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

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ABSTRACT
This study explores the relation between the diagnosis made by the general practitioner (GP) and his or her communicative behavior within a consultation, by means of the analysis of 2095 videotaped consultations of 168 GPs from six countries participating in the Eurocommunication study. The doctors' diagnoses were coded into ICPC chapters and merged into seven clinically relevant diagnostic clusters. The communicative behavior was gauged by means of the Roter interaction analysis system (RIAS).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 behavior, 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 behavior of doctors reflects a global pattern in every consultation. This pattern is the most stable for affective behavior (social talk, agreement, rapport building and facilitation). Within instrumental behavior (the other categories), the directions and the information the doctor gives are adapted to the problems presented.

1. INTRODUCTION

Some decades ago the shift from doctor centered medicine towards patient centered 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) as well as the instrumental needs (cure aspects like medical questioning, examination, giving information, counseling, giving advice) has become inevitable [1].

[TABLE 1]

Several studies emphasized 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 behavior of doctors and patients) and describing the "care" related behavior of doctors, e.g. focussing on the context of the patient, empathizing and reassuring [8–11].

The evidence about communication found in literature deals with the generic aspects of communication skills [12,13]. A lot of questions remain unanswered: are the communicative principles the same for every person, for every complaint, in every stage of the life?

Most of the studies focus on the communicative behavior 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 [14]. Other studies focus on the communicative behavior in consultations about a specific medical diagnosis like high blood pressure, weight control or rheumatoid arthritis and medically unexplained complaints [15] or mental illness [5,6]. In 1997, Roter et al. determined communication patterns of general practitioners (GPs) [16]. They defined five different styles, but also showed that these styles predominantly were determined by the characteristics of the doctor. This study did not explore the relationship with diagnoses.

Patients have access to medical information and ask for the best available cure for their problem. Randomized controlled trials produce evidence for treatment and this stimulates the development of protocols to handle a disease. The number of guidelines 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?

Although one can easily make hypotheses about the relation between communicative style and complaint none of the studies we found compared the communicative behavior of the doctor in relation to the diagnosis or provided a theoretical framework.

In this observational, explorative study we focus on the relation between communication and diagnoses. The first step in answering this question is looking at the reality within practice. Do GPs adapt their communicative behavior in relation to the diagnosis?

Therefore we focus on the following questions:
- Is the communicative behavior of GPs different for different diagnoses?
- If so, which are the characteristics of these differences?

2. METHOD

To answer those questions we used the data form the Eurocommunication study [17]. Doctor patient communication was compared in six European countries: The Netherlands, United Kingdom, Spain, Belgium, Germany and Switzerland. The Netherlands Institute for Health Services Research (NIVEL) institute carried out the co-ordination, analyses and reporting. National coordinators from universities and research institutes were responsible for implementing the study and collecting the data in their country.

2.1. 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) [18].

2.2. Observation protocol and measurement instrument

2.2.1. Analysis of the videotapes

Communicative behavior was measured according to the Roter interaction analysis system (RIAS) [19]. This system is well documented and widely used in the USA [20,21] and has been validated for use in other languages [22,23]. The system is designed to code the communicative behavior of both doctors and patients. It distinguishes affective (socio-emotional) and instrumental (task-oriented) behavior, 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 behavior [19].

For analysis in this study, categories were clustered into 4 categories for affective (social behavior, agreement, partnership building and rapport building) and four categories for instrumental behavior (giving directions, asking questions, giving information, counseling) (see Table 1). This clustering was used be Roter in previous work [16,24]. All communicative behaviors 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 seven categories in order to get categories of comparable size. The seven 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) urogenital and pregnancy (chapters U, W, X and Y).

This clustering was based on clinical concepts within general practice, taking together problems referring to the external and internal part of the body, or referring to epidemiology. 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.

2.2.2. 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 six countries; as a consequence the variance in communicative behavior 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 [25].

Dependent variables were the eight clusters of communicative behavior. 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.

3. RESULTS

3.1. Description of the population studied

The representativity of the GPs in the Eurocom study was documented in previous publications [17,26–28] 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 0.71 (range 0.40–0.98) [17].

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 2, the distribution over the seven diagnostic categories is shown. The mean age of our patient-group was 48.67 years (S.D. 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 urogenital and pregnancy which evidently included significantly more women. Consultations dealing with psychosocial problems lasted significantly longer than consultations for other diagnoses.

[TABLE 2]

3.2. 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 behavior 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.

3.3. Communicative behavior of doctors

In Table 3, the mean percentages of the various types of communicative behavior of the GPs over the different diagnostic clusters is shown. The overall affective/instrumental behavior 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% counseling. The overall ratio of affective/ instrumental behavior (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.

[TABLE 3]

Looking at the communicative clusters separately no significant differences were found, across the diagnostic categories concerning social talk and counseling.

Among the affective behavior clusters, agreement and rapport building were significantly more frequently used in consultations about psychosocial problems. Among the other diagnostic categories, in consultation about urogenital 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 gynecological problems comprised less utterances of partnership building than consultations about musculoskeletal problems.

Within instrumental behavior patients with psychosocial problems received less directions than patients with other diagnostic problems. In consultations about respiratory, urological or gynecological 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 and respiratory complaints as compared to other diagnostic clusters. All other diagnoses did not show significant differences.

More questions were asked to patients with psychosocial, musculoskeletal and respiratory problems than to patients with one of the other diagnostic categories.

4. DISCUSSION AND CONCLUSION

Looking at the communicative behavior 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 behavior, 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 uniform.

Doctors communicate differently if they perceive the problem as mainly psychosocial (diagnosis P or Z). In another analysis of the same material we showed that psychosocial problems are a major determinant of consultation length and that the doctor's perception of psychosocial problems is more dominant than the patient's [27,28].

In consultations for psychosocial problems more utterances were spent to reach 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 characterized 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 and acknowledge and validated more the patients feelings in consultations about psychosocial problems [5,29]. In primary care patients generally prefer a patient centered approach in which partnership, understanding of the whole person and health promotion are core elements. Patients who are vulnerable, either psychosocially or because they are feeling particularly unwell, show this preference most extensively [11]. The GPs in this study seem to reward this expectation.

Another difference in consultations about psychosocial problems 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 behavior should appear as utterances in the categories "giving information" and/or "counseling". The fact that utterances of counseling 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 at the other six diagnostic categories (apart from psychosocial problems) we found the following differences in affective and instrumental behavior:

- With respect to affective behavior 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 behavior of doctors, the most striking finding is that in consultations about musculoskeletal or respiratory problems patients obtained 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 characterized by more explorative and less explicative behavior.

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, urogenital or muskuloskeletal problems.

4.1. Limitations of the study

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 behavior of the doctor. It is possible that also the communicative behavior of patients is different in consultations about different kinds of problems. Not studying the communicative behavior 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 GPs 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 our findings even more remarkable.

4.2. 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 behavior accordingly. For psychosocial problems, doctors have more attention to affective behavior but seem to have less skills in starting to solve the problems mentioned. For all other problems, the communicative behavior of GPs 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, e.g. chronic versus acute disease, first consult versus follow-up consult or severe illness versus rather common problems.

4.3. Practice implications

It is often said that GPs fail to recognize psychosocial problems. This study does not really contribute to that discussion but at least it indicates that GPs tend to behave differently in case of psychosocial problems. Although they have more attention to the affective aspects of the communication, one can ask if the doctors in this study master skills to initiate psychosocial problem solving. Some remarks have to be made. First, it is known that doctors sometimes decide to make an inventory of the problem in one consultation and choose to counsel in a separate consultations with a longer duration. This is not covered by this study and could explain why no extra counseling is seen. Secondly, in the time of the graduation of the doctors included in the study, in most of the medical curricula communication training was not provided. Perhaps that young doctors would show a different profile.

Nevertheless, dealing with emotional problems in primary care will be a challenge for the future. There is evidence that the behavior of the GP, for detection as well as for management of psychological distress, can be improved [30,31].

For all other problems, doctors adopt a standard procedure, a sort of routine. This can be efficient and time spearing. But doctors must be aware that working routinely can have an implication on the relation with the patient, that they perhaps economize on affective behaviors and on information giving.

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TABLES

Table 1
RIAS communicative clusters, operationalization and examples

Categories	Operationalization	Examples
Affective behavior		
Social behavior	Personal remarks, social conversation. Approvals, compliments, showing respect	"How are you doing", "see you, take care", "you are looking good today"
Agreement	Signs of agreement or understanding, apologies, back-channel responses	"I see", "yes, that is right", "hmm"
Rapport building	Empathy, showing concern, reassurance, showing optimism	"This is stressing for you, I understand", "you must be worried", "strange", "I hope you'll feel better next week"
Partnership building	Paraphrase, asking for clarification	"So it is very high?", "you said a bit earlier that you're been having trouble sleeping", "did you say the white pills?", "what do you think could have caused this?"
Instrumental behavior		
Gives directions	Transitions. Giving orientation, instructions	"Oh, well", "would you get up on the examining table, please"
Asks questions	Medical, therapeutical, lifestyle, social context	"How often do you take your blood pressure medicine", "why do you worry about your job"
Gives information	Medical, therapeutical, lifestyle, social context	"Your blood pressure is 100 over 70", "sport has a good effect on the overall health"
Counsels or directs behavior	Medical, therapeutical, lifestyle, social context	"Take your medicine 3 times a day", "you need to go out and meet more people"
Other		"Today it is the 14th", "did you give me your card?"

Table 2
Numbers and percentages of the seven diagnostic categories

Diagnoses about	ICPC chapters	N	%
Blood, digestive and endocrine/metabolic problems	B, D, T	335	16.0
Eye, ear and skin	F, H, S	227	10.8
Circulatory and neurological problem	K, N	319	15.2
Muskuloskeltal problems	L	417	19.9
Psychosocial problems	P, Z	245	11.7
Respiratory problems	R	377	18.1
Urological or genital problems	U, W, X, Y	174	8.3
Total		2094	100

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Table 3
Means and standard deviation of the communicative behavior in relation to the diagnostic clusters

	Blood digestive endocrine	Eye, ear skin	Circulatory neurological	Musculoskeletal	Psychological social	Respiratory	Urogenital pregnancy	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)[e]	14.0 (9.1)[e]	15.0 (10.2)[e]	15.5 (9.7)[e,g]	18.7 (11.5)[a,b,c,d,f,g]	14.1 (9.6)[e,g]	13.8 (9.6)[d,e,f]	15.1 (10.0)
Rapport building	4.5 (5.0)[e]	3.8 (4.4)[e]	4.8 (4.5)[e]	4.3 (4.6)[e]	5.5 (6.2)[a,b,c,d,f,g]	3.5 (4.0)[e]	3.9 (4.2)[e]	4.3 (4.7)
Partnership building	8.9 (5.9)[b]	8.7 (5.5)[a,c,d,e,f]	9.5 (5.7)[b]	9.8 (6.7)[b,g]	10.0 (6.4)[b]	9.7 (6.4)[b]	9.1 (6.0)[d]	9.4 (6.2)
Affective behavior	36.2	34	38	36.3	41.3	34.9	35	36.6
Directions	9.7 (5.8)[d,e,f,g]	10.7 (6.8)[e,f]	10.2 (5.9)[d,e,f,g]	11.6 (7.5)[a,c,e]	7.0 (5.0)[a,b,c,d,f,g]	12.2 (6.7)[a,b,c,e]	10.4 (6.5)[a,c,e]	10.0 (6.6)
Giving information	29.0 (13.7)[d,e,f]	31.0 (14.0)[d,e,f]	28.0 (13.2)[d,e,f]	25.4 (12.6)[a,b,c,g]	25.2 (13.7)[a,b,c,g]	26.2 (12.4)[a,b,c,g]	32.1 (14.2)[d,e,f]	27.7 (13.4)
Asking questions	13.9 (8.7)[d,e]	12.5 (8.1)[d,e,f]	13.0 (7.8)[e]	14.7 (8.7)[a,b,g]	16.0 (9.9)[a,b,c,g]	14.2 (8.2)[b,e,g]	11.5 (7.4)[d,e,f]	13.8 (8.5)
Counseling	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)
Instrumental behavior	59.5	62.2	58.2	59.2	55.2	60.4	60.1	58.8

[a] Score differs significantly from score of diagnosis of chapter blood, digestive or endocrine.

[b] Score differs significantly from score of diagnosis of chapter eye, ear or skin.

[c] Score differs significantly from score of diagnosis of chapter circulatory, neurological.

[d] Score differs significantly from score of diagnosis of chapter musculoskeletal.

[e] Score differs significantly from score of diagnosis of chapter psychological, social.

[f] Score differs significantly from score of diagnosis of chapter respiratory.

[g] Score differs significantly from score of diagnosis of chapter urogenital and pregnancy.

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