The Association Between Spirituality and Depression in an Urban Clinic

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Objective: To investigate the correlation between spiritual beliefs and depression in an urban population.

Method: A convenience sample of adult patients of an urban primary care clinic completed a self-administered questionnaire consisting of the Zung Depression Scale and the Spiritual Involvement and Beliefs Scale (SIBS).

Results: Among 122 respondents, 99 (81%) reported that they consider themselves religious. Responses from the Zung Depression Scale found that 76 (62%) of the patients were depressed and 46 (38%) were not. The Pearson correlation coefficient between the Zung Depression Scale and the SIBS was –0.36 ($p < .0001$). Backward stepwise regression analysis revealed that SIBS score and physical health predicted the Zung Depression Scale score. Age, gender, ethnicity, religious affiliation, and income showed no significant association with depression. Analysis of individual SIBS items revealed that high spirituality scores on items in the domain of intrinsic beliefs, such as belief in a higher power ($p < .01$), the importance of prayer ($p < .0001$), and finding meaning in times of hardship ($p < .05$), were associated negatively with depression. Attendance of religious services had no significant association with depression.

Conclusion: Appropriate encouragement of a patient's spiritual beliefs may be a helpful adjunct to treating depression.

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Depression is a common diagnosis in primary care practices, accounting for 6% to 20% of all patient visits.[1–3] Similarly, spiritual attitudes greatly influence patients' approach to medical care. A nationwide survey in 1990 found that 75% of the population reports that their approach to life is grounded in their faith.[4] In a study of patients in a primary care setting, 40% of patients wish that their doctors would discuss their faith with them.[5]

Several studies have shown a positive association between religious commitment and mental health. In a meta-analysis, Larson et al.[6] pooled all of the studies pertaining to spirituality and mental health over an 11-year period from 2 leading psychiatric journals. In the review, 84% of the studies showed a positive association between spiritual attitudes and mental health, 13.5% of the studies showed no statistical association, and 2.5% of the studies showed a negative association. Various aspects of spirituality have been associated with a lower prevalence of depression in a wide variety of specific populations, including college students,[7] the elderly,[8,9] disabled veterans,[10] and women recovering from hip fractures.[11] This association extends beyond simple survey results to depressive behaviors; a survey in Washington County, Md., showed that people who did not attend religious services were 4 times as likely to commit suicide than those who attended church regularly.[12]

Despite the variety of these studies, there have been few studies correlating depression and spirituality among the urban poor. Given the stressors present in many urban communities, such as increased rates of poverty, crime, and chronic illness, a patient's spiritual life could be an important coping mechanism, especially when other support systems are limited.[13–16] Many prior studies emphasize church attendance and belief in a higher power as measures of spirituality.[7–10,12,17] However, in addition to church attendance, other qualities have been recognized as important to one's spirituality: an "inner life" of prayer and meditation, attitudes toward other people, and belief in a relationship with a higher power. The present study was undertaken to better understand the association between depression and spirituality in urban patients in order to provide insight into this important coping mechanism.

METHOD

Design, Participants, and Setting

The potential association between spiritual beliefs and depressive symptoms in an urban population was investigated by administering a written questionnaire to a convenience sample of patients older than 18 years in the waiting room at a multispecialty primary care clinic in Waterbury, Conn. Participation was voluntary, and written informed consent was obtained from all patients. Any identifying information was removed and stored separately from questionnaire data. Only subjects who fully completed the study instruments were included in the final data analysis. The study design and materials were reviewed and approved by the Institutional Review Board at St. Mary's Hospital (Waterbury, Conn.), an affiliate of the Yale Primary Care Internal Medicine Residency Program.

Survey Instrument

The questionnaire was composed of 2 previously validated scales: the Zung Depression Scale[18] and the Spiritual Involvement and Beliefs Scale (SIBS).[19] The Zung Depression Scale is a self-administered form with 20 questions addressing the presence of symptoms such as hopelessness, helplessness, and anhedonia. The instrument is scored on an ordinal scale, and a high composite score has a strong correlation with the diagnosis of depression.[20] Comparison between the Zung Depression Scale score and DSM-III criteria revealed a sensitivity of 97%, a specificity of 63%, a positive predictive value of 77%, and a negative predictive value of 95%.[20] Furthermore, previous studies have established morbidity cutoff scores as a guide in determining the clinical severity of depressive symptoms (i.e., no depression or mild, moderate, or severe symptoms).[21]

Spirituality was assessed using the SIBS.[19] This scale, developed by Hatch et al. in 1998, queries various aspects of spirituality using language that is not exclusive to the Judeo-Christian tradition.[8,19,22,23] The SIBS consists of 26 questions scored on a 5-point ordinal scale (strongly agree, agree, neutral, disagree, or strongly disagree). Factor analysis identified 4 loosely specific domains: (1) internal beliefs, (2) external practices, (3) personal application such as practicing humility and forgiveness toward other people, and (4) existential and meditative beliefs.[19] Internal beliefs are assessed with items such as, "I can find meaning in times of hardship." External practices are categorized with statements such as, "During the last month, I participated in spiritual activities with at least one other person (0 times, 1–5 times, etc.)." Humility and forgiveness are assessed with statements such as, "When I wrong someone, I make an effort to apologize." Existential and meditative beliefs are investigated using statements such as, "A spiritual force influences my life." The SIBS is tightly correlated to other instruments in the literature, and since the language used in the scale is not specific to Judeo-Christian terminology,[19] it is user-friendly to those who consider themselves "spiritual" but not "religious."

Overall health was assessed using Dartmouth Primary Care Cooperative Information Functional Health Assessment (COOP) charts.[24]

Analyses

Completed questionnaires were separated from identifying information and entered into a secure Microsoft Excel database.[25] Three statistical methods were used to analyze the data. First, composite scores for the Zung Depression Scale and the SIBS were calculated and compared via the Pearson's correlation coefficient. Second, backward stepwise regression was performed to evaluate the impact of socioeconomic status, demographic variables, and overall physical health. A p value greater than .25 was used for removal. Third, each item of the SIBS scale was compared to a patient's depression score. Scores of high spirituality, "strongly agree" or "agree" in a positively phrased item, were compared with pooled neutral and low spirituality scores. Chi-square analysis was used to determine significance between the number of depressed and nondepressed patients for the possible responses for each SIBS item. Analyses were conducted using JMP4 Statistical Software.[26]

RESULTS

Three hundred four questionnaires were distributed to patients in the waiting room. Of these, 122 (40%) were returned with each item in the instrument completed. In nearly every case, participants who were called for their appointment prior to completing the instrument handed in an incomplete instrument. There were no significant demographic differences between those who completed and those who did not complete the instrument.

Table 1 shows demographic information for the respondent population of those who fully completed the instrument. Our respondents were from several ethnic groups and tended to be Roman Catholic or Protestant Christian. When asked the yes/no question, "Do you consider yourself religious?" 81% answered in the affirmative. The high prevalence of income of under $10,000/year and lack of graduation from high school is representative of the patient population of the clinic.

The prevalence of depressive symptoms in the participant population, based on responses on the Zung Depression Scale, was higher than the U.S. national average of 6% to 20%.[1–3] Of 122 participants with complete questionnaires, 46 (38%) had scores in the normal range, 36 (30%) had mild symptoms, 27 (22%) had moderate depressive symptoms, and 13 (11%) had severe symptoms (Table 1).

Table 1. Demographic Characteristics of 122 Survey Respondents in an Urban Clinic[a,b]

Characteristic	Value
Age, mean ± SD, y	36.1 ± 13
Gender	
Female	73 (60)
Ethnicity	
Hispanic	59 (48)
African American	27 (22)
White	25 (20)
Other	11 (9)
Annual income ($)	
< 10,000	75 (61)
10,000–20,000	27 (22)
20,000–40,000	17 (14)
40,000–60,000	3 (2)
Education	
No high school	10 (8)
Some high school	30 (25)
High school graduate	38 (31)
Some college	35 (29)
College graduate	9 (7)
Answered yes to the question "Do you consider yourself religious?"	99 (81)
Religion	
Roman Catholic	57 (47)
Protestant Christian	55 (45)
Atheist	7 (6)
Non-Christian[c]	3 (2)
Zung Depression Scale score category[d]	
Normal	46 (38)
Mild depression	36 (30)
Moderate depression	27 (22)
Severe depression	13 (11)

[a]Values shown as N (%) unless otherwise noted. Percentages do not always add up to 100% due to rounding.
[b]There was no significant difference in depression scores on the basis of these characteristics.
[c]Included 1 individual who self-reported as Jewish, and 2 as Muslims.
[d]Patients' depression was categorized based on validated thresholds of the Zung scale.

The Pearson correlation coefficient between responses on the Zung Depression Scale and the SIBS was –0.36 ($p < .0001$), suggesting that a higher spirituality index score is associated with a lower depressive symptoms score.[18,19] Tables 2 and 3 detail which SIBS items revealed a statistical difference between depressed and nondepressed patients.

The negative correlation observed seems driven by certain key items on the SIBS, which are grouped in the subscale domain of "internal" spirituality (Table 2). For example, SIBS items significantly associated with fewer depressive symptoms included "I can find meaning in times of hardship" ($p < .018$) and "My life has a purpose" ($p < .037$). Also, 2 variables from the "external/ritual belief" domain revealed the strongest odds ratios against depression. "I believe there is a power greater than myself" ($p < .008$) revealed an odds ratio of 0.16 (95% CI = 0.02 to 0.59), which suggests that those who scored this variable highly were more than 6 times less likely to be depressed. Those with a high spirituality score (those who responded "disagree" or "strongly disagree"[19]) for the variable "Prayers do not really change what happens" ($p < .0001$) were 5 times less likely to be depressed. These data suggest that a person's belief systems—in particular, a belief in a higher power and in the importance of prayer—are associated with not being depressed.

In contrast, items pertaining to certain "external" religious practices were not associated with any particular Zung Depression Scale score (Table 3): "During the last week, I prayed (≥ 10, 7–9, 4–6, 1–3) times" ($p < .14$); "During the last week, I meditated (≥ 10, 7–9, 4–6, 1–3) times" ($p < .791$); "During the last month, I participated in spiritual activities with at least one other person (> 15, 11–15, 6–10, 1–5, 0) times" ($p < .22$). The *quantity* of one's religious practices appears less important than the *quality*.

Furthermore, the relational qualities of spirituality—humility and personal application—were not significantly associated with a lack of depressive symptoms. These items include "When I wrong someone, I make an effort to apologize" ($p < .143$) and "When I am ashamed of something I have done, I tell someone about it" ($p < .173$).

The final backward stepwise regression model included the SIBS ($p < .0002$) and overall health ($p < .0001$) as significant variables influencing depression. The overall regression coefficient (R^2) was 0.38, indicating that more than one third of the variability in the data can be explained by the model. While gender, age, income, education, and religion affiliation were not statistically significant, they were not adequately powered. While patients with poorer physical health were more depressed, this association did not affect the significance of the association between depression and spirituality.

DISCUSSION

In our poor, urban, multiethnic sample, as in previous studies,[7–12,17] higher overall spirituality scores correlated with fewer depressive symptoms. However, in contrast with previous studies of middle-class populations in which church attendance predicted against depression,[7–10,12,17] quantity of prayer and attendance of religious services did not make a difference in depressive symptoms in this sample.

This study raises several provocative questions. Belief in a higher power, a purpose in one's life, or the power of prayer may protect a person from depression—especially given the potentially overwhelming social stressors associated with life in the inner city. However, lack of faith may merely be another symptom of the "helplessness, hopelessness, anhedonia" that characterize clinical depression. Although it may be tempting to ascribe a causal relationship between spirituality and depression, these data are associational only.

In many studies, a person's attendance of worship services has been found to predict against depression.[7–10,12,17]

Table 2. Spiritual Involvement and Belief Scale (SIBS) Items With Significant Difference Between Depressed and Nondepressed Patients

SIBS Item	Subscale Domain[a]			Odds Ratio (95% CI)	p Value
	External/Ritual	Internal	Existential		
I believe there is a power greater than myself	✓			0.16 (0.02 to 0.59)	< .008
Prayers do not really change what happens	✓		✓	0.20 (0.08 to 0.45)	< .0001
Meditation does not help me feel more in touch with my inner spirit		✓	✓	0.23 (0.11 to 0.51)	< .0002
My spiritual beliefs continue to evolve		✓		0.30 (0.13 to 0.66)	< .003
My life has a purpose		✓	✓	0.31 (0.08 to 0.89)	< .037
My spiritual life fulfills me in ways that material possessions do not		✓		0.35 (0.16 to 0.76)	< .008
I can find meaning in times of hardship		✓	✓	0.39 (0.18 to 0.88)	< .018
I have a personal relationship with a power greater than myself	✓			0.41 (0.19 to 0.88)	< .024
Spiritual activities have not helped me develop my identity		✓		0.41 (0.19 to 0.87)	< .020

[a]No item in the personal application/humility domain was significantly associated with depression.

Table 3. Spiritual Involvement and Belief Scale (SIBS) Items With No Significant Difference Between Depressed and Nondepressed Patients

SIBS Item	Subscale Domain				Odds Ratio (95% CI)	p Value
	External/Ritual	Internal	Existential	Personal Application/Humility		
A person can be fulfilled without pursuing an active spiritual life	✓				0.64 (0.31 to 1.34)	< .25
A spiritual force influences the events in my life	✓				0.53 (0.25 to 1.11)	< .09
Participating in spiritual activities helps me to forgive other people	✓				0.61 (0.29 to 1.27)	< .19
I solve my problems without using spiritual resources	✓			✓	0.53 (0.25 to 1.13)	< .10
During the last week, I prayed (no. of times)	✓		✓		0.56 (0.27 to 1.20)	< .14
Some experiences can be understood only through one's spiritual beliefs	✓	✓			1.03 (0.50 to 2.17)	< .92
In the future, science will be able to explain everything		✓			1.15 (0.51 to 2.69)	< .73
Spiritual activities have not helped me become closer to other people		✓			0.49 (0.22 to 1.01)	< .06
I probably will not reexamine my spiritual beliefs		✓			1.08 (0.48 to 2.53)	< .85
Spiritual activities help me draw closer to a power greater than myself		✓			0.53 (0.15 to 1.12)	< .10
During the last month, I participated in spiritual activities with at least 1 other person (no. of times)	✓		✓		0.55 (0.21 to 1.45)	< .22
During the last week, I meditated (no. of times)			✓		0.89 (0.36 to 2.23)	< .79
When I wrong someone, I make an effort to apologize				✓	0.53 (0.22 to 1.22)	< .14
When I am ashamed of something I have done, I tell someone about it				✓	0.59 (0.27 to 1.25)	< .17
I examine my actions to see if they reflect my values				✓	0.58 (0.27 to 1.21)	< .15
I am thankful for all that has happened to me[a]					0.49 (0.22 to 1.05)	< .07
I have felt pressure to accept spiritual beliefs that I do not agree with[a]					0.63 (0.29 to 1.34)	< .24

[a]Item has not been associated with subscales of the SIBS.

The church's social support has been postulated as a reason why churchgoers are less depressed.[9,10,12] However, a selection bias may cloud this association: depressed patients may be too debilitated to attend religious services. Among our population, however, there was no association between attendance of religious services and depressive symptoms. Depressed individuals were just as likely to attend religious services, to pray, and to meditate as nondepressed individuals. Is the impact of the church community not enough to mitigate depression given the stressors of the inner city? Does the church function as a sanctuary for the depressed and nondepressed alike? Is there a certain *quality*, rather than *quantity*, of worship, prayer, or meditation that is more effective in alleviating depression? Further study in this arena may answer many of these questions.

Nonetheless, among impoverished patients, whose life pressures can be severe[13–16] and depression levels high, encouraging appropriate involvement in spiritual activities or incorporating religious imagery into a therapeutic regimen may have a benefit. The success of identifying a "higher power" in 12-step programs for the treatment of alcoholism and narcotic addiction suggests that incorporating spiritual language may have a benefit. Membership in Alcoholics Anonymous enables 60% to 80% of alcoholics to drink less or not at all for up to a year, and 40% to 50% achieve sobriety for many years.[27] In a 1981 study, patients suffering from opioid addiction who used religious imagery and language had improved rates of abstinence at 1 year compared with those who did not use religious imagery (41% vs. 5%).[28]

Among patients who are religious, 2 studies suggest that incorporating religious belief in the therapy of depressed patients results in improved depression scores when compared with treating patients conventionally.[29,30] However, 3 studies have shown no difference in using religious imagery as an adjunctive to therapy for depressed patients.[31–33] An appropriate study remains to be conducted among the urban poor.

This study has several potential limitations. The 40% completion rate raises a concern for possible selection bias expressed in participant refusal. Yet, review of the partially completed questionnaires revealed that the last remaining items were usually left unanswered, suggesting that failure to complete the survey was due to the arrival of appointment times for patients in the waiting room; this was confirmed by repeated reports from patients. Also, the criterion for inclusion of questionnaires in the analysis was rigorous: the instrument had to be completely filled out to be included in the data analysis. Upon review of the demographic data, there was no statistical difference between patients who completed and patients who did not complete the questionnaire (data not shown). The rate of return may also have been hindered by low education levels and high levels of depression, which might lead to a low reading speed.

In summary, this study surveyed an urban population and found that higher spirituality scores correlated with fewer depressive symptoms. In particular, belief in a higher power, having a relationship with a higher power, and belief in prayer showed significant difference between depressed and nondepressed individuals. Finding patient-sensitive ways to encourage patients' intrinsic belief system may benefit their depressive symptoms. Further, understanding a patient's spiritual life, and its impact on mental health, gives care providers insight into a significant coping mechanism. This remains an exciting arena of research where the interrelationship among spirituality, medicine, and mental health may find common ground to incorporate a new modality in the care of our impoverished, depressed patients.

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