

The relationship between complaint-related cognitions in referred patients with irritable bowel syndrome and subsequent health care seeking behaviour in primary care

AM van Dulmen, JFM Fennis*, HGA Mookink and G Bleijenberg**

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Background. It is generally accepted that it is important to explore patients' beliefs and fears about the meaning of their symptoms during medical consultations.

Objective. To discover how referral behaviour of GPs and attention to dysfunctional cognitions of medical specialists affect the subsequent health care seeking behaviour of patients with irritable bowel syndrome.

Method. Questionnaires were distributed to GPs and to doctors and patients at an out-patient clinic in the University Hospital of Nijmegen.

Results. The results of the present study indicate that doctors' attention to the complaint-related cognitions of IBS-patients is also related to a reduced use of medical health services in primary care. On the other hand, when referred IBS-patients continue to attribute their complaints to a somatic abnormality even after such an abnormality has been ruled out through extensive physical examinations, the subsequent use of medical health services in primary care is likely to increase. Moreover, GPs' referral behaviour appears to strengthen these dysfunctional somatic attributions in IBS-patients.

Conclusion. These unfavorable consequences might be avoided by handling cognitions and anxiety more specifically during medical consultations in primary as well as secondary care.

Keywords. Cognitions, health care seeking behaviour, irritable bowel syndrome, primary care, referral.

Introduction

Recently we found at an out-patient clinic for internal medicine that during medical consultations doctors are able to influence patients' complaint-related cognitions and thereby the course of irritable bowel syndrome (IBS) positively with minimal non-intended psychological intervention.¹⁻³ However, in some patients dysfunctional cognitions continued to exist after the consulting period, e.g. attributing complaints to a somatic abnormality even after such an abnormality had been ruled out through physical examination.³ Such persistent cognitions are likely to have negative consequences for pa-

tients' subsequent health care seeking behaviour in primary care. When doctors at the out-patient clinic attend to the dysfunctional cognitions more explicitly while interacting with their patients, dysfunctional cognitions will diminish.³ The question is whether patients' health care seeking behaviour will reduce too.

A potential factor contributing to patients' dysfunctional cognitions may be the somatic attitude of the general practitioner (GP). One of the parameters measuring a GP's attitude is his general referral behaviour. Factors influencing GPs' referral behaviour have been thoroughly examined. Besides doctor-dependent and clinical factors, referral decisions appear to be related to GP-patient interaction,⁴ as well as to patients' anxiety and expectations.⁵ Whether the referral rates in turn influence patients' cognitions and anxiety has been investigated less frequently; as far as we know only Huygen reported that GPs' working style,

Department of General Practice and Social Medicine, *Department of Medicine, Division of Internal Medicine and **Department of Medical Psychology, University of Nijmegen, 229 HSV, PO Box 9101, 6500 HB Nijmegen, The Netherlands.

which includes, among other things, their referral behaviour, is related to patients' expectations regarding specialists' care, their subjective feeling of health, and their consultation behaviour.⁶ In this latter study, however, GPs' referral behaviour has not been examined separately.

The present study explored the relationships between 1) the cognitions and anxiety of IBS-patients at the end of the consulting period at an out-patient clinic and subsequent health care seeking behaviour in primary care; 2) the quality of doctor-patient interaction at the out-patient clinic and subsequent health care seeking behaviour in primary care; and 3) GPs' general referral behaviour and the cognitions and anxiety of their referred IBS-patients.

Methods

Subjects

One hundred and thirty-four patients with abdominal complaints were referred by their GP to the out-patient clinic for internal medicine of the University Hospital in Nijmegen between March 1991 and April 1992.¹ After verification by two independent internists, 120 patients, 75 women and 45 men, were diagnosed as suffering from IBS, defined as abdominal pain with or without disordered defecation in the absence of any recognizable gastrointestinal pathology.⁷ Prior to the first consultation, after each follow-up consultation, and six months after the first consultation at the out-patient clinic, these patients completed questionnaires about, among others, their complaint-related cognitions and anxiety.¹⁻³ Immediately after each consultation, doctors completed a questionnaire with the same questions as presented to their patients. They had to answer each question according to the way that they thought the patient had answered it, thereby indicating their perception of patient's cognitions and anxiety.¹⁻³

Six months after patients' first consultation at the out-patient clinic (follow-up), i.e. several months after the end of the consulting period at the out-patient clinic, GPs were sent a questionnaire about patients' use of medical health services during the preceding three months.

Doctor-patient interaction

The correctness of doctors' perceptions of patients' cognitions and anxiety during the last out-patient consultation, is considered to be a reflection of the quality of doctor-patient interactions. The correctness of doctors' perceptions is measured by means of percentages of doctor-patient similarity. To distinguish between doctors in primary and secondary care, in this paper the first will be referred to as GPs, the latter as doctors.

GPs' general referral behaviour

Ninety of the 120 referred patients appeared to be registered with a large regional sick fund in Nijmegen

(VGZ). The 63 GPs of these patients were asked permission to use their referral figures to internal medicine in 1992 for analysis. They had to have at least 100 VGZ sick fund patients on their list to ensure high enough annual referral figures for each practice. Using the sick fund figures for 1992, for each GP the referral rate to internal medicine was determined and adjusted indirectly⁸ for the age and sex distribution of the practitioner's practice population resulting in a standardized referral ratio; a referral ratio of > 1 means that the GP has referred more patients to internal medicine than would have been expected on the basis of the practitioner's practice population; 1 means that the GP has referred as much as would have been expected; < 1 means fewer referrals than expected.

Questionnaire

Patient's questionnaires. Before the first and after the last out-patient consultation as well as at follow-up, patients completed the following instruments. For the purpose of measuring doctors' perceptions of patients' cognitions and anxiety, these variables were dichotomized later.¹⁻³ The shortened 10-item version of the Spielberger State Anxiety Inventory (Cronbach's $\alpha = 0.85$) measuring state anxiety was used;⁹ a score ≥ 21 reflects an increased level of anxiety. Three psychological and two somatic attributions;¹⁰ a high score on each item reflects strong beliefs with regard to psychological or somatic causes for the pain, respectively. Nine pain-related cognitions selected from the Dutch Pain Cognition List; factor analysis revealed two underlying factors, self-efficacy cognitions (5 items, $\alpha = 0.68$), e.g. "I think I can influence the pain positively", and catastrophizing cognitions (4 items, $\alpha = 0.71$), e.g. "I often think, 'Why must this happen to me?'".¹¹

After the last consultation at the out-patient clinic, satisfaction with the visits to the doctor was measured by means of four questions of which the sumscore reflects patients' level of satisfaction ($\alpha = 0.87$).²

Health care seeking behaviour. At two points, namely before the first consultation and at follow-up, patients' use of medical health services during the preceding three months was measured by means of patients' reports of the number of GP visits for abdominal and other complaints, and using or not using medication for their abdominal complaints.

GPs' questionnaire. At follow-up, GPs were asked how often their patients had consulted them during the last three months for abdominal or other complaints, and whether or not they had prescribed any medication for abdominal complaints during that period.

Statistics

As the variables measuring the number of visits to the GP appeared to have skew distributions, they were

dichotomized as (0) no visits to the GP, and (1) one or more visits to the GP; the number of visits for abdominal complaints measured before the first consultation was dichotomized after subtracting one visit to become referred. In the Netherlands no patient consults a specialist without a referral note from their GP. Subsequently, changes in the use of medical health services were investigated using McNemar-test. Percentages of doctor-patient similarity were used to measure whether doctors perceived patients' cognitions and anxiety correctly, or not; when doctors' and patients' dichotomized scores were identical, doctors' perceptions were considered to be correct. Change scores during the out-patient consultations were calculated by determining the differences in scores on cognitions and anxiety between first and last consultation. The relationships between, on the one hand, scores and change scores in cognitions and anxiety, doctors' perceptions, and, on the other hand, subsequent use of medical health services in primary care were investigated using Mann-Whitney U test and Chi-square test. GPs' referral ratios were classified into three groups of about equal size representing 'low', 'medium' and 'high' referrers. Kruskal-Wallis test was used to investigate possible differences between these three groups with respect to patients' cognitions and anxiety after referral.

Results

The use of medical health services

Before investigating the factors possibly related to the use of medical health services in primary care (research questions 1 and 2), it is necessary to know how often patients had consulted their GP and had used medication for their abdominal complaints.

Response. The GPs of 113 of the 120 patients (94%) returned the follow-up questionnaire concerning patient's use of medical health services in their practice.

GP visits for abdominal complaints. Prior to the first consultation, 72 patients (60%) reported having visited

their GP more than once for abdominal complaints during the preceding three months. Six months later, at follow-up, 31 patients (28%) reported having visited their GP at least once during the last three months of the follow-up period; a significant decrease (Table 1). At follow-up, GPs registered in 23 patients (20%) at least one visit for abdominal complaints during the preceding three months. GPs' registration of the number of patients' visits did not appear to differ significantly from patients' reports of the number of visits to their GP. Female and male patients did not appear to differ in the number of visits to the GP before the first consultation or at follow-up.

GP visits for other complaints. Prior to the first consultation, 37 patients (31%) reported having visited their GP at least once for something other than abdominal complaints during the preceding three months. Six months later, at follow-up, 54 patients (49%) reported having visited their GP for other complaints, which is a significant increase (Table 1). GPs registered during the latter period exactly the same number of patients. Before the first consultation and at follow-up, more female than male patients reported having visited their GP at least once for other complaints ($P = 0.04$ and $P = 0.01$, respectively). Taken together, the number of patients who had visited their GP for abdominal or other complaints did not appear to have changed between first consultation and follow-up (Table 1).

Medication for abdominal complaints. Before the first consultation at the out-patient clinic, 44 patients (37%) reported using medication for their abdominal complaints. At follow-up, this number had decreased, albeit non-significantly ($P = 0.08$), to 28 patients (26%). During the last three months of the follow-up period, GPs had prescribed medication for abdominal complaints to 16 patients (14%). Female and male patients did not appear to differ in their use of medication for abdominal complaints before the first consultation or at follow-up, nor had GPs prescribed medication for abdominal complaints more often to female than to male patients.

TABLE 1 Number (%) of patients with >1 GP visit prior to the first consultation and ≥ 1 GP visit prior to the follow-up assessment with level of significance of the difference between measurements

Reason for visit	Prior to first consultation	At follow-up	P^*
Abdominal complaints	72 (60%)	31 (28%)	<0.001
Other complaints	37 (31%)	54 (49%)	<0.001
Abdominal or other complaints	90 (75%)	72 (65%)	0.11

*McNemar test.

Factors related to the use of medical health services at follow-up.

Cognitions and anxiety. When patients attributed their complaints to a somatic abnormality after the last out-patient visit, they visited their GP at follow-up more often for abdominal complaints and received a prescription for medication more frequently. When patients catastrophized more after the last out-patient visit, they reported visiting their GP more frequently for other complaints (Table 2). Patients who, during the consulting period at the out-patient clinic, changed their attribution of a somatic abnormality, appeared to receive less frequently a prescription from their GP for the abdominal complaints ($P = 0.04$).

Doctor-patient interaction at the out-patient clinic.

When doctors had perceived patients' state anxiety correctly during the last consultation at the out-patient clinic, patients reported fewer visits to their GP for abdominal complaints at follow-up. When doctors had perceived patients' fear of cancer correctly, patients visited their GP less for other complaints. Moreover, when doctors had perceived patients' catastrophizing cognitions correctly, GPs prescribed less medication for abdominal complaints (Table 3). When patients had visited the same doctor throughout the consultations at the out-patient clinic, they reported using medication for their abdominal complaints less frequently ($P =$

0.02). The satisfaction with the visits to the out-patient clinic did not appear to be related to the subsequent use of medical health services in primary care.

GPs' general referral behaviour

Before investigating the relationship between GPs' referral behaviour and patients' cognitions and anxiety (research question 3), GPs' referral behaviour is described first.

Response. Forty-four GPs (70%) gave permission to use their referral figures to internal medicine for analysis; seven GPs had stopped practising in 1992; one GP had less than 100 patients registered with the sick fund; 11 GPs did not give permission.

Low, medium, and high referrers. The mean referral ratio to internal medicine was 0.98 (SD = 0.23) with a range 0.30–1.46. Taking into account these referral ratios, the GPs were classified into three groups of referrers: 'low', with a ratio of at most 0.93 ($n = 21$); 'medium', with a ratio between 0.94 and 1.09 ($n = 23$); and 'high', with a ratio of at least 1.10 ($n = 20$). These ratios corresponded with mean number of referrals to internal medicine per 1000 patients of 68 (SD = 22) for low, 98 (SD = 24) for medium, and 125 (SD = 16) for high referrers. In all three groups the ratio female versus male patients was equal. As only

TABLE 2 Means (SD) on patients' cognitions after the last out-patient consultation ($n = 110$) related to the subsequent use of medical health services in primary care

Patients' cognitions (range)						
Attributing complaints to a somatic abnormality (1–5)	Number of GP visits for abdominal complaints reported by patients			Number of GP visits for abdominal complaints registered by GPs		
	0	≥ 1		0	≥ 1	
	2.97 (1.07)	3.46 (0.96)	$P = 0.05^*$	2.94 (1.04)	3.52 (1.17)	$P = 0.02$
Catastrophizing (4–20)	Number of GP visits for other complaints reported by patients			Number of GP visits for other complaints registered by GPs		
	0	≥ 1		0	≥ 1	
	9.36 (3.36)	10.79 (3.57)	$P = 0.03$	9.68 (3.45)	10.38 (3.48)	$P = 0.27$
Attributing complaints to a somatic abnormality (1–5)	Use of medication for abdominal complaints			Prescription of medication for abdominal complaints		
	no	yes		no	yes	
	3.01 (1.11)	3.38 (0.90)	$P = 0.08$	2.97 (1.11)	3.64 (0.74)	$P = 0.02$

*Mann-Whitney U test.

TABLE 3 Number (%) of patients in which doctors perceived cognitions or anxiety correctly during the last out-patient consultation related to the subsequent use of medical health services in primary care

Doctors' perceptions of						
State anxiety	Number of GP visits for abdominal complaints reported by patients			Number of GP visits for abdominal complaints registered by GPs		
	0	≥ 1		0	≥ 1	
	47 (69%)	10 (40%)	$P=0.01^*$	46 (61%)	9 (56%)	$P = 0.75$
Fear of cancer	Number of GP visits for other complaints reported by patients			Number of GP visits for other complaints registered by GPs		
	0	≥ 1		0	≥ 1	
	45 (87%)	30 (69%)	$P=0.04$	44 (86%)	29 (69%)	$P = 0.05$
Catastrophizing	Use of medication for abdominal complaints			Prescription of medication for abdominal complaints		
	no	yes		no	yes	
	46 (65%)	14 (63%)	$P = 0.92$	56 (70%)	49 (38%)	$P = 0.02$

*Chi-square test.

four of the 44 GPs were women, it was not possible to compare the referral ratios of female and male GPs.

General referral behaviour and complaint-related cognitions and anxiety. The comparison between 'low', 'medium' and 'high' referrers revealed one significant difference: the more GPs referred to internal medicine, the more their patients attributed their abdominal complaints to a somatic abnormality ($P = 0.007$). The means for the three groups on the somatic attribution (range 1-5) were 3.55 (SD = 0.78) for 'low', 3.62 (SD = 0.74) for 'medium' and 4.25 (SD = 0.79) for 'high' referrers. A comparable relationship could not be found between GPs' referral behaviour and the same attribution after the last visit to the out-patient clinic.

General referral behaviour and use of medical health services. GPs' general referral behaviour appeared to be related neither to the number of medical visits for abdominal or other complaints nor to the use/prescription of medication for abdominal complaints measured prior to the first consultation at the out-patient clinic, or measured at follow-up, i.e. 'high' referrers did not appear to prescribe medication for the abdominal complaints more frequently than 'low' referrers.

Discussion

The findings reported above suggest that referred IBS-patients are likely to make more subsequent use of medical health services in primary care when they, despite negative findings of physical examination, adhere to dysfunctional cognitions, such as attributing complaints to a somatic abnormality or catastrophizing thoughts about the complaints. Possibly, these patients believe that the doctor at the out-patient clinic has failed to diagnose their condition correctly, do not feel reassured, and need to see their GP again to be reassured more specifically. On the other hand, it turns out that after doctors perceived patients' dysfunctional cognitions and anxiety correctly during the last out-patient consultation, patients are likely to visit their GP less frequently and to use less medication for abdominal complaints. These are interesting findings because they suggest that when doctors at an out-patient clinic, but quite possibly also in primary care, attend to patients' cognitions and anxiety more specifically and explicitly, excessive use of medical health services in primary care may be prevented.

Findings from this study also suggest that patients from high referrers attribute their abdominal complaints more often to a somatic abnormality. GPs may have referred just those patients with elevated scores on the

somatic attribution. Alternatively, GPs' referral behaviour may be an expression of their own somatizing attitude which may reinforce the somatizing attitude of their patients. An important tool to prevent unnecessary referrals would be GPs' consideration of the patient's beliefs and fears in addition to the medical implications of the complaint.

Although the effects of this study are small, they point in the same direction and correspond with earlier findings.¹⁻³ Moreover, in this study, patients' use of medical health services was assessed by means of patients' reports and GPs' registrations. These registrations did not coincide completely; with respect to the number of GP consultations for abdominal complaints, patients' reports only slightly exceeded GPs' registrations. This discrepancy can be explained by either a distorted memory in patients or an inaccurate registration by GPs. Despite the dissimilarities we believe that our figures are reliable because the results of the separate analyses pointed in the same direction. The difference between use and prescription of medication for the abdominal complaints might be explained furthermore by the fact that patients also reported the use of self-medication or that they received a prescription from their specialist. However, this latter explanation is unlikely, because the department of internal medicine of our University Hospital has the policy to prescribe no medication for IBS.

The referral figures in practice populations with less than 1000 sick fund patients might have distorted the overall figures expressed per 1000 patients. Therefore, we investigated beforehand whether practice populations with small numbers of sick fund patients differed from the rest with respect to the age and sex distribution of these practices or with respect to other practice features: no differences were found.

In the present study, a broad definition of IBS has been used, whereas IBS can also be defined more restrictively.¹ Analysis *post hoc* did not show any relation between patients' use of medical health services or GPs' referral behaviour and the definition of IBS. Therefore, we believe that the findings from this study can be applied just as much to patients with restrictively defined IBS, and perhaps also to other functional or even somatically explained complaints.

In an earlier report we demonstrated that doctors at the out-patient clinic for internal medicine, although not deliberately, actually influenced the course of the complaints in IBS positively.³ Apparently, doctors' correct perceptions of patients' complaint-related cognitions are important in restructuring dysfunctional cognitions and improving the outcome of the complaints. Present findings suggest that doctors' correct perceptions of patients' cognitions also result in a reduction in patients' use of medical health services in primary care. Patients'

health care seeking behaviour might reduce further when doctors learn to handle cognitions and anxiety more specifically and explicitly. A special training in this direction could be useful to acquire such specific communicative skills. We have recently started such training at our university hospital. For a subgroup of refractory consulters who adhere to dysfunctional cognitions, handling cognitions and anxiety explicitly during medical consultations may not be sufficient. These patients may need to be referred to a behaviour-therapist for more elaborate cognitive-behavioural treatment, which has recently been shown to be effective.¹²

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