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## Persisting improvement in complaint-related cognitions initiated during medical consultations in functional abdominal complaints

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### ABSTRACT

**Background.** Previously it was shown that during a series of out-patient consultations dysfunctional complaint-related cognitions and anxiety diminished significantly in patients with functional abdominal complaints (IBS). The aim of the present study was to assess the maintenance of positive changes initiated during medical consultations in the patients' complaint-related cognitions and anxiety, as well as the influence of these cognitions on the severity of the complaints, 6 months after the first visit to the out-patient clinic.

**Methods.** One hundred and five consecutive patients with IBS referred by their general practitioners to the out-patient clinic for internal medicine completed questionnaires about their complaints and their complaint-related cognitions and anxiety before the first and after the last out-patient visit and again at follow-up, 6 months after the first out-patient consultation.

**Results.** Positive changes in the patients' complaint-related cognitions during the consulting period were found to persist during the follow-up period. Improvement in abdominal complaints at follow-up was found to be related to the level of the patients' state anxiety, fear of cancer, and catastrophizing cognitions at the last out-patient visit.

**Conclusions.** Medical consultations can bring about long-lasting positive changes in prognostically unfavourable cognitions and anxiety. These changes appear to be related to a better outcome of IBS.

### INTRODUCTION

Doctors are frequently confronted with functional abdominal complaints, also known as irritable bowel syndrome (IBS) (Drossman et al. 1993; Muris et al. 1993). Psychological factors, such as complaint-related cognitions and anxiety, have predictive value for the prognosis of these complaints (Bleijenberg & Fennis, 1989; Fowlie et al. 1992). Standard medical treatments, such as medication and dietary advice, are rather ineffective in

improving the complaints (Klein, 1988; Francis & Whorwell, 1994). Therefore, in view of improving the outcome, it seems worthwhile to try to influence psychological factors positively (Drossman & Thompson, 1992). Recently, a comparable approach was found to be effective in improving functional abdominal complaints by means of cognitive-behavioural group treatment (Dulmen van et al. 1996).

Previously, we showed that during a series of consultations at an out-patient clinic for internal medicine, state anxiety, fear of cancer and catastrophizing cognitions diminished significantly in patients with functional abdominal complaints. Moreover, at the end of the consulting period, these patients attributed their complaints less to somatic abnormalities (Dulmen van et al. 1995). These positive changes did not appear to be the result of the physical examination that had taken place, but appeared to be related to correct perceptions of patients' cognitions by doctors and, furthermore, by continuity in doctor-patient contacts (Dulmen van et al. 1995). Apparently, medical consultations influence the patients' dysfunctional cognitions positively, at least for a short period.

The aim of the present study was to find out whether the changes in complaint-related cognitions persist after the consulting period. In addition, we examined whether correctness of the doctors' perceptions of non-somatic complaint dimensions and achieved changes in these dimensions during the consulting period have favourable consequences for the outcome of functional abdominal complaints, 6 months after the first visit to the out-patient clinic. It was hypothesized that the level of the patients' anxiety and dysfunctional cognitions, such as the presence of fear of cancer, somatic attributions and catastrophizing cognitions at the last out-patient consultation, would lead to an unfavourable outcome of the complaints at follow-up. The level of psychological attributions and self-efficacy cognitions were, just like patients' satisfaction with the visits to the outpatient clinic and continuity in doctor-patient interactions during the consulting period, expected to have a positive influence on the outcome of the complaints.

## **METHOD**

### **Subjects**

One hundred and thirty-four consecutive patients with abdominal pain referred by their general practitioners to the out-patient clinic for internal medicine between March 1991 and April 1992 participated in this study (Dulmen van et al. 1994). After verification by two independent internists, 120 patients (75 women, 45 men) were diagnosed as suffering from functional abdominal complaints, i.e. in these patients no somatic abnormalities were found that could explain the abdominal complaints. One hundred and ten patients completed questionnaires before the first and after each follow-up consultation (Dulmen van et al. 1995). They were sent a similar questionnaire at follow-up, 6 months after the first consultation.

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. Thirteen doctors participated, six women and seven men, with mean ages of 30 (s.d. 1.5) and 39 (s.d. 7) years, respectively. All the female doctors and four male doctors were (senior) registrars in internal medicine. The other three male doctors were consulting internists.

### **The doctors' perception of the patients' cognitions**

When doctors and patients answered a question in the same way, doctor-patient similarity was said to be present. Percentages of doctor-patient similarity were used to measure whether doctors perceived patients' cognitions and anxiety correctly, or not (Dulmen van et al. 1994, 1995).

### **Questionnaire**

The questionnaires consisted of a number of instruments, such as complaint-related cognitions, behaviour, and anxiety, details of the abdominal complaints, the presence of secondary complaints and satisfaction with the visits to the out-patient clinic. These instruments are extensively described in our related papers (Dulmen van et al. 1994, 1995). In addition to these instruments, two outcome measures were used: the subjective improvement was measured by asking patients at follow-up whether their abdominal complaints were worse, unchanged, better or had disappeared, compared with 6 months before (Bleijenberg & Fennis, 1989); the severity score of the abdominal complaints at follow-up (range 0-9) was determined by summing the frequency of the complaints (range 0-3), interference with daily activities (range 0-3), and avoidance behaviour (range 0-3). So, a score of 0 refers to patients whose complaints had disappeared at follow-up or occurred less than once a month; and, a score of 9 refers to patients who reported daily complaints with much interference and avoidance behaviour. The same score was used in our earlier work (Bleijenberg & Fennis, 1989; Dulmen van et al. 1996).

### **Statistical analysis**

The Wilcoxon matched-pairs signed-ranks test was used for investigating changes in cognitions and anxiety. Change scores were calculated by determining the differences in scores on cognitions and anxiety between consecutive measurements (Dulmen van et al. 1995). The relationship between, on the one hand, these change scores and scores on cognitions and anxiety after the last out-patient consultation, and, on the other hand, the two outcome measures was determined using Spearman rank correlation coefficients. The relationship between the outcome of the complaints and the correctness or incorrectness of doctors' perception of patients' cognitions was investigated using Mann-Whitney U test.

## **RESULTS**

### **Follow-up response**

One hundred and five (95%) of the 110 patients, 63 women and 42 men, returned the completed follow-up questionnaire. All analyses will be carried out on these 105 patients.

### **Outcome of abdominal complaints**

The outcome of the abdominal complaints expressed by subjective improvement at follow-up shows that 6% of the 105 patients reported a worsening of complaints at follow-up compared with 6 months before, 51% experienced the same complaints, 31% had less serious complaints and in 12% the complaints had disappeared. Between the first consultation and follow-up, the severity score diminished ( $P < 0.001$ ) from 4.89 (s.d. 1.79) to 3.65 (s.d. 2.34). At follow-up, 31% of the patients continue to experience daily complaints, 23% reported many interferences in daily activities, and 57% reported avoidance behaviour.

### **Changes in cognitions and anxiety**

During the follow-up period, between last consultation and follow-up, patients attributed their complaints more to an agitated and busy life. All other cognitions did not change during the follow-up period (Table 1).

### **[TABLE 1]**

#### **Factors related to the outcome**

##### *Changes in cognitions and anxiety during the consultation period*

When patients' state anxiety diminished during the consulting period at the out-patient clinic the subjective improvement was greater ( $r = 0.22$ ,  $P = 0.01$ ) and the severity score lower ( $r = -0.17$ ,  $P < 0.05$ ). Attributing complaints less to stools, during that period, appeared

to be related to more subjective improvement ( $r = 0.18$ ,  $P = 0.04$ ) and less severe complaints at follow-up ( $r = -0.17$ ,  $P < 0.05$ ).

#### *Patients' cognitions and anxiety at the last out-patient consultation*

Subjective improvement was greater when patients were less anxious ( $r = -0.22$ ,  $P = 0.01$ ), catastrophized less ( $r = -0.17$ ,  $P = 0.04$ ) and attributed complaints more to stress ( $r = -0.18$ ,  $P = 0.04$ ) after the last visit to the out-patient clinic. At follow-up, the severity score appeared to be lower when patients were less anxious ( $r = 0.35$ ,  $P < 0.001$ ), reported less fear of cancer ( $r = 0.20$ ,  $P = 0.02$ ), attributed their complaints less to somatic abnormalities ( $r = 0.17$ ,  $P = 0.04$ ) and catastrophized less ( $r = 0.29$ ,  $P = 0.002$ ) after the last consultation.

#### *Doctors' perceptions of cognitions and complaints*

When doctors perceived patients' self-efficacy cognitions correctly during the last consultation, the subjective improvement was greater ( $P < 0.05$ ) and the severity score lower ( $P = 0.01$ ). Correct perceptions of the presence of any of the secondary complaints or of details of the abdominal complaints did not appear to be related to the outcome.

#### *Other factors*

When patients were more satisfied with the visits to the doctor, the subjective improvement was greater ( $r = 0.23$ ,  $P = 0.009$ ) and the severity score lower ( $r = -0.30$ ,  $P = 0.001$ ). Subjective improvement was not related to patients' age, patients' or doctors' sex, number of consultations, or number of diagnostic tests and investigations. Continuity in doctor-patient contacts tended to be related to the subjective improvement of the complaints ( $P = 0.06$ ) and appeared to be related significantly to the severity score at follow-up; in patients who saw the same doctor throughout the consultations ( $N = 85$ ), the severity score improved significantly more ( $P = 0.01$ ; from 4.95, s.d. 1.67 to 3.50, s.d. 2.24) than in patients who saw different doctors ( $N = 20$ , from 4.65, s.d. 2.28 to 4.31, s.d. 2.69). There were no significant differences in severity scores between both groups of patients before the first consultation. The severity score at follow-up appeared to be related to the number of consultations during the consulting period at the out-patient clinic ( $P = 0.01$ ), i.e. patients who had frequented the out-patient clinic more than twice appeared to have a higher severity score at follow-up than patients with no more than two visits. The severity score was neither related to patients' age, patients' or doctors' sex, nor number of diagnostic tests and investigations at the out-patient clinic.

## **DISCUSSION**

Present findings indicate that the positive changes in patients' complaint-related cognitions that occurred during the consulting period at the out-patient clinic (Dulmen van et al. 1995) persist during the follow-up period. Furthermore, improvement in cognitions and anxiety during the medical consultations appears to be related to a better outcome of the abdominal complaints at follow-up. Moreover, patients' complaints improved more when they had visited the same doctor throughout the outpatient consultations and when they were more satisfied with the consultations. These findings suggest that medical consultations can bring about long-lasting positive changes in dysfunctional complaint-related cognitions. Previously we found that doctors' correct perceptions of patients' complaint-related cognitions during the consulting period were related to positive changes in these cognitions (Dulmen van et al. 1995). Presumably, doctors' specific attention to the meaning of the complaints for the patient helps patients to restructure their dysfunctional beliefs and fears about the complaints. Our present findings suggest that this influence of medical consultations on prognostically unfavourable cognitions is not restricted to the period in which doctor-patient contacts take place, but lasts beyond that, for at least 6 months. The only significant change in cognitions during the follow-up period is an increase in psychological attributions. It is

possible that this increase is a result of the decrease in somatic attributions during the consulting period (Dulmen van et al. 1995). The significant correlation that we found between a decrease in somatic attributions during the consulting period and an increase in psychological attributions during the follow-up period ( $r = -0.27$ ,  $P = 0.005$ ) strengthens this line of reasoning.

Our findings, furthermore, indicate that the prognosis of functional abdominal complaints is rather poor. This is consistent with the results of previous studies (Bleijenberg & Fennis, 1989; Fowlie et al. 1992). Perhaps the outcome of the abdominal complaints will improve more when doctors are taught to deal systematically with patients' beliefs and thoughts about their complaints more explicitly.

Methodological issues of this study are described extensively in our related papers (Dulmen van et al. 1994; Dulmen van et al. 1995). In this paper we confine ourselves to methodological issues concerning the follow-up measurement. Although it would have been interesting to examine whether positive changes in patients' anxiety persisted during follow-up, this was not possible, because we used state anxiety instead of trait anxiety as a parameter for patients' anxiety. State anxiety is, by definition, related to an anxiety provoking situation, such as a medical consultation, which did not take place at follow-up. One may wonder whether patients' willingness to discuss their cognitions and emotions has influenced doctors' perceptions of these cognitions and as a consequence the outcome of their complaint. Although this can not be excluded completely, post hoc analysis revealed no relationship between the extent in which patients expected to discuss emotional problems with the doctor prior to the first consultation, and the outcome of the complaints at follow-up. Besides, even if some patients were more eager to express their complaint-related cognitions than others, this does not automatically mean that doctors also recognize their cognitions easier. Moreover, we investigated doctors' perceptions of patients' functional or dysfunctional complaint-related cognitions and anxiety, not the perception of, e.g. psychological disorders. Every physical complaint, regardless of its origin, functional or somatic, raises cognitions and emotions, which in turn influence the course of that complaint (Bleijenberg & Fennis, 1989).

In the present study, a broad definition of IBS has been used. IBS can also be defined more restrictively using the criteria formulated by Manning et al. (1978; Whitehead et al. 1988; Drossman et al. 1990). Analysis post hoc did not show relevant differences between the outcome of restrictively and non-restrictively defined IBS. Therefore, results of this study seem equally applicable to any definition of IBS.

Finally, as psychological factors are known to play a role in any complaint, systematically handling these factors during medical consultations might also favour the course of other functional and even somatically explainable complaints. In our opinion, doctors should pay as much attention to the psychological as to the somatic dimensions of the complaints.

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## TABLE

Table 1. Means (S.D.) for complaint-related cognitions before the first consultation (1), after the last consultation (2) and at follow-up (3), with the level of significance of changes between measurements (Wilcoxon matched-pairs signed-ranks test)

Variable (range)	First consultation (1)	Last consultation (2)	Follow-up (3)	P (1-2)	P (2-3)	P (1-3)
<b>Psychosocial attributions (1-5)</b>						
The abdominal pain has something to do with my agitated or busy life	2.22 (1.11)	2.21 (1.89)	2.49 (1.14)	0.93	0.03	0.02
The abdominal pain is a consequence of problems or stress	2.34 (0.96)	2.48 (1.14)	2.68 (1.16)	0.20	0.16	0.01
I am afraid I might have cancer	2.27 (1.10)	1.87 (0.92)	1.89 (0.95)	< 0.001	0.66	0.008
<b>Somatic attributions (1-5)</b>						
The abdominal pain has something to do with my intestines, stomach, gall or urinary tracts	3.84 (0.84)	3.13 (1.02)	3.33 (1.02)	< 0.001	0.09	< 0.001
The abdominal pain is a result of not being able to have stools	2.04 (1.26)	1.97 (1.25)	2.13 (1.22)	0.38	0.15	0.31
Catastrophizing (4-20)	10.87 (3.77)	10.19 (3.57)	9.53 (3.53)	0.02	0.07	< 0.001
Self-efficacy (5-25)	14.40 (3.72)	14.78 (4.25)	14.74 (4.29)	0.08	0.51	0.24