems. They surely are able to explore, but are they able to make a beginning with the problem solving process of the psychosocial problem? Or does the

exploration leave them with a diagnostic uncertainty which hinders an adequate therapeutic strategy?

Looking within the other 6 diagnostic categories (apart from psychosocial problems) we found the following differences in affective and instrumental behaviour:

- With respect to affective behaviour in consultations about eye, ear or skin the doctor spent less utterances to building a partnership with the patient. Partnership building stands for checking the accuracy of the information or asking for clarification. Problems of the external part of the body are perhaps more straight forward and can to a large extent be explored by physical examination (e.g. inspection). The short cut to physical examination diminishes the need for extensive partnership building.

- Looking more in detail to the instrumental behaviour of doctors, the most striking finding is that in consultations about musculoskeletal or respiratory problems patients got less information than in consultations about other diagnoses. Doctors seem to adapt the amount of information to the problem presented. For common and well-known problems like respiratory or muskulosceletal problems a smaller percentage of utterances to inform was used. Research (2) shows that doctors often underestimate the need for information of their patients. Doctors should be aware that patients want information, even if it seems to be a repetition or common sense.

In the same diagnostic categories the doctors also asked more questions. Giving less information seems to be linked to more information seeking by the doctor. In these two categories of diagnoses doctors seem to be characterised by more explorative and less explicative behaviour.

Some of the differences mentioned are obvious. Giving directions must be adapted to the problem raised. In consultations where physical examination is required, more directions are given. This is the case in consultations about respiratory, uro-genital or muskuloskeletal problems.

Limitations of the study.

Some limitations of the study must be pointed at:

The group of GPs in our study was not quite representative for the population of the participating countries. They had a lower workload than the average doctor in their country, more of them worked in city practices and more of them were female. They agreed to have their consultation video taped. So probably they were more interested in communication than

the average doctor. Moreover they had more experience with research and training. As a consequence the results may be in a way biased.

The way the RIAS was used did not register the mutual interaction between doctors and patients. Nothing can be said about the communicative influence of doctors and patients on each other.

In this analysis, we focused on the communicative behaviour of the doctor. It is possible that also the communicative behaviour of patients is different in consultations about different kinds of problems. Not studying the communicative behaviour of the patient can be seen as a weakness of the study, this requires further research.

Finally, putting diagnoses in clusters of ICPC chapters is a very rough way of looking at differences between diagnoses. Perhaps more differences could be seen when looking at more homogenous clusters of diagnoses. But of course this would implicate a much larger database of videotaped consultations.

ICPC chapters is not an exact way of splitting up psychosocial and medical problems. Every ICPC chapter contains psychosocial elements related to the problem (e.g. fear for cancer). The general practitioners in the study are more trained and more interested in communication so that we can assume that they pay also attention to these psychosocial aspects in the other diagnostic categories. Nevertheless we still see differences between consultations about medical versus psychosocial problems. This probably makes the results found even more remarkable.

Conclusion.

In answer to our research questions we can say that in general practice, doctors make a distinction between diagnoses about psychosocial problems and all other problems. They adapt their communicative behaviour accordingly. For psychosocial problems doctors have more attention to affective behaviour but seem to have less skills in starting to solve the problems mentioned. For all other problems the communicative behaviour of general practitioners is more or less the same. It appears as a standard operating procedure. Within this last group further research is needed in order to answer the question if different diagnoses require different communication skills. But perhaps another differentiation is needed like chronic versus acute disease, first consult versus follow-up consult or severe illness versus rather common problems.

Contributors.

Myriam Deveugele co-ordinated and assembled the Belgium data, formulated the study questions, discussed core ideas, analysed the data and wrote the article. Anselm Derese discussed core ideas, was involved in the analyses, gave critical reflections on the final report and edited the paper. Dirk De Bacquer was involved in the statistical analyses and gave critical reflections on the final report. Atie van den Brink-Muinen was the principal investigator and co-ordinator of the Eurocom study, participated in formulating the questions for this study, was involved in analysing the data and gave critical reflections on the paper. Jozien Bensing initiated the Eurocom study, discussed core ideas of the paper and gave critical reflections on the output. Jan De Maeseneer discussed core ideas, was involved in the analysis of the data, gave critical reflections on the final report and edited the paper.

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Appendix.

Clusters affective behaviour.

1. **Social behaviour.**
   <u>Personal remarks, social conversation</u>: greetings (Hello, How are you doing), initiating contact (Nice to meet you), goodbye (see you, take care), return of friendly gestures and greetings (fine, than. How about you?), conversation on any non-medical or social topic that is not related to the discussion of health (weather, sports…)
   <u>Laughs, tells jokes.</u> Making of friendly jokes, trying to amuse or entertain, kidding around, morbid jokes…
   <u>Approvals, compliments, showing respect</u>. "You are looking good today", "He is a great person", "thank you"…

2. **Agreement**.
   <u>Signs of agreement or understanding:</u> "I see", "Yes, that is right", "Oh, really".
   <u>Apologies.</u> Includes conceding a point, social amenities and apologies that not indicate particular concerns for the other's feelings (you were right, I'm sorry)
   <u>Back-channel responses.</u> "hmm".

3. **Partnership building**.
   <u>Paraphrase.</u> Mechanisms by which the speaker re-states or reflects back information he or she has been told by the other for the purpose of checking for accuracy of information, or for confirming a shared understanding of the facts or issues being discussed ("Do I understand what you are saying?", "So it is very high?", "Do I have it right?"), includes repetitions of other's communication ("So you have a pain in you chest"), includes re-statements of information given by the other earlier in the visit ("You said a bit earlier that you're been having trouble sleeping").
   <u>Asking for clarification.</u> Bits for repetition ("What?", "Did you say the white pills?"), asks for understanding ("Do you understand what I'm saying?", "Do you follow?", "Alright?"), asks for opinion ("What do you think this is?", "What do you think could have caused this?")

4. **Rapport building**.
   <u>Verbal attention.</u>: empathy ("this is stressing for you, I understand", "You must be worried"), legitimising ("it is natural to be concerned about your family", "Who would not be afraid of cancer?"), shows support ("Let's try that, maybe we can find a solution").
   <u>Showing concern.</u> Includes negative emotional descriptions of the medical situation ("strange"), includes statements that indicate concern for the other's feelings ("Oh, I am sorry this upsets you").
   <u>Reassurance, showing optimism.</u> "Don't worry about that", "I hope you'll feel better next week", "I think you can stop smoking".

Clusters Instrumental behaviour.

1. **Gives directions.**
   <u>Transitions.</u> Statements or sentence fragments that indicate movement to another topic or area of discussion ("Oh, well.", "Now…").
   <u>Giving orientation, instructions.</u> Orientation statements to tell the other person what is about to happen, what is expected during the interview or exam, or serve to organise the visit ("Now, I am going to take your blood pressure", "Would you get up on the examining table, please").

2. **Asks questions.**
   <u>Medical, therapeutical.</u> Questions about medical and family histories, previous treatments, symptoms, physical condition, practices related to the medical condition. Therapeutic regimen. Includes questions relating to past and current drug regimens, current treatment procedures and lifestyle controls related especially to the patient's medical condition ("How often do you take your blood pressure medicine").
   <u>Lifestyle, social context.</u> Questions related to lifestyle (smoking, diet, sleep, alcohol and exercise habits), family and home-situation, work or employment, prevention and self-care not related to a specific health problem.
   Psychosocial, feelings Questions pertaining to the psychological or emotional state or things directly related to this statement, not related to a specific health problem ("Why do you worry about your job").

3. **Gives information.**
   <u>Medical, therapeutical.</u> Statements or fact or opinion relating to the medical condition, symptoms, diagnosis, prognosis, past tests, tests results, medical background, personal and family medical histories, practices and allergies. Statements or fact or opinion regarding current treatment plan, such as information relating to medical use drug regimen, drug allergies, specific treatments, tests to be performed, imminent hospitalisations.
   <u>Lifestyle, social context.</u> Statements or facts or opinion relating to lifestyle (smoking, diet, sleep, alcohol and exercise habits) family and home-situation, work or employment, prevention and self-care not related to a specific health problem. Includes information regarding daily routine as it relates to the general medical condition and health regimen and information regarding medical coverage.

4. **Counsels or directs behaviour.**
   <u>Medical, therapeutical.</u> Statements which suggest or imply some resolution or action to be taken by the patient. These statements are characteristic by the intent to persuade, influence, direct or change the other's behaviour. Included are imperative statements that explicitly direct behaviour.
   <u>Lifestyle, social context.</u> Includes statements relating to family and home-situation, work or employment, general health promotion and prevention and psychosocial issues, including emotional problems and concerns ("You need to go out and meet more people"). Includes statements regarding smoking, diet, sleep, alcohol and exercise habits when they are not specifically related to the medical condition.

Table 1: Numbers and percentages of the 7 diagnostic categories.

Diagnoses about	ICPC chapters	N	%
1. blood, digestive and endocrine/metabolic problems	B, D, T	335	16.0
2. eye, ear and skin	F, H, S	227	10.8
3. circulatory problem	K, N	319	15.2
4. muskuloskeltal problems	L	417	19.9
5. psychosocial problems	P, Z	245	11.7
6. respiratory problems	R	377	18.1
7. urological or genital problems	U, W, X, Y	174	8.3
Total		2094	100

Table 2: Means and standard deviation of the communicative behaviour in relation to the diagnostic clusters.

	B, D, T (1).	F, H, S (2)	K, N (3)	L (4)	P, Z (5)	R (6)	U, W, X, Y (7)	Total
Social talk	7.7 (8.0)	7.5 (6.7)	8.7 (8.7)	6.7 (6.5)	7.1 (6.8)	7.6 (6.5)	8.2 (8.6)	7.6 (7.4)
Agreement	15.1 $(9.5)^5$	14.0 $(9.1)^5$	15.0 $(10.2)^5$	15.5 $(9.7)^{5,7}$	18.7 $(11.5)^{1,2,3,4,6,7}$	14.1 $(9.6)^{5,7}$	13.8 $(9.6)^{4,5,6}$	15.1 (10.0)
Rapport building	4.5 $(5.0)^5$	3.8 $(4.4)^5$	4.8 $(4.5)^5$	4.3 $(4.6)^5$	5.5 $(6.2)^{1,2,3,4,6,7}$	3.5 $(4.0)^5$	3.9 $(4.2)^5$	4.3 (4.7)
Partnership building	8.9 $(5.9)^2$	8.7 $(5.5)^{1,3,4,5,6}$	9.5 $(5.7)^2$	9.8 $(6.7)^{2,7}$	10.0 $(6.4)^2$	9.7 $(6.4)^2$	9.1 $(6.0)^4$	9.4 (6.2)
Directions	9.7 $(5.8)^{4,5,6,7}$	10.7 $(6.8)^{5,6}$	10.2 $(5.9)^{4,5,6,7}$	11.6 $(7.5)^{1,3,5}$	7.0 $(5.0)^{1,2,3,4,6,7}$	12.2 $(6.7)^{1,2,3,5}$	10.4 $(6.5)^{1,3,5}$	10.0 (6.6)
Giving information	29.0 $(13.7)^{4,5,6}$	31.0 $(14.0)^{4,5,6}$	28.0 $(13.2)^{4,5,6}$	25.4 $(12.6)^{1,2,3,7}$	25.2 $(13.7)^{1,2,3,7}$	26.2 $(12.4)^{1,2,3,7}$	32.1 $(14.2)^{4,5,6}$	27.7 (13.4)
Asking questions	13.9 $(8.7)^{4,5}$	12.5 $(8.1)^{4,5,6}$	13.0 $(7.8)^5$	14.7 $(8.7)^{1,2,7}$	16.0 $(9.9)^{1,2,3,7}$	14.2 $(8.2)^{2,5,7}$	11.5 $(7.4)^{4,5,6}$	13.8 (8.5)
Counselling	6.9 (7.0)	8.0 (6.6)	7.0 (6.3)	7.5 (6.0)	7.0 (5.4)	7.7 (5.7)	6.1 (5.3)	7.3 (6.1)

1: score differs significant from score of diagnosis of chapter B, D or T
2: score differs significant from score of diagnosis of chapter F, H or S
3: score differs significant from score of diagnosis of chapter K, N
4: score differs significant from score of diagnosis of chapter L
5: score differs significant from score of diagnosis of chapter P, Z
6: score differs significant from score of diagnosis of chapter R
7: score differs significant from score of diagnosis of chapter U, W, X or Y