Relationship Between Perceived Stigma and Depression Severity

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Abstract: The purpose of this study was to explore the relationship between perceived stigma and being in treatment for depression and current depression severity. Face-to-face interviews were conducted with a convenience sample of depressed subjects from a Veterans Administration outpatient mental health clinic ($N = 54$) and never-depressed subjects from a Veterans Administration primary care clinic ($N = 50$). Depression severity was measured using the 9-item Primary Care Evaluation of Mental Disorders depression measure. Stigma was measured using the 5-item Stigma Scale for Receiving Psychological Help modified for depression treatment. Statistical analyses included Spearman correlation and multivariate regression.

In the correlation analysis, being in treatment for depression compared with never experiencing depression was associated with significantly higher levels of perceived stigma ($p < .001$). In separate multivariate models controlling for significant univariate correlates, greater depression severity ($p < .001$) and meeting criteria for current major depression ($p < .001$) were significant predictors of perceived stigma. Greater depression severity appears to be a strong predictor of perceived stigma.

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Although there are effective pharmacological and psychosocial treatments for depression, most people with depression do not seek care (Hirschfeld et al., 1997; Katz et al., 1998; Shapiro et al., 1984; Young et al., 2001). The economic and human costs of not seeking care are high (Coryell et al., 1995); therefore, it is imperative that we understand the reasons for this phenomenon. There is a growing recognition of the importance of perceived stigma as a barrier for seeking (Cooper-Patrick et al., 1997) and sustaining (Sirey et al., 2001) treatment of depression and of mental illnesses in general (U.S. Department of Health and Human Services, 2000). Further, perceived stigma may be related to depressed patients' feelings of low self-worth (Corrigan and Watson, 2002; Searle, 1999).

Perceived stigma has been historically defined as erroneous and negative social attitudes toward a distinguishing physical or behavioral characteristic of a person or group (Goffman, 1986). Nationally representative surveys demonstrate that the stigma associated with mental illness has not changed appreciably in the last 50 years (Pescosolido et al., 2000).

Many questions remain about the relationship between perceived stigma and depression. For example, it is not clear whether being in treatment for depression is associated with an increase or decrease in perceived stigma, and for those who are currently in treatment for depression, whether current depression severity is associated with perceived stigma. Relatively few studies have examined the relationship between stigma and self-esteem and have found an inverse relationship (Link et al., 2001; Wright et al., 2000). In addition, theoretical work has been presented about the relationship between public stigma, self-stigma, and self-esteem, noting that self-stigma is more likely to result in low self-esteem (Corrigan and Watson, 2002). We found only one study that directly investigated the relationship between stigma and depression severity (Raguram et al., 1996). This study was conducted in South India and was based on interviews with patients seeking treatment at an outpatient psychiatry clinic and diagnosed with a mixture of depression and somatoform disorders. A stigma score was calculated from qualitative data, and more severe depression was associated with greater perceived stigma.

In our article, we use data from a U.S. sample and a modified version of an existing perceived stigma scale to investigate the relationship between perceived stigma and

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depression severity. The perceived stigma scale we used was more consistent with public stigma as described by Corrigan and Watson (2002) because it does not assess the subject's personal or internalized response to the statements. We hypothesized that (1) patients who were in treatment of depression would report greater perceived stigma than patients who had never experienced an episode of depression, and (2) among patients in treatment for depression, greater current depression severity would be associated with greater perceived stigma.

METHODS

Design and Procedure

The study design was cross-sectional and part of a larger study that also examined the relationship between depression severity and the value assigned to depression outcomes. The questionnaires were interviewer-administered by trained interviewers in face-to-face interviews.

Subjects

A convenience sample of subjects was recruited from clinician referral or from the waiting rooms of the North Little Rock Veterans Affairs Medical Center outpatient mental health and primary care clinics. Fifty-four depressed subjects were recruited from the mental health clinic (MHC depressed), and 50 never-depressed subjects were recruited from the primary care clinic (PCC never-depressed). Inclusion criteria for the MHC depressed subjects included age 20 to 70 years, medical chart diagnosis of major depression, current treatment of depression, and no evidence of serious cognitive impairment (a score of $\leq$10 on the 6-item Blessed Orientation-Memory-Concentration test; Katzman et al., 1983). The Blessed Orientation-Memory-Concentration test includes orientation, memory, and concentration items, and scores range from 0 (all items answered correctly) to 28 (all items answered incorrectly). Exclusion criteria for the MHC depressed subjects included a current life-threatening condition (*e.g.*, cancer or severe angina); current use of antipsychotic medications or lithium; and a medical chart diagnosis of schizophrenia, bipolar disorder, or substance dependence. Inclusion and exclusion criteria for the PCC never-depressed subjects were similar to those for the MHC depressed subjects except that PCC never-depressed subjects needed to have no evidence of current depression symptoms (as measured by the 9-item depression scale from the Patient Health Questionnaire [PHQ-9] in the Primary Care Evaluation of Mental Disorders or PRIME-MD; Spitzer et al., 2000) and no history of antidepressant medication use or previous diagnosis of depression per patient self-report. Written informed consent was obtained for all subjects before their participation in the study.

Measures

Depression diagnoses and severity were measured using the PRIME-MD PHQ-9 (Spitzer et al., 2000). The PHQ-9 measures the frequency of the nine DSM-IV symptoms for major depression over the past 2 weeks. The response set includes four Likert-type responses that are scored from 0 to 3 and correspond to "not at all," "several days," "more than half the days," and "nearly every day," respectively. The total PHQ-9 severity score ranges from 0 to 27. Among the MHC depressed subjects, criteria for major depression were met if a subject reported experiencing at least five of the nine depression symptoms at the severity level of at least more than half the days in the past 2 weeks and one of those symptoms was "feeling down, depressed, or hopeless" or "little interest or pleasure in doing things." This definition for major depression closely matches the DSM-IV criteria for major depression (American Psychiatric Association, 1994). The remaining MHC depressed subjects were placed in the subthreshold group. For the PCC never-depressed subjects, the inclusion criteria of a PHQ-9 total inclusion score of less than 5 indicated the absence of a current depressive disorder (Kroenke et al., 2001).

Other depression characteristics such as depression duration and number of depression episodes were assessed using a timeline approach after administering the PHQ-9. Depression duration was assessed by asking subjects when was the last time they had at least 2 consecutive months of not feeling depressed. The number of depression episodes was assessed by asking subjects for the number of episodes of depression they experienced separated by at least 2 months of not feeling depressed.

The perceived stigma scale used in this study was modified from the 5-item Stigma Scale for Receiving Psychological Help (SSRPH) (Komiya, 2000). We modified the scale to reflect attitudes toward depression treatment more specifically (Figure 1). For example, the first item in the original SSRPH was, "Seeing a psychologist for emotional or interpersonal problems carries social stigma," and this was changed to, "Receiving treatment of depression carries social stigma" in the modified SSRPH. Similar to the original SSRPH, there were four Likert-type responses to the modified SSRPH ("strongly disagree," "disagree," "agree," and "strongly agree") with scores for each item ranging from 0 to 3. The total score range was 0 to 15, with higher scores indicating greater perceived stigma. The coefficient alpha for the original 5-item SSRPH was 0.72 (N = 311; Komiya, 2000). The coefficient alpha for the modified SSRPH was 0.71, indicating comparable levels of internal consistency. The authors of the original SSRPH describe the scale as a measure of social stigma, and as such, it is more consistent with the concept of public stigma described by Corrigan and Watson (2002).

1. Receiving treatment for depression carries social stigma.
2. It is a sign of personal weakness or inadequacy to receive treatment for depression.
3. People will see a person in a less favorable way if they come to know that he/she has received treatment for depression.
4. It is advisable for a person to hide from people that he/she has been treated for depression.
5. People tend to like less those who are receiving professional help for depression.

Scale:

0=Strongly disagree

1=Disagree

2=Agree

3=Strongly agree

FIGURE 1. Modified stigma scale for receiving psychological help

To investigate the relationship between perceived stigma and the knowledge of depression as a brain illness, we included the following statement and the same response set as the stigma questions (score range was 0 to 3): "Depression is an illness of the brain like asthma is an illness of the lungs." A higher score indicated greater agreement with this statement.

Statistical Analysis

Clinical and sociodemographic comparisons between the MHC depressed subjects and PCC never-depressed subjects were conducted using two-tailed *t*-tests and chi-square tests. A Spearman correlation matrix was used to examine the relationship between the modified SSRPH total stigma score and the clinical and sociodemographic variables. The Spearman correlation was chosen because it is recommended for use with ordinal data. Two multiple regression analyses were performed using all subjects. In the first regression analysis, we used the PHQ-9 score as a continuous predictor variable to examine the effect of depression severity on total stigma score, controlling for other variables that were significantly correlated with perceived stigma in the univariate analyses (gender, full-time employment, and number of physical health problems). In the second regression analysis, we used dummy variables for the MHC depressed subthreshold and major depression groups defined by the PHQ-9 responses (described in the Measures section) to examine the effect of current depression diagnosis on total stigma score. The reference group in this regression analysis was the PCC never-depressed group. In both of these regressions, the response to the knowledge of depression as a brain illness was added as an independent predictor to control for this level of depression knowledge.

RESULTS

The sociodemographic characteristics for the MHC depressed and PCC never-depressed subjects were similar except that MHC depressed subjects were more likely to be female and less likely to be employed full-time (Table 1). The clinical characteristics of this sample indicated that MHC depressed subjects had a greater number of physical health problems and, as expected, higher depression severity scores.

A Spearman correlation matrix indicated that among all subjects, females, subjects not working full-time, subjects with a greater number of physical health problems, and MHC depressed subjects had significantly higher levels of perceived stigma (Table 2).

In the multivariate model testing for the effect of depression severity as a continuous variable, the only significant predictor was the PHQ-9 score (model 1, Table 3). To check for a nonlinear relationship between perceived stigma and depression severity, we added a squared PHQ-9 term to this model, and the squared term was not significant. In the multivariate model examining the effect of subthreshold and major depression on perceived stigma compared with PCC never-depressed subjects, major depression was the only significant predictor (model 2, Table 3). The mean PHQ-9 score for major depression MHC depressed subjects was 19.8 (range, 13 to 27) and for subthreshold MHC depressed subjects was 9.6 (range, 3 to 16).

We found that MHC depressed subjects agreed more strongly with the statement, "Depression is an illness of the brain like asthma is an illness of the lungs," than PCC never-depressed subjects ($r = 0.30$, $p = .003$). However, there was no statistically significant correlation between perceived stigma and response to this question (Table 2). In

TABLE 1. Clinical and sociodemographic description of subjects

	MHC depressed subjects ($N = 54$)		PCC never-depressed subjects ($N = 50$)	
	Mean	**(SD)**	**Mean**	**(SD)**
Age, y	49.5	(8.1)	52.7	(10.9)
PHQ-9	15.7**	(6.3)	1.0	(1.1)
No. physical health problems	4.5**	(2.3)	1.8	(1.3)
% Female	20.4*		4.0	
% White	75.9		82	
% Married	68.5		72.0	
% High school education	92.6		96.0	
% Employed full-time	14.8**		52.0	

*$p = .01$, **$p < .001$.

TABLE 2. Correlation of perceived stigma with clinical and sociodemographic variables[a]

	All subjects ($N = 104$)
Age	−0.13
Female	0.21*
White	−0.10
Married	−0.04
High school education	−0.07
Full-time employment	−0.28**
No. physical problems	0.30**
Depression is a brain illness	0.12
Depression status (0 = PCC never depressed, 1 = MHC depressed)	0.43***

[a]Spearman correlation.
*$p < .05$, **$p < .01$, ***$p < .001$.

addition, controlling for the response to this question did not change the regression results in Table 3.

Among MHC depressed subjects only, higher perceived stigma was associated with greater current depression severity ($r = 0.41$, $p = .002$). Neither depression duration nor number of depression episodes was significantly associated with perceived stigma. The individual PHQ-9 items that were significantly correlated with perceived stigma among depressed subjects were, in decreasing order of statistical significance, psychomotor retardation or activation ($r = 0.45$, $p = .0006$), problems sleeping ($r = 0.37$, $p = .005$), decreased interest ($r = 0.29$, $p = .04$), and feelings of worthlessness ($r = 0.28$, $p = .04$).

DISCUSSION

To our knowledge, this is the first U.S. study to explore the relationships between (1) being in treatment for depression and perceived stigma, and (2) current depression severity and perceived stigma. Our data suggest that among patients in treatment for depression, greater depression severity appears to be a strong predictor of perceived stigma. This association is of concern, because other studies have shown that greater perceived stigma may represent a barrier for initiating or sustaining depression care or both (Cooper-Patrick et al., 1997; Sirey et al., 2001). Thus, perceived stigma may act as a barrier to care among those most in need of mental health treatment. In addition, the association between perceived stigma self-esteem may set up a vicious cycle that results in more severe depression severity and greater psychosocial impairment (Link et al., 2001; Searle, 1999).

TABLE 3. Multiple regression models predicting perceived stigma[a]

	Regression coefficients ($N = 104$)	
Independent variable	**Model 1**	**Model 2**
Gender	0.80	0.55
Full-time employment	−0.18	−0.26
No. physical problems	0.007	0.05
PHQ-9 score	0.15*	
Subthreshold depression ($N = 22$)		0.78
Major depression ($N = 32$)		2.64*
R^2	31%	28%

[a] SSRPH (Komiya, 2000).
*$p < .001$.

The finding that more severe current depression was the only significant predictor of perceived stigma could be explained from at least two perspectives. The cognitive behavioral model of depression suggests that cognitive distortions associated with more severe depression may accentuate all-or-nothing thinking and lead to greater perceived stigma (Beck, 1967). However, a study by Link et al. (2001) found that baseline measures of stigma strongly predicted self-esteem at 6 and 24 months after controlling for baseline depression severity, suggesting that stigma may have an effect on self-esteem separate from depression severity. On the other hand, the perceived stigma among more severely depressed subjects may be based on accurate perceptions of stigmatizing events and not cognitive distortions, *i.e.*, patients with more severe depression may be more socially isolated by others than less severely depressed patients (Howes and Hokanson, 1979). Supporting the accurate perception explanation, the depression symptom most strongly correlated with perceived stigma was psychomotor retardation or activation ($r = 0.45$, $p = .0006$), which may be one of the more externally apparent symptoms of depression. Previous research supports the association between perceived stigma and external signs of depression in that any stigmatizing event (*e.g.*, rejection) may be more likely to occur because of deviant behavior than because of a diagnostic label (Link et al., 1989).

The finding that MHC subthreshold depression was not independently associated with perceived stigma compared with the PCC never-depressed group was somewhat surprising to us, given the linear relationship between depression severity and perceived stigma. One explanation for this finding is that there were not enough subthreshold-depressed subjects in our study to detect the relationship between subthreshold depression and perceived stigma. On the other hand, lower depression severity may be associated with fewer depression-related cognitive distortions or fewer stigmatizing events or both.

Interestingly, although there was stronger agreement with the statement that depression is a brain illness among MHC depressed subjects than PCC never-depressed subjects,

inclusion of this variable in the multivariate model did not change the relationship between depression severity and perceived stigma. This result suggests that depression knowledge may not exert an influence on the perceived stigma of depressed patients and, therefore, education interventions alone may not decrease perceived stigma. An additional focus for patient-level stigma interventions may need to include directly addressing the perceived legitimacy of stigmatizing responses toward patients with depression (Corrigan and Watson, 2002) using a cognitive-behavioral approach, disease self-management skill development, and a focus on managing problems instead of a diagnosis (Hayward and Bright, 1997).

There are several limitations in this exploratory study. The sample was relatively small and from one treatment facility. Although females are more likely to experience depression and receive depression treatment, there were relatively few women in our study. In addition, there were only two MHC depressed subjects who had total PHQ-9 scores less than 5 (consistent with full remission; Kroenke et al., 2001); therefore, we are unable to comment on perceived stigma among depressed patients in full remission. We also did not recruit subjects who were currently depressed but not seeking treatment; therefore, our results may underestimate the relationship between depression severity and stigma if one of the reasons these people are not in treatment is perceived stigma. We also attempted to control for some sociodemographic and physical health comorbidity differences between MHC depressed and PCC never-depressed subjects in our sample; however, there may be other unmeasured differences between the MHC depressed and PCC never-depressed subjects. The design of the study was cross-sectional, and therefore, we are unable to comment on the direction of the relationship between depression severity and perceived stigma or on whether perceived stigma decreases as depression symptom severity decreases over time. There is evidence among patients with dual-diagnosis mental illness and substance use disorders that perceived stigma is relatively stable over time even as symptoms of mental illness and quantity of substance use decrease (Link et al., 1997). However, this longitudinal relationship is not known among depressed subjects without a substance use disorder.

Directions for future research include the empirical validation of public stigma and self-stigma measures and their relationship with depression severity and the initiation and maintenance of depression treatment and the examination of perceived public and self-stigma over time on a larger sample of subjects across the entire spectrum of depression severity both in and out of mental health specialty and primary care treatment. Based on our data and the work of others (Link et al., 2001; Raguram et al., 1996; Wright et al., 2000) and the theoretical work by Corrigan and Watson (Corrigan and Watson, 2002), it appears that depression severity may be related to public and self-stigma, respectively. Once these cross-sectional and longitudinal relationships are better understood, more effective interventions to decrease perceived stigma and improve the initiation and maintenance of depression treatment could be designed and tested.

CONCLUSION

Our data support the exploratory hypothesis that depression severity is positively associated with greater perceived stigma. It is important to understand the relationship between depression and perceived stigma because stigma may act as a barrier to the initiation and maintenance of depression treatment among patients who are in particular need of mental health treatment.

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