General Hospital Psychiatry 37 (2015) 147–152

Contents lists available at ScienceDirect

General Hospital Psychiatry

journal homepage: http://www.ghpjournal.com

Physical symptom attributions: a defining characteristic of somatoform disorders?☆,☆☆

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ARTICLE INFO

Article history:
Received 29 July 2014
Revised 4 December 2014
Accepted 8 January 2015

Keywords:
Causal attributions
Anxiety disorders
Depressive disorders
Somatoform disorders
Health expenditures

ABSTRACT

Objectives: We examined whether primary care patients were more likely to perceive a current health problem as 'physical illness only' as opposed to entailing psychological difficulties if they had a comorbid somatoform disorder compared to patients who had (a) both comorbid somatoform disorder and anxiety/depression or (b) comorbid anxiety and/or depression, and a reference group of (c) patients with well-defined physical disease. We examined whether attributions predicted future health expenditures.
Methods: A total of 1209 of 1785 patients completed questions on patient-perceived illness. The physicians diagnosed the current health problem. A stratified subsample was interviewed using the Schedules for Clinical Assessment in Neuropsychiatry. Health expenditure was obtained from registers for a 2-year period.
Results: The belief that the current health problem was only physical was endorsed by 86% of patients presenting physical disease, 58% of patients with somatoform disorders, 29% of patients with both somatoform disorders and anxiety/depression and 24% of patients with anxiety or depressive disorders (χ^2=269.2, df=3, P<.0001). In a multiple regression model, a 'physical illness only' perception predicted lower health expenditures [β=−0.31, 95% confidence interval (−0.55; −0.07), P=.013].
Conclusions: The prevalent assumption that physical symptom attributions are a central aspect in somatoform disorders is not supported by the current study.

1. Introduction

Bodily complaints and/or illness worry that cannot be fully explained by well-defined physical disease are prominent in primary care. Some of these patients will fulfill criteria for a somatoform disorder according to *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*) or *International Classification of Diseases, 10th Revision*. Patients' illness beliefs have been shown to influence health and treatment outcomes in somatoform as well as physical disorders [1,2]. It has, among other things, been suggested that the belief that one's ailment has a physical cause is a defining characteristic of somatoform disorders and might be included as a diagnostic criteria for these disorders. However, the evidence is growing that patients with somatoform and related disorders consider both psychological and physical explanations for their symptoms [3,4] and may even have multiple explanations at the same time [5,6].

In somatoform disorders, previous studies have found that comorbid anxiety or depression increases the likelihood of patients holding psychological attributions [5,7,8], and it has therefore been suggested that this comorbidity may largely explain why some patients with somatoform disorders include psychological factors in their understanding of their symptoms.

The evidence is sparser and less conclusive regarding whether physical or psychological attributions may actually have an impact on future health outcomes in somatoform and related disorders: One study found that physical attributions related to future symptom severity in chronic fatigue syndrome [9]; another study found that stronger psychological attributions predicted recovery from fatigue caseness [10]. Patients with physical attributions were found to have less psychological distress and less use of specialist mental health care in a 1-year follow-up than patients with psychological attributions [11], in contrast to the finding that patients with more psychological attributions were found to have reduced levels of depression after 6 months [7].

In this study, we wished to examine the number of patients with somatoform disorders who considered a current ailment to be 'physical illness only' compared to patients with (a) both somatoform disorders and anxiety/depression, (b) anxiety and/or depression and (c) as a

☆ Conflicts of interest and source of funding: The study has been supported by grants from The Danish Medical Research Council (grant 2028-00-0007) and the Health Service of Aarhus County (project number 0871). The funding sources had no role in the study design, data collection, data analysis, data interpretation, writing of the paper or the decision to submit the paper for publication.
☆☆ Competing interests: none.
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http://dx.doi.org/10.1016/j.genhosppsych.2015.01.002
0163-8343/

reference group patients presenting well-defined physical disease at the day of inclusion in the study. Furthermore, we wished to examine if patient-perceived illness predicted future health care expenditures in the above-mentioned illness groups.

2. Methods

2.1. Participants

The study is a secondary analysis of a large cluster-randomized controlled trial on functional somatic symptoms in primary care [12]. The randomization took place at the physician level with physicians being randomized to a control group or a training condition in which they received a training program in the treatment of functional somatic symptoms [12]. The study included 1785 consecutive patients of Scandinavian origin (ages 18–65) who consulted 1 of 38 primary care physicians during a 3-week period between 3 March and 1 May 2000 for new medical problems. Patients not speaking or reading Danish and administrative consultations were excluded. After being given a description of the study, written informed consent was obtained from all patients.

2.2. Selection of patients for diagnostic psychiatric interview

A two-phase design was used. First, a screening questionnaire was distributed to all patients in the waiting room. This questionnaire included, among others, the eight-item version of the Symptom Check List (SCL-8d) [13,14] to assess emotional distress, the seven-item Whiteley index [15] measuring illness worry, the somatization subscale of the SCL-92 (SCL-SOM) [16] and the CAGE which consists of four questions screening for alcohol abuse [17]. Patients with a total score of 2 or more on the SCL-8d, Whiteley-7 or CAGE, or 4 or more on the SCL somatization subscale were selected for a diagnostic psychiatric interview. Furthermore, a stratified subsample of 1/9 of the remaining patients scoring below the cutpoints was selected for interview to produce a stratified subsample consisting of all high scores and 1/9 of the patients who scored below the cutoffs.

2.3. Schedules for Clinical Assessment in Neuropsychiatry — the psychiatric research interview

The psychiatric interviews were made as soon as possible after the index contact by six qualified physician interviewers. The primary care physicians were blinded to the results of the psychiatric research interviews. The diagnostic interviews were made by means of the Schedules for Clinical Assessment in Neuropsychiatry, version 2.1 [18], which is a standardized comprehensive interview endorsed by the World Health Organization covering all mental disorders. A total of 894 of the 1785 patients were selected for interview, of which 193 (21.6%) declined, leaving 701 patients.

In this study, patients with current *DSM-IV* somatization disorder ($n=26$), undifferentiated somatoform disorder ($n=118$) or hypochondriasis ($n=47$) were primary diagnoses of interest. As a group of comparison and to account for comorbidities, we included major depressive disorders and dysthymia ($n=85$) and anxiety disorders excluding simple phobias and adjustment disorders ($n=107$). One hundred twenty-one patients had somatoform disorders (somatization disorder, undifferentiated somatoform disorder and hypochondriasis) without a comorbid anxiety or depressive disorder, 70 patients both a somatoform disorder and anxiety and/or depression, and 85 patients anxiety and/or depressive disorders only. All in all, there were 276 participants with the primary diagnoses of interest.

2.4. Primary care physician questionnaires

Immediately after the consultation, the physicians were asked to classify the patient's current health problem as (a) a well-defined physical disease ($n=1009$), (b) probably well-defined physical disease ($n=395$), (c) medically unexplained symptoms ($n=229$), (d) mental disorder ($n=95$) or (e) no somatic disorders ($n=39$) or missing ($n=18$). Nine hundred thirty-three of the 1009 patients presenting well-defined physical disease did not fulfill criteria for any of the *DSM-IV* diagnoses of interest, and they were included as a group of comparison. Therefore, all in all, 1209 participants were included for this study, 276 participants with the primary diagnoses of interest plus 933 participants in the comparison group. A total of 50.5% of the 1209 patients consulted a physician from the intervention group in the original cluster-randomized controlled study.

2.5. Patient-perceived illness

Before the consultation, the patients were asked to describe their presenting health problem as (a) physical illness only, (b) psychological difficulties or (c) both psychological and physical difficulties. Only 3.2% (39/1209) perceived their health problem as psychological difficulties, which is why we decided to lump categories 2 and 3 into one category designated 'both physical and psychological illness'. A total of 7.9% of the patients (96/1209) did not answer this item.

2.6. Psychological attributions

Because we used a single item to define patient-perceived illness, we included the psychological attributions component score from a Danish version of the Revised Illness Perception Questionnaire (IPQ-R) [19] adapted for use in a primary care setting to validate the above single-item question on patient-perceived illness. Before the consultation, each patient answered five questions regarding their attributions of their current health problem to causes such as feeling down, worries, my state of mind, family problems and my personality [20]. A total of 10.7% of the patients (129/1209) did not complete this component score.

2.7. Health care expenditures

Denmark has a public health care system, which is tax-financed by the Danish Public Health Insurance. Each person has a personal registration number used for all contacts with the health care system. All participants in this study were covered by the National Health Care Program, which includes 98% of the Danish population. We obtained data on all costs of health care in Danish kroners from Danish Public Health Registers for a period of 2 years after and 3 years before the consultation [21]. Decreased expenditures of health care services due to time spent abroad or death were taken into account by subtracting those periods from the maximum time-at-risk.

2.8. Statistical analysis

All data analyses were carried out in STATA version 12.0. Comparisons of diagnostic groups were based on Pearson χ^2 and Kruskal–Wallis. In order to account for skewed health care cost data, we estimated sample means with bias-corrected and accelerated (BCa) 95% confidence intervals (CIs). Test of equality of health care cost means between patient-perceived illness as 'physical illness only' and 'both physical and psychological difficulties' was done by computing the bootstrap test statistic achieved significance level (ASL) [22]. All bootstrap estimation procedures used 1000 repetitions.

To examine whether a 'physical illness only' perception predicted future health care expenditures when taking into account possible confounders, we performed a multiple linear regression model with log-transformed health care costs per year 2 years after the consultation as the dependent variable. In this model, in addition to patient-perceived illness, we included age and gender of the patient, log-transformed previous health care costs per year 3 years before the consultation, the physician's diagnosis of the current health problem and the four diagnostic groups of interest. Furthermore, we controlled for