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Religion as a risk factor for suicide attempt and suicide ideation among depressed patients

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Abstract

We aimed to examine the relationship between religion and suicide attempt and ideation. 321 depressed patients were recruited from mood-disorder research studies at the New York State Psychiatric Institute. Participants were interviewed using the SCID, Columbia University Suicide History form, Scale for Suicide Ideation, and Reasons for Living Inventory. Participants were asked about their religious affiliation, importance of religion, and religious service attendance. We found that past suicide attempts were more common among depressed patients with a religious affiliation (OR 2.25, $p=.007$). Suicide ideation was greater among depressed patients who considered religion more important (Coeff. 1.18, $p=.026$), and those who attended services more frequently (Coeff. 1.99, $p=.001$). We conclude that the relationship between religion and suicide risk factors is complex, and can vary among different patient populations. Physicians should seek deeper understanding of the role of religion in an individual patient's life in order to understand the person's suicide risk factors more fully.

Keywords

Suicide; Depression; Bipolar Disorder; Religion; Spirituality

Introduction

The relationship between religion and suicide risk has been an important research question from the earliest days of suicide research.(Durkheim 1897/2010) Over the past ten years, research on this question has produced mixed results. Some studies have reported that rates of suicide attempt and suicidal ideation are lower among persons who have a religious

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affiliation, (REFERENCE REMOVED, Kukoyi, Shuaib et al. 2010, Dervic, Carballo et al. 2011, Kralovec, Fartacek et al. 2012, Spencer, Ray et al. 2012, Carli, Mandelli et al. 2014) those who attend religious services more frequently, (Kaslow, Price et al. 2004, Blackmore, Munce et al. 2008, Rasic, Belik et al. 2009, Robins and Fiske 2009, Taliaferro, Rienzo et al. 2009, Sisask, Varnik et al. 2010, Rasic, Kisely et al. 2011, Rasic, Robinson et al. 2011, Taylor, Chatters et al. 2011, Caribe, Nunez et al. 2012, Hoffman and Marsiglia 2012, Langille, Asbridge et al. 2012, Nkansah-Amankra, Diedhiou et al. 2012, Robinson, Bolton et al. 2012, Rushing, Corsentino et al. 2013) and those who say religion is important in their lives. (Albert, Rabkin et al. 2005, Rasic, Kisely et al. 2011) However, these findings exist alongside a large number of studies finding no relationship between religion and suicide risk, (Nonnemaker, McNeely et al. 2003, Birkholz, Gibson et al. 2004, Tran Thi Thanh, Tran et al. 2006, Zhang, Jia et al. 2006, Huguelet, Mohr et al. 2007, Chatters, Taylor et al. 2011, Young, Riordan et al. 2011, Hamdan, Melhem et al. 2012, Le, Nguyen et al. 2012, Stroppa and Moreira-Almeida 2013) and a few studies suggesting religious characteristics can sometimes be a risk factor. (Zhang and Xu 2007, Mihaljevic, Aukst-Margetic et al. 2012, Stratta, Capanna et al. 2012, Xie, Chen et al. 2012, Zhao, Yang et al. 2012) Importantly most of these studies did not assess clinical samples, and only four explicitly enrolled persons with mood disorders. (REFERENCE REMOVED, REFERENCE REMOVED, Rushing, Corsentino et al. 2013, Stroppa and Moreira-Almeida 2013) This leaves unanswered questions not only about the relationship between religion and suicide risk, but more specifically about that relationship for adults suffering with depression.

For many years, our research group has been enrolling participants in research studies focusing on unipolar depression, bipolar disorder, and suicide risk. The rationale for focusing on religion in unipolar and bipolar depression is that depression is an established risk factor for suicide (World Health Organization 2015) and it is not known whether the relationship between depression and suicide risk is the same among depressed persons and non-clinical samples, since depression might shape a person's experience with religion. An earlier publication by our research group reported that, among depressed inpatients, having no religious affiliation was associated with more lifetime suicide attempts. (REFERENCE REMOVED) Subsequent to these findings, our research group began asking participants about the importance of religion in their lives, and how frequently they attend religious services.

The current paper focuses on depressed patients who enrolled since these additional questions about religion were added, and examines the relationship between religious characteristics (affiliation, importance of religion, attendance at services) and suicide risk factors (prior suicide attempts, suicide ideation). We hypothesized that the relationship between religious characteristics and suicide risk factors would go in the same direction as what was previously found by our research group. (REFERENCE REMOVED, REFERENCE REMOVED) Thus, we hypothesized that religious affiliation would continue to be associated with a decreased likelihood of prior suicide attempts. We also hypothesized that depressed patients who considered religion more important, and those who reported attending services more frequently would be less likely to have a prior suicide attempt and would have less suicidal ideation. Underlying these hypotheses were observations that religion potentially provides a set of coping mechanisms for responding to stress, religion

can offer social support through participation in religious communities, some religions explicitly teach members not to commit suicide, and some religions teach members to limit or abstain from alcohol consumption (a risk factor for suicide).(Wu, Wang et al. 2015)

Method

All participants were recruited through the LOCATION REMOVED. Participants were 321 adult inpatients and outpatients with current diagnoses of Major Depressive Disorder or Bipolar Disorder. The study was approved by the Institutional Review Board at the LOCATION REMOVED.

Interviewers collected demographic information, which included questions about sex, race, marital status, years of education, number of biological children, religious affiliation (options were: Catholic, Protestant, Jewish, Other, and None; ultimately dichotomized as any versus none). We asked, “How important is religion in your life?” Answers were: 1-not at all important, 2, 3-somewhat important, 4, 5-extremely important. We asked, “How often do you attend religious services?” Answers were: never, 1–11 times per year, 1–3 times per month, once a week, more than once per week.

Diagnoses were obtained using the Structured Clinical Interview for DSM Disorders (SCID-I (Spitzer, Williams et al. 1990) and SCID-II (Spitzer, Williams et al. 1990)). Depressive symptoms were evaluated using the Hamilton-17 Depression Rating Scale.(Hamilton 1960) Suicide-related factors were assessed using the Columbia University Suicide History form, (Oquendo, Halberstam et al. 2003) the Scale for Suicide Ideation,(Beck, Kovacs et al. 1979) and the Reasons for Living inventory.(Linehan, Goodstein et al. 1983)

Statistical analysis

To assess the relationship between suicide attempt history and religion (affiliation yes/no, importance of religion, and service attendance) we used multivariable logistic regression models that adjusted for sex, white/non-white race, age, having biological children, and total scores on the Reasons for Living Inventory.

Because the Scale for Suicide Ideation was not normally distributed (many reported no suicide ideation) we analyzed it using two models. First we used logistic regression models that dichotomized suicide ideation as a yes/no variable. Second we excluded those with no suicide ideation and used linear regression models to assess the relationship between the Scale for Suicide Ideation and religion for depressed patients who experience suicide ideation. Separate models were constructed for religious affiliation, importance of religion, and service attendance. Each model adjusted for sex, white/non-white race, age, having biological children, and total scores on the Reasons for Living Inventory.

Results

Sample Characteristics

Among participants, 193 had Major Depressive Disorder and 128 had Bipolar Disorder. Nearly half (n=122, 39.48%) had a prior suicide attempt (Table 1).

Religion and prior suicide attempts

Contrary to our hypotheses, depressed patients with a religious affiliation were more likely to report a prior suicide attempt (OR 2.25, 95% Confidence Interval 1.25–4.08, $p=.007$). Importance of religion and frequency of attending religious services were not associated with prior suicide attempts (Table 2).

Religion and the Scale for Suicide Ideation

In logistic regression models that dichotomized suicide ideation (yes/no), there was no significant association with religious affiliation, importance of religion, or frequency of service attendance. (Table 3)

Among depressed patients who reported some degree of suicide ideation, linear regression models did not show a significant association between religious affiliation and suicide ideation (Coeff. 3.01, 95%CI $-.27$ to 6.28 , $p=.072$). However suicide ideation was more severe among those who reported that religion was more important (Coeff. 1.18, 95%CI $.15$ to 2.21 , $p=.026$) and among those with more frequent religious service attendance (Coeff. 1.99, 95%CI $.77$ to 3.20 , $p=.001$). (Table 4)

Discussion

In this study of 321 patients with major depression and bipolar disorder we found that after adjusting for sex, white/non-white race, age, children, and total scores on the Reasons for Living Inventory, past suicide attempts were more common among depressed patients with a religious affiliation. Similarly, suicide ideation was greater among depressed patients who considered religion more important, and those who attended services more frequently.

Our findings make a unique contribution to the literature on suicide and religion because the analysis adjusts for scores on the Reasons for Living inventory, among a clinical sample of depressed adults. We found only one other study that included religion (using the Spiritual Assessment Inventory), Reasons for Living (using the Reasons for Living Inventory for Young Adults), and suicide risk (using the Suicidal Behaviors Questionnaire – Revised) in the same model.(Wang, Lightsey et al. 2013) Researchers in that study did not find a significant relationship between religion and suicide risk. Importantly, that sample differed from the current sample in that participants were Black college students from a small Southeastern university enrolled in psychology and sociology courses.

Our findings, that some religious characteristics are associated with increased suicide attempts and increased suicide ideation in this sample, go against our hypotheses and stand in contrast to REFERENCE REMOVED findings from a previous sample. We cannot exclude the possibility of a Type I error. However, when our findings are viewed alongside other literature from around the world, there is some precedent for the notion that religious affiliation could be associated with increased suicide risk among some populations. Indeed, much of the research published in the last ten years has found religious affiliation to be protective against suicide attempt,(REFERENCE REMOVED, Kukoyi, Shuaib et al. 2010, Sisask, Varnik et al. 2010, Dervic, Carballo et al. 2011, Kralovec, Fartacek et al. 2012, Carli, Mandelli et al. 2014) suicide ideation,(REFERENCE REMOVED, Spencer, Ray et al. 2012)

or the combination of the two, (Benute, Nomura et al. 2011, Martiny, de Oliveira et al. 2011, Shim and Park 2012), or non-significant.(Zhang, Jia et al. 2006, Huguelet, Mohr et al. 2007, Young, Riordan et al. 2011, Le, Nguyen et al. 2012, Stratta, Capanna et al. 2012) However, Sisask et al.(Sisask, Varnik et al. 2010) found religious affiliation to be a risk factor for suicide attempt in South Africa, and Zhao et al.(Zhao, Yang et al. 2012) reported that religious affiliation increased suicide attempts and suicide ideation (combined outcome) among Chinese undergraduates who did not believe in Socialism.

Studies looking at specific religious affiliations tell a more nuanced story. Among US Air Force personnel, suicide ideation was higher among non-Christian religions, and lower among Evangelical Christians, female Roman Catholics, and male “Other Protestants.” (Snarr, Heyman et al. 2010) Among Asian Indian adolescents suicide ideation and attempts (combined category) were higher among Hindus than other religions.(Sidhartha and Jena 2006) In Malaysia, suicide ideation was higher for Hindus than Christians.(Maniam, Chinna et al. 2013) In Taiwan, suicide ideation and attempts were increased among Christians compared to Buddhists.(Fang, Lu et al. 2011) And in Israel, Gal et al. found higher rates of suicide attempt among Jews than Muslims.(Gal, Goldberger et al. 2012) Embedded within each of these findings is a rich and complex narrative about what it means socially, politically, and economically to belong to a specific religious group at a specific place and time in human history. For some persons, their religious affiliation might connect them to a wealth of resources and supports. For others, that same affiliation might leave them feeling isolated from the surrounding community. Understanding the link between religious affiliation and suicide risk thus requires sensitivity to the individual’s life narrative and how he or she experiences being a member of that religious group.

Our finding of increased suicide ideation among suicide ideators who more frequently attend religious services differs from the bulk of literature over the last ten years showing that religious service attendance is protective against suicide ideation.(Rasic, Belik et al. 2009, Robins and Fiske 2009, Taliaferro, Rienzo et al. 2009, Rasic, Kisely et al. 2011, Taylor, Chatters et al. 2011, Hoffman and Marsiglia 2012, Langille, Asbridge et al. 2012, Nkansah-Amankra, Diedhiou et al. 2012, Robinson, Bolton et al. 2012) Notably, none of those studies used clinical samples. Our results could be harmonized with the broader literature if persons with depression and suicide ideation are turning to religion as a way to manage their suicidal thoughts.

A handful of studies over the past ten years have examined the relationship between importance of religion and suicide risk. Most of these have not found an association, (Birkholz, Gibson et al. 2004, Huguelet, Mohr et al. 2007, Hamdan, Melhem et al. 2012, Hoffman and Marsiglia 2012, Rushing, Corsentino et al. 2013) while two found more suicide ideation among persons who gave low importance to religion. Both studies used samples markedly different than ours: Canadian high school students,(Rasic, Kisely et al. 2011) and persons dying from end stage amyotrophic lateral sclerosis.(Albert, Rabkin et al. 2005)

Our finding of an increased risk of suicide attempt among religiously affiliated persons, and increased suicide ideation among persons who consider religion more important, does not

imply a direct causal relationship between religiosity and suicidal behavior. Rather, this might be an indicator of what some have called “negative religious coping;” a maladaptive pattern that may include deferring all responsibility to God, feeling abandoned by God, blaming God for difficulties, experiencing spiritual tension or doubt, or experiencing conflict and struggle with God.(Pargament, Smith et al. 1998) Along these lines, qualitative data have shown that patients sometimes wish to die and be with God, wish for another life after death, feel angry with God, or feel abandoned or unsupported by their religious communities.(Mohr, Brandt et al. 2006, Huguelet, Mohr et al. 2007) When these patterns of “negative religious coping” appear, persons who consider religion very important might experience an increase in suicide risk.

There is perhaps some value in viewing our findings alongside other literature from around the world and concluding simply that results are mixed, and the question of whether religion is a risk factor or protective factor is unresolved. This observation contrasts with, or at least elaborates on, occasional claims of there being a “well-documented link between religiousness and suicidality.”(Kleiman and Liu 2014) In pointing toward the mixed nature of the literature, our findings do not clarify the relationship between religion and suicide risk, so much as they clarify that our knowledge about this complex relationship is limited.

Stopping with this conclusion, that results are mixed, would be a superficial interpretation of our findings however, since the contrasting results throughout the literature are probably not due to random statistical noise but instead are caused by measured and unmeasured variables within the datasets themselves. For example it might not be appropriate to compare results among community-dwelling high school students in Canada(Rasic, Kisely et al. 2011) with pregnant bipolar outpatients in Brazil,(Stroppa and Moreira-Almeida 2013) or with psychotic patients in Switzerland.(Huguelet, Mohr et al. 2007) Different features of the datasets could easily generate different results.

When our sample is compared only against other studies focusing on depressed patients, the most striking feature is not the amount of noise but the paucity of data. We identified only four studies in the past decade that enrolled mood disordered patients. Two studies, previously published by our research group, assessed religious affiliation and suicide attempts among depressed and bipolar patients, but did not ask about importance of religion or frequency of religious service attendance.(REFERENCE REMOVED, REFERENCE REMOVED) Rushing et al. enrolled depressed older adults in North Carolina, a patient population whose religious, social, and demographic characteristics are potentially difficult to generalize.(Rushing, Corsentino et al. 2013) In Stroppa et al.’s study of outpatients with bipolar disorder, most were euthymic at the time of the interview.(Stroppa and Moreira-Almeida 2013) In this context then, our findings are not one more addition to an already crowded pool of mixed literature, but are instead an important observation of a patient population about which little is known.

This study has strengths and limitations. Strengths include a large clinical sample, with a large percentage having a history of suicide ideation and suicide attempt, and the use of standardized structured instruments to assess history and current symptoms. However, this sample combined participants from several clinical research trials, each with unique

inclusion/exclusion criteria, raising questions about the generalizability of the sample. Additional limitations include a reliance on patient recall, patient sampling in one city, and few measures of religiosity. Additionally, the analysis does not account for different beliefs and nuances within specific religious affiliations. A large percentage of participants identified with the “Other” religious affiliation category, which is difficult to interpret. The data also did not account for possible variations in a person’s religiosity over time. The role of spirituality, a related but distinct concept, was not assessed in this study. Analyses showed a statistically significant effect of religious variables across some but not all suicide risk variables, raising questions about the strength and consistency of the reported association between religion and suicide risk.

These results have important implications for suicide research. The surprising findings here, and the varying results in the existing literature, suggest the relationship between religion and suicide risk has not been well characterized. Most likely it is not a neutral bystander in the risk equation, but neither is it wholly protective nor a straightforward risk marker. To advance understanding, data samples need a more nuanced description of participants’ religious affiliations in order to capture more precisely the beliefs, practices, and suicide-related outcomes of each religious group in the sample. There is also need for greater understanding of what it means for an individual to affiliate with a religious group; the level of investment, internal beliefs and experiences, and external experiences as the religious person interacts with the rest of society. Studying these relationships among various samples could lead to greater understanding of why religion is protective for some persons, not significantly related for others, and sometimes even a risk factor.

Regarding the clinical implications, we echo REFERENCE REMOVED invitation for psychiatrists to support patient’s spirituality. We recommend that physicians ask patients about their religious identities and beliefs as a routine part of clinical assessments and safety evaluations. However, our new data point to the importance of digging deeper into the role of religion in a person’s life: Does religion help the patient, and how? Does the patient feel supported by his or her religious community? Is the patient’s religious identity accepted and affirmed in the wider community? Evidence shows psychiatrists are better than non-psychiatrist physicians at asking patients about religious and spiritual issues; 44% of psychiatrists versus 14% of non-psychiatrists often or always inquire about patients’ religious and/or spiritual issues when a patient suffers from anxiety or depression.(Curlin, Lawrence et al. 2007) Our data support doing this even more.

Conclusion

Contrary to findings in an earlier sample,(REFERENCE REMOVED) in this study involving 321 depressed and bipolar adults, past suicide attempts were more common among depressed patients with a religious affiliation. Additionally, suicide ideation was more severe among depressed patients who said religion is more important, and among those who attend services more frequently. The central contribution of these findings is to highlight how complicated the relationship between suicide risk and religion is, and to underscore the importance of developing deeper and more nuanced studies in order to understand ways that religion might be helpful or unhelpful for depressed persons suffering with suicidal

thoughts. Until such answers emerge, physicians can engage patients in dialogue about the role of religion, and whether it helps them to manage suicidal thoughts and impulses.

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Table 1

Demographic and Clinical characteristics

	N*	%
Female	199	61.99
White race	218	69.87
Married	59	18.38
With biological children	107	33.44
Religious affiliation		
Catholic	89	27.99
Protestant	31	9.75
Jewish	36	11.32
Other	69	21.70
None	93	29.25
Importance of religion		
1- not at all important	105	32.71
2	19	5.92
3- somewhat important	102	31.78
4	45	14.02
5- extremely important	50	15.58
Attend religious services		
Never	148	46.11
1–11 times/year	93	28.97
1–3 times/month	32	9.97
Once a week	25	7.79
More than once a week	23	7.17
Diagnosis		
Major depressive disorder	193	60.12
Bipolar disorder	128	39.88
Suicide attempt in lifetime	122	39.48
History of substance abuse	125	39.06
	Mean	St Dev
Scale for suicidal ideation	9.64	9.56
17-item Hamilton depression rating scale	19.68	5.59
Reasons for living inventory	150.72	42.29
Age	37.74	11.87
Years of education	15.23	2.62

* Numbers do not always sum to 321 due to partial non-response.

Table 2

Logistic regression models for the relationship between past suicide attempt and religion, adjusting for sex, white race, age, children, and reasons for living.

Model 1	N*	Odds Ratio	P	95% Conf. Int.
Religious Affiliation (yes)	252	2.25	.007	1.25–4.08
Female sex		.62	.078	.36–1.06
White race		.62	.098	.35–1.09
Age		.98	.120	.96–1.00
Children		1.43	.250	.78–2.61
Reasons for living inventory		1.00	.608	.99–1.00
Model 2				
Importance of Religion	254	1.11	.244	.93–1.33
Female sex		.65	.106	.38–1.10
White race		.61	.092	.35–1.08
Age		.98	.150	.96–1.01
Children		1.45	.223	.80–2.64
Reasons for living inventory		1.0	.832	.99–1.01
Model 3				
Frequency of religious service attendance	254	1.02	.848	.83–1.26
Female sex		.66	.125	.39–1.12
White race		.62	.097	.35–1.09
Age		.98	.161	.96–1.01
Children		1.49	.193	.82–2.70
Reasons for living inventory		1.0	.976	.99–1.01

* Numbers do not sum to 321 due to partial non-response.

Table 3

Logistic regression models for the relationship between suicide ideation (measured with the Scale for Suicide Ideation) and religion; adjusting for sex, white race, age, children, and reasons for living. Models compare those with and without suicide ideation (Scale of Suicide Ideation score of zero versus nonzero).

Model 1	N*	Odds Ratio	P	95% Conf. Int.
Religious Affiliation (yes)	179	2.04	.143	.79–5.28
Female sex		.53	.175	.22–1.32
White race		1.09	.862	.42–2.80
Age		.96	.035	.92–1.00
Children		.84	.730	.32–2.23
Reasons for living inventory		.98	.001	.97–.99
Model 2				
Importance of Religion	179	1.28	.112	.94–1.72
Female sex		.56	.208	.23–1.38
White race		1.00	.999	.38–2.61
Age		.96	.039	.92–1.0
Children		.80	.659	.30–2.13
Reasons for living inventory		.98	.001	.97–.99
Model 3				
Frequency of religious service attendance	179	1.04	.809	.73–1.49
Female sex		.57	.228	.23–1.42
White race		1.07	.885	.42–2.76
Age		.96	.043	.92–1.0
Children		.89	.806	.33–2.34
Reasons for living inventory		.98	.001	.97–.99

* Numbers do not sum to 321 due to partial non-response. 220 respondents completed the Scale for Suicide Ideation.

Table 4

Linear regression models for the relationship between suicide ideation (measured with the Scale for Suicide Ideation) and religion among persons who have experienced suicide ideation (Scale of Suicide Ideation score >0); adjusting for sex, white race, age, children, and reasons for living.

Model 1	N*	Coefficient	P	95% Conf. Int.
Religious Affiliation (yes)	146	3.01	.072	-.27 to 6.28
Female sex		-1.14	.448	-4.12 to 1.83
White race		.37	.829	-3.00 to 3.73
Age		-.14	.048	-.28 to .00
Children		1.21	.501	-2.33 to 4.75
Reasons for living inventory		-.08	.000	-.12 to -.04
Model 2				
Importance of Religion	146	1.18	.026	.15 to 2.21
Female sex		-.90	.546	-3.84 to 2.04
White race		.22	.897	-3.13 to 3.57
Age		-.13	.058	-.27 to .00
Children		1.43	.420	-2.07 to 4.93
Reasons for living inventory		-.08	.000	-.12 to -.04
Model 3				
Frequency of religious service attendance	146	1.99	.001	.77 to 3.20
Female sex		-.17	.906	-3.10 to 2.75
White race		.42	.802	-2.86 to 3.70
Age		-.13	.067	-.26 to .01
Children		1.21	.490	-2.23 to 4.65
Reasons for living inventory		-.08	.000	-.11 to -.04

*N=174 persons had Scale for Suicide Ideation score >0. Numbers do not equal 174 due to partial non-response.