Global versus Specific Symptom Attributions: Predicting the Recognition and Treatment of Psychological Distress in Primary Care

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Abstract

Objective: Researchers have shown that primary care patients utilize global attribution styles to interpret ambiguous physical symptoms, diminishing the ability of practitioners to recognize psychological disorders. The present study examined the extent to which patients’ specific beliefs about their presenting symptoms versus their global symptom attribution styles predict physician recognition of psychological distress and mental health treatment recommendations. Methods: Participants included primary care patients attending a five-physician medical practice. Patients completed surveys regarding their level of psychological distress, symptom attribution style, and perceptions of their presenting problems and medical consultations. Physicians completed brief assessments of each patient encounter. Results: Patient gender, age, severity of psychological distress, and beliefs about their presenting symptoms were reliable predictors of physician recognition and treatment recommendations. Global symptom attribution styles did not relate to these outcomes above and beyond the specific beliefs of patients. Conclusion: Patients’ specific beliefs about their presenting symptoms play an important role in predicting physician recognition and treatment of psychological distress.

Keywords: Primary care; Recognition; Diagnosis; Psychological distress; Depression; Anxiety; Somatization; Symptom attribution

Introduction

Primary care has become the gateway for mental health services, with practitioners attempting to determine proper diagnosis, treatment, and referral for patients who report physical as well as psychological concerns. Approximately 20–40% of patients attending general medical practices experience clinically significant symptoms of anxiety, depression, or some other psychological disorder [1–5]. However, an extensive amount of research over the last several decades has shown that primary care practitioners misdiagnose or fail to recognize underlying psychological problems in nearly half of their patients [6–8]. Various provider and patient variables, ranging from physician knowledge and attitudes to the clinical presentation of problems and medical consultations. Physicians completed brief assessments of each patient encounter. Results: Patient gender, age, severity of psychological distress, and beliefs about their presenting symptoms were reliable predictors of physician recognition and treatment recommendations. Global symptom attribution styles did not relate to these outcomes above and beyond the specific beliefs of patients. Conclusion: Patients’ specific beliefs about their presenting symptoms play an important role in predicting physician recognition and treatment of psychological distress.

To measure the symptom attributions of patients, Robbins and Kirmayer [21] designed the Symptom Interpretation...
Questionnaire (SIQ), which identifies three dimensions of causal explanations for common physical complaints: physical illness (somatic), emotional distress (psychological), and environmental events (normalizing). The authors found that these global symptom attribution styles are consistent over time, representing stable health beliefs.

Using the SIQ, Kessler et al. [19] examined the extent to which physicians detect psychological distress in patients employing somatic, psychological, or normalizing attribution styles. The researchers found that physicians recognize anxiety and depression less often when patients employ a normalizing explanatory style (i.e., attributing symptoms to benign environmental events) than when patients offer psychological interpretations for symptoms. Notably, approximately one half of patients utilize the normalizing attribution style, possibly accounting for the difficulty in diagnosing psychological distress in primary care settings [19]. In a similar primary care study, Bower et al. [18] attempted to replicate these results but found that the symptom attribution styles of patients did not consistently predict an accurate recognition of psychiatric morbidity by general practitioners. The authors therefore suggested that researchers should examine the ways that patients’ specific attributions concerning the main presenting problems influence physician recognition [18].

Purpose of present study

While some investigators have shown that global symptom attribution styles predict proper detection of psychological disorders among primary care patients, further research is needed to explore the relationships among these styles, patients’ specific symptom beliefs, as well as physician recognition of psychological distress and mental health treatment decisions. Therefore, the goals of the present study were as follows: (1) to examine the extent to which patients’ global symptom attribution styles relate to their specific beliefs about their presenting symptoms and (2) to explore the extent to which both the global and specific symptom attributions of patients predict physician recognition and treatment of psychological distress.

Method

Participants

Participants were consecutive patients seeking consultations at an urban primary care office staffed by five physicians located in Western Massachusetts, USA. Approximately the same number of patients from each physician’s practice was recruited during morning and afternoon business hours. Three hundred patients were approached to enroll in the study, although only 197 agreed to participate. The sample included 137 women (69.5%) and 60 men (30.5%), who ranged in age from 18 to 68 years ($M = 36.76$, S.D. = 12.33). The patients reported, on average, completing some years of college and earning a combined household income of approximately US$35,000 annually. Representing diverse ethnic backgrounds, the patients identified themselves as African-American (13.8%), European-American (69.4%), Hispanic-American (14.8%), or some other ethnic heritage (2.0%). In addition, five primary care physicians (four males, one female) participated in the study by completing brief assessments of their respective patients. The physicians, who ranged in age from 33 to 46 years, were all board-certified in internal medicine and provided services to approximately 8000 patients.

Measures

Participants completed four questionnaires regarding their demographic information, psychological distress, symptom attribution style, and medical management of their presenting symptoms. The demographic questionnaire included questions about sex, age, ethnic background, annual income, and education.

Symptom Checklist-90-R (SCL-90-R)

The SCL-90-R is a self-report instrument that assesses general psychological distress. Using a five-point scale (from not at all to extremely), respondents indicate the extent to which they had been distressed by 90 distinct symptoms during the preceding week. The instrument is comprised of nine subscales that are averaged into three global indices, the most commonly used of which is the Global Severity Index (GSI). The reliability and validity of the SCL-90-R have been well established [22–24].

Symptom Interpretation Questionnaire (SIQ)

This self-report instrument surveys attributions of 13 common somatic symptoms whose etiology is ambiguous in nature. For each somatic symptom, respondents rate on a four-point scale (from not at all to a great deal) the extent to which three separate attributions might explain the cause of the symptom. For example, the first item of the questionnaire asks respondents to indicate, if they were to experience a prolonged headache, the extent to which they would think the symptom was due to feeling emotionally upset, having something wrong with their brain, or hearing a loud noise. These three attributions correspond, respectively, to the following scales: emotional distress (psychological), physical illness (somatic), or external environmental events (normalizing). The SIQ possesses adequate validity and reliability, with Cronbach’s alphas of .86 for the psychological scale, .71 for the somatic scale, and .81 for the normalizing scale [21].

Clinical Encounter Questionnaire-patient (CEQ)

Developed for the present study, this survey consists of six items that measure patients’ specific beliefs regarding their presenting symptoms and perceptions of the medical encounter with primary care physicians. The only item
examined in this study (i.e., CEQ-patient) asks patients to rate the extent to which they believe their presenting symptom(s) represent a psychological problem (from 1 = completely medical to 7 = completely psychological).

Clinical Encounter Questionnaire-physician

The physician version of the survey corresponds to the patient questionnaire. Physicians first rate the extent to which they believe each patient’s presenting symptom(s) represent a psychological problem (i.e., CEQ-physician; from 1 = completely medical to 7 = completely psychological). For the other two items examined in this study, which require a “yes” or “no” response, physicians indicate if they have, at any time in the past, recommended the use of psychotropic medication or mental health counseling to treat the patient.

Procedure

Questionnaires were distributed to the physicians and their patients at the medical office. Individuals who were visiting the medical practice for the first time were not surveyed, given that the study focused on the nature of existing relationships between patients and their physicians. When patients arrived at the practice, the researcher approached them consecutively, briefly explained the purpose of the study, and requested participation. Those willing to enroll were asked to sign a consent form and were assured that participation was voluntary, confidential, and anonymous except to the primary investigator. Each patient participant then received the demographic questionnaire, the SCL-90-R, and the SIQ in the waiting room, prior to meeting with his or her physician. After the medical visit, patients and physicians completed their respective versions of the CEQ. Finally, each patient participant received nominal monetary compensation for his or her participation.

Results

Descriptive statistics for the outcome variables of the study are presented in Table 1. Due to incomplete data, the reported sample sizes vary depending on the type of analysis. We first grouped patients by attending physician to conduct analyses of variance and chi square tests on the outcome variables. An α level of .05 was used to determine significance for all statistical tests. Patients of individual physicians did not differ significantly with respect to their level of psychological distress, symptom attribution styles, beliefs about presenting symptoms, or likelihood of receiving mental health treatment recommendations.

Patient psychological distress

Of the 197 participants, 186 completed the SCL-90-R. Scaled t scores were used for all statistical analyses. The average GSI rating of primary care patients on the SCL-90-R was 58.08 (S.D. = 12.64, range = 30.00 to 81.00). Although this finding suggests that the sample, in general, did not deviate considerably from the standardized adult norm, approximately 40% (n = 76) of the participants who completed the instrument reported symptoms reflecting clinically significant psychological distress (i.e., global severity ratings greater than 60).

Patient symptom attribution styles

We conducted multiple linear regression analyses to examine the extent to which the demographic characteristics and global symptom attribution styles of patients predict level of psychological distress and specific beliefs about the presenting symptoms. For these analyses, the SCL-90-R scores and the CEQ-patient and CEQ-physician ratings were separately regressed on the demographic variables and three global styles of symptom attribution measured by the SIQ. Men and women did not differ in their use of the normalizing symptom attribution style. Older patients were less likely than younger patients to employ psychological or normalizing attributions and were more likely to interpret ambiguous symptoms somatically. Ratings of patient income level and education were transformed into Z scores and averaged to obtain a single measure of socioeconomic status (SES). Patients of higher SES were more likely to use the normalizing attribution style, while individuals of lower SES tended to ascribe somatic explanations for the symptoms surveyed. No analyses were conducted according to ethnic background due to the relatively small number of patients in each minority group. Consistent with past research [18,21], the three attribution style scales of the SIQ were positively related.

In addition, we conducted linear regression analyses to examine the extent to which the demographic characteristics and global symptom attribution styles of patients predict level of psychological distress and specific beliefs about the presenting symptoms. For these analyses, the SCL-90-R scores and the CEQ-patient and CEQ-physician ratings were separately regressed on the demographic variables and three global styles of symptom attribution measured by the SIQ. As shown in Table 2, we found that patient gender and SES significantly predicted the severity of psychological distress. In addition, patients who were more likely to utilize the psychological or somatic symptom attribution styles also

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIQ-SOM</td>
<td>168</td>
<td>21.67</td>
<td>5.83</td>
<td></td>
</tr>
<tr>
<td>SIQ-PSYCH</td>
<td>168</td>
<td>25.59</td>
<td>8.46</td>
<td></td>
</tr>
<tr>
<td>SIQ-NORM</td>
<td>168</td>
<td>28.84</td>
<td>7.62</td>
<td></td>
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<tr>
<td>SCL-90-R</td>
<td>186</td>
<td>58.08</td>
<td>12.64</td>
<td></td>
</tr>
<tr>
<td>CEQ-patient</td>
<td>181</td>
<td>2.17</td>
<td>1.57</td>
<td></td>
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<tr>
<td>CEQ-physician</td>
<td>189</td>
<td>2.50</td>
<td>1.81</td>
<td></td>
</tr>
<tr>
<td>Physician recommendations for medication and/or counseling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>62</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>127</td>
<td>67</td>
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</tbody>
</table>
Table 2
Linear regression summaries: predictors of global attribution styles, psychological distress, and specific symptom attributions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Predictors of SIQ-SOM (n = 167)</th>
<th>Predictors of SIQ-PSYCH (n = 167)</th>
<th>Predictors of SIQ-NORM (n = 167)</th>
<th>Predictors of SCL-90-R scores (n = 163)</th>
<th>Predictors of CEQ-patient (attribution) ratings (n = 163)</th>
<th>Predictors of CEQ-physician (attribution) ratings (n = 159)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>β (S.E., t)</td>
<td>β (S.E., t)</td>
<td>β (S.E., t)</td>
<td>β (S.E., t)</td>
<td>β (S.E., t)</td>
<td>β (S.E., t)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.20** (0.83, 3.05)</td>
<td>−0.28*** (−4.43)</td>
<td>0.06</td>
<td>0.14* (1.91, 1.99)</td>
<td>0.02 (0.28, 0.27)</td>
<td>−0.16* (−2.08)</td>
</tr>
<tr>
<td>SES</td>
<td>−0.17** (0.04, 2.65)</td>
<td>0.13* (−0.84)</td>
<td>0.06</td>
<td>0.10 (0.07, 0.87)</td>
<td>0.11 (0.01, 1.19)</td>
<td>0.27*** (0.31, 1.51)</td>
</tr>
<tr>
<td>SIQ-SOM</td>
<td>0.24*** (0.59, 3.68)</td>
<td>−0.21** (−0.10)</td>
<td>0.07</td>
<td>−0.21** (−0.11)</td>
<td>−0.02 (0.15, 0.20)</td>
<td>−0.04 (−0.46)</td>
</tr>
<tr>
<td>SIQ-PSYCH</td>
<td>0.32*** (0.10, 4.39)</td>
<td>0.33*** (0.10, 4.72)</td>
<td>0.20*</td>
<td>0.35*** (0.17, 2.38)</td>
<td>0.07 (0.03, 0.79)</td>
<td>0.01 (0.14)</td>
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<tr>
<td>SIQ-NORM</td>
<td>0.21*** (0.05, 4.39)</td>
<td>0.33*** (0.07, 4.25)</td>
<td>0.47***</td>
<td>0.33*** (0.12, 5.76)</td>
<td>0.07 (0.02, 3.41)</td>
<td>0.45*** (0.02, 4.78)</td>
</tr>
<tr>
<td></td>
<td>0.35*** (0.06, 4.72)</td>
<td>0.31*** (0.08, 4.25)</td>
<td>−0.10</td>
<td>0.31*** (0.13, −1.25)</td>
<td>−0.05 (0.02, −0.53)</td>
<td>−0.23* (−2.42)</td>
</tr>
</tbody>
</table>

* P ≤ .05.
** P ≤ .01.
*** P ≤ .001.

reported higher levels of distress. The only significant predictor of patients’ specific interpretations for their presenting symptoms was the psychological symptom attribution style. Finally, physicians were more likely to believe that the presenting symptoms represented a psychological problem when patients were female, older, or endorsing psychological symptom attributions. In contrast, physicians were less likely to make such an interpretation when the patient employed normalizing explanations for symptoms.

Physician recognition and treatment of psychological distress

Similar to the methodology employed by Feldman et al. [25], we dichotomized the physicians’ assessments of the specific symptoms discussed during the clinical encounter. Specifically, the CEQ-physician scores indicating that the presenting symptoms of patients were completely medical in nature (i.e., ≤2) were coded as low distress, while scores indicating that the symptoms were in part or entirely psychological (i.e., ≥3) were coded as high distress. Using a cutoff of 60 on the SCL-90-R and the dichotomized CEQ-physician ratings, we found that physicians demonstrated a diagnostic sensitivity of 51% (n = 37/73) and a specificity of 71% (n = 75/105). As expected, the detection of distress was strongly associated with physician treatment recommendations, including the use of psychotropic medication or referral to counseling (odds ratio = 10.28, P < .00001, 95% CI = 5.08–20.81). Recognized patients were much more likely to have received mental health interventions.

To determine the predictive value of global versus specific symptom attributions for physician recognition and
treatment of patient psychological distress, we conducted logistical regression analyses. Physicians’ dichotomized CEQ scores and mental health treatment recommendations were separately regressed on the patient demographic characteristics, SCL-90-R ratings, as well as patients’ global attribution styles and specific beliefs about the presenting symptoms. A physician factor was added to all subsequent analyses as a control variable. The results of the analyses show that physicians were more likely to recognize as distressed and recommend psychotropic medication or counseling to patients who were older or reported more severe symptoms on the SCL-90-R (see Table 3). In addition, physicians were more likely to detect and treat patients who believed that their specific presenting symptoms represented a psychological problem. The three global symptom attribution styles did not significantly predict physician recognition of distress or treatment recommendations above and beyond patients’ specific symptom beliefs.

Examining the predictors of physician accuracy in the assessment and treatment of psychological distress, we repeated the logistic regression analyses, but included only those participants with SCL-90-R scores over 60. The results of these analyses revealed that among patients with elevated SCL-90-R scores, physicians were more likely to identify as distressed and suggest the use of psychotropic medication or mental health counseling to female patients. Furthermore, physicians recommended mental health interventions more often to older patients and to individuals who reported greater severity of psychological distress. Patients’ specific beliefs about their presenting symptoms again significantly predicted recognition and treatment. However, the global symptom attribution styles did not further differentiate patients with psychological distress whose physicians had recommended mental health interventions from distressed patients whose physicians had not made such recommendations.

Finally, we examined the added predictive value of the patients’ specific beliefs regarding their presenting symptoms to mental health treatment recommendations, given the physician recognition of distress. However, when adding recognition as a predictor variable to the logistic regression analyses, neither the global attribution styles nor patients’ specific symptom beliefs significantly predicted physician treatment decisions. This finding may be due to the fact that physician recognition and treatment decisions are so highly correlated or, perhaps, because recognition, at least partially, mediates the relationship between patient symptom interpretations and physician mental health interventions.

Discussion

Interpretation of results

While using the SCL-90-R as the primary diagnostic tool for psychological distress is problematic, given its susceptibility to response bias, the findings of the present investigation corroborate estimates of patient psychological distress observed in other primary care samples [18,19], with approximately 40% of the patients obtaining clinically significant scores.

Global symptom attributions may influence the manner in which patients perceive their level of psychological distress and interpret their specific presenting symptoms. As a result, practitioners may be less likely to detect psychological disorders among certain patients, depending on the interpretation of the presenting concerns. As Kessler et al. [19] suggest, psychological attributions of symptoms most likely encourage questions from practitioners about emotional well-being, while patients employing the normalizing attribution style may minimize symptoms, thereby influencing practitioners to ignore or dismiss psychological concerns. The results of the present study provide some support for this theory, demonstrating that patients utilizing the psychological attribution style were more likely to report greater severity of distress on the SCL-90-R and to believe that their presenting symptoms represent a psychological problem. Moreover, corroborating the findings of Kessler et al. [19], we found that both the psychological and normalizing symptom attribution styles significantly predicted physicians’ beliefs about whether the presenting concerns of patients were psychological in nature.

Rates of detection of mental illness in primary care settings vary considerably, with most studies reporting estimates of diagnostic sensitivity ranging from 30% to 50% [7,11]. In the present study, physicians accurately recognized half of the patients as psychologically distressed. Consistent with past research, detection occurred more often for women, older individuals, and patients experiencing greater severity of distress. In addition, physician recognition was strongly associated with mental health treatment recommendations. Investigators have reported conflicting findings regarding the relationship of recognition to management and treatment outcomes for patients with psychological distress. Specifically, while some studies have shown that detection is associated with patients receiving mental health interventions and experiencing shorter episodes of illness [8,26–28], others indicate that providers inadequately treat psychological disorders and that accurate diagnosis has no impact on long-term patient outcomes [5,29–31].

The present study extends previous research on the detection of psychological disorders in primary care by demonstrating that, in addition to global symptom attribution styles, patients’ specific beliefs about their presenting symptoms strongly predict the likelihood that physicians identify patients as distressed and recommend mental health interventions. Rather than evaluating global symptom attribution styles, a more pragmatic and useful approach for practitioners would be to ask patients directly about their experience of psychological distress and their beliefs regarding the potential benefit of mental health interventions.
While this simple method will not guarantee that all patients will be accurately recognized, training physicians to utilize this kind of patient-centered approach would encourage both provider and patient to consider the possibility that medical symptoms may be related to psychological distress. Researchers have already shown that comprehensive programs that educate physicians to recognize and treat mental health problems improve rates of detection and patient outcome [32,33]. Alternatively, treatment protocols based on symptom reattribution techniques, in which patients learn to identify a link between their physical symptoms and psychosocial stress, also help to reduce the general psychiatric morbidity of patients in primary care settings [34].

Limitations of study

Several limitations of the method warrant cautious interpretation of the results. First, as noted earlier, the exclusive use of self-report questionnaires for measuring patient psychological distress and symptom interpretation possibly introduced response bias among participants. Employing structured clinical interviews and video or audiotaped observations of interactions between providers and patients would strengthen the design of the study. The setting in which the data were collected also may have prompted patients and physicians to consider more deliberately psychological concerns. All patients began completing questionnaires prior to their medical visits with physicians, perhaps raising their awareness of personal distress and thus influencing the clinical encounter. Additionally, while physicians and patients completed their respective versions of the CEQ following the medical visit, the responses on these surveys regarding the interpretation of presenting symptoms may have been affected by the preceding medical visits. This may have artificially inflated agreement between providers and patients on the etiology of the presenting symptoms and need for mental health treatment. Furthermore, only five primary care physicians were surveyed. Despite the small number of practitioners in the study, many of our results were consistent with other researchers’ findings, especially those related to estimates of sensitivity and patient levels of psychological morbidity, as well as global symptom attribution styles and predictors of physician recognition and treatment decisions. Additionally, because past investigations have shown that physicians vary considerably in their ability to recognize and treat psychological distress of patients, physician variability was added to the logistic regression analyses to control for these differences.

A final concern pertains to the operationalization of symptom etiology, as defined by the CEQ item inquiring about the extent to which respondents believe that their presenting symptoms represent a psychological problem. Patients often seek consultation for multiple complaints, with symptoms varying in degree of importance or impairment. Therefore, the physicians and patients in our study may have considered the presenting symptom(s) to represent a medical problem but still recognized increased levels of general psychological distress. Dichotomous formulations of symptom interpretation as either “medical” or “psychological” may not accurately characterize the manner in which patients experience their symptoms. A finer categorization of “presenting symptoms” may be helpful for clarifying the types of complaints under evaluation.

Conclusion and future directions

The present study demonstrates that physicians were more likely to recognize as distressed and provide mental health interventions to patients who believed that their presenting symptoms represented a psychological problem. In addition, physician detection and treatment recommendations occurred more often among females, older patients, and participants experiencing greater psychological distress. Finally, while particular global symptom attribution styles related to severity of distress and specific symptom beliefs, they were less predictive of recognition of patient psychological problems and mental health interventions.

Patients’ specific symptom beliefs likely mediate the relationship between the global symptom attribution styles and the physician recognition and treatment of psychological distress. However, in the present study, we only found a significant relationship between the psychological attribution style and patients’ specific symptom beliefs. Rather than using the CEQ formulation of symptom interpretation as either medical or psychological, future researchers may wish to ask patients in an open-ended format what they believe caused their presenting concerns. This would allow for a richer understanding of symptom interpretation and, perhaps, further elucidate the nature of clinical interactions between providers and patients.

Finally, because specific symptom beliefs play an important role in predicting physician recognition and treatment decisions, future researchers might consider developing patient-centered interventions for managing mental health concerns in primary care. The discussion of psychological problems is often uncomfortable for both provider and patient; therefore, brief, structured approaches may help physicians and patients broach these often unrecognized and complex concerns in a timely and sensitive manner.

References
