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The Effect of Depression Comorbid with Somatization Disorder: An Empirical Investigation

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Abstract

The present study investigated the effects of comorbid major depression in a sample of 175 patients diagnosed with somatization disorder (SD) as defined in DSM-IV. Comparisons were made between SD with current comorbid major depressive disorder and SD without current depression comorbidity. The data indicated that both a diagnosis of comorbid major depressive disorder and the presence of depression symptoms predicted greater disability and more impaired functioning. The results of the study are discussed and interpreted.

Introduction

Some projections indicate that by 2020 depression will be the second leading cause of disability worldwide. Depression increasingly has come to be recognized as a threat to health, not only because of its inherent effects, but also because it predicts the onset of other maladies and when depression is coincident with either acute or chronic medical conditions, patient functioning and prognosis is worsened [1-10]. Somatization disorder (SD) is a chronic mental disorder that features multiple, disparate, medically unexplained physical symptoms. The DSM-IV criteria for SD include a lifetime history of at least four unexplained pain symptoms, two unexplained gastrointestinal symptoms, one unexplained sexual or menstrual symptom, and one pseudoneurological symptom. For a symptom to be counted toward the diagnosis of SD, it must either prompt the seeking of medical care or interfere with the patient's functioning [11]. Patients with SD report significant physical impairment, spending 2 to 7 days in bed per month and often withdrawing completely from the workforce. SD has been associated with high rates of lifetime psychiatric comorbidity, with estimates ranging from 55% to 85% [13]. When investigators have considered only current psychiatric diagnoses, rates of psychiatric comorbidity among patients with SD range from 50% to 65%. Major depressive disorder (MDD) has been found to be the most prevalent psychiatric disorder in SD [11-13].

To our knowledge, there are no studies that examine the effects of the presence of depression that is comorbid with SD, although research on a group with an analogous disorder, e.g., chronic pain, has suggested that comorbid depression is associated with higher levels of disability in patients with chronic pain. In the present study, we sought to examine the whether comorbid depression was associated with functioning and disability in a sample of patients diagnosed with SD. We hypothesized that patients with SD comorbid with MDD would exhibit higher levels of impairment and disability than would patients with SD alone [14].

Materials and Methods

Participants

Participants were recruited from medical clinics and through advertisements in the general community. Participants were 175 adults with multiple medically unexplained physical symptoms who were participating in treatment studies on the efficacy of a psychosocial intervention for SD. Only data from participants' initial evaluations are provided in the present report. All study participants were required to meet DSM-IV criteria for SD and to be between the ages of 18 and 70. Participants were excluded if they had an unstable medical condition and/or a history of psychosis or mania, making it likely that no patients with bipolar disorder were included in the sample. The study was approved by Robert Wood Johnson Medical School's Institutional Review Board. Written informed consent was obtained from all participants.

Assessments

Interviews were conducted in person by masters and doctoral-level evaluators trained to administer the study's structured clinical interview instruments: the Structured Clinical Interview

for DSM-IV Axis I Disorders (SCID), the Clinical Global Impression Scale (CGI), and the 17-Item Hamilton Rating Scale for Depression (HAM-D). The SCID was used to make diagnostic assessments of current and lifetime DSM-IV axis I disorders. The SCID has been used widely in research protocols and has been shown to have sound psychometric properties. In our past research, we have found the SCID to have high interrater reliability [15-19].

The CGI for SD yields a composite somatic symptom severity score made by the trained rater after questioning the participant about current frequency of, intensity of, and impairment caused by the 33 somatic symptoms that are assessed in assigning a DSM-IV diagnosis of SD. CGI-SD is rated on a 7-point Likert-type scale ranging from 1 (no somatization) to 7 (very severe, among the most extreme cases of somatization). It is reliable, valid, and sensitive to change [13].

The HAM-D is a clinician administered 17-item scale assessing affective, somatic, and cognitive symptoms of depression [17,18]. Higher scores indicate increased severity of depression. When administered with a structured clinical interview like the one used in the present study, the HAM-D has been shown to have high interrater reliability and internal consistency [20].

Functional status was assessed with four measures: Disability Status, Employment Status, Global Assessment of Functioning (GAF), and the Social Functioning subscale of the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36). Disability status is a one-item binary rating of disability (whether or not participants are receiving Social Security disability). Employment status is a one-item rating of full-time employment. The GAF is a one-item clinician-rated score, ranging from 0 to 100, with lower scores indicating poorer functioning [11]. When used with trained raters in a research setting, like in the present study, the GAF has excellent reliability. The SF-36 is a self-report questionnaire that measures impairment in activities of daily living. In this study the social functioning subscale was examined. Higher scores correspond with higher functioning. The psychometric properties of the SF-36 are well-established [21-23].

For purposes of some statistical analyses the participants were divided into two groups: SD comorbid with current major depressive disorder (SD + MDD) and SD without comorbid MDD (SD alone). The diagnoses of SD and MDD were made with the SCID as described above.

Results

Table 1 illustrates that the groups were comparable on demographic variables.

TThe groups were compared on the binary variables of Employment Status and Disability Status in two separate analyses, each of which was computed with the chi squared statistic. Rates of employment were significantly different between the two groups, $\chi^2(1)=9.19$, $p<.005$. As noted in Table 2, rates of employment were nearly two times lower in the SD+MDD group than in the other group. Similarly, rates of disability were close to two times higher in the SD + MDD group than in the SD alone group, $\chi^2(1)=4.51$, $p<05$ **(Table 2)**.

Table 1 Demographic Characteristics.

Demographics	SD + MDD (n = 69)	SD without MDD (n = 106)	*P*
Age, mean (SD), y	45.04 (9.87)	46.58 (10.49)	n.s.
Gender (Female), No. (%)	58 (84.06)	93 (87.74)	n.s.
Ethnicity (Hispanic), No. (%)	8 (11.59)	14 (13.21)	n.s.
Education (High school	17 (24.64)	25 (23.58)	n.s.
degree or less) No. (%)			
Marital Status (Married), No. (%)	40 (57.97)	57 (53.77)	n.s.

T-tests comparing the groups on levels of functioning, as assessed by continuous variables, revealed significant differences between the groups. Clinician-rated global functioning (GAF) was significantly lower in patients with SD+MDD than in those with SD alone, t (173) =7.44, p<.001. Self-reported social functioning (SF-36) was also significantly lower t (173)=4.39, p<.001 when SD was comorbid with MDD. Means and standard deviations are presented in (**Table 2**).

Further examinations of the relationship between depression symptomatology and health outcomes were conducted using regression analyses. Participants from the two diagnostic groups were merged for these analyses. In the first analysis a multiple regression was conducted predicting clinician-rated GAF, using the HAM-D and severity of somatization rated during the structured interview, CGI-SD. In the first regression, $R^2=0.29$, $F(2,174)=35.43$, $p<.0001$, the HAM-D emerged as a significant predictor of GAF, even when the effect of CGI-SD was statistically removed. Results of the regression analysis predicting GAF are presented in (**Table 3**).

In a second analysis multiple regression was conducted predicting self-reported SF-36 Social Functioning scores, using the HAM-D and CGI-SD. In the second regression, R2=0.31, F(2,174)=37.82 p<.0001, HAM-D scores again were significant predictors of social functioning after the effect of CGI-SD was removed. provides a summary of the regression analysis predicting SF-36 Social Functioning scores (**Table 4**).

Discussion

The results of our study accord with prior data indicating that when depression occurs in conjunction with another disorder, health outcomes are worsened and disability is increased [6-10,14]. The effects of comorbidity in SD have been rarely studied, in part, because a sample of large enough size with this diagnosis has not been available. The design of the present study, while not ruling out all potential confounds, such as anxiety, suggests that depression aggravates outcomes in SD, even when severity of somatization symptoms is statistically controlled. These findings highlight the importance of conducting a thorough psychiatric evaluation, and in particular an assessment of depression, when treating SD.

As in all research on the effects of depression comorbidity, one must temper causal assertions. We cannot know for certain in which direction the causal arrow points. The absence of longitudinal data within a prospective design leaves open the possibility that the comorbid depression is the effect rather

Table 2 Between Groups Analyses on Principle Dependent Measures.

Demographics	SD + MDD (n = 69)	SD without MDD (n = 106)	*P*
Employed FT, No. (%)	18 (26.09)	52 (49.06)	< .005
Receiving disability, No. (%)	17 (24.64)	13 (12.26)	< .05
Global Assessment of Functioning (GAF), mean (SD)	47.61 (6.61)	56.04 (8.30)	< .001
Social Functioning (SF-36), mean (SD)	35.69 (23.41)	52.26 (24.93)	< .001

Table 3 Multiple Regression Analysis Predicting Global Assessment of Functioning (GAF).

Predictor	Standardized *B*	t	*P*
Clinical Global Impression of SD (CGI-SD)	-0.28	-4.06	< .001
Hamilton Rating Scale of Depression (HAM-D)	-0.37	-5.27	< .001

Table 4 Multiple Regression Analysis Predicting SF-36 Social Functioning.

Predictor	Standardized *B*	t	*P*
Clinical Global Impression of SD (CGI-SD)	-0.32	-4.7	< .001
Hamilton Rating Scale of Depression (HAM-D)	-0.34	-4.98	< .001

than the cause of adverse outcomes. Future research on the relationship between SD and depression is needed. Until we have better controlled research designs or deeper understanding of the mechanisms of cause and effect that account for the covariation of depression and poor mental and physical health, our conclusions must remain tentative.

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