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Religiosity as a protective factor against suicide ideation in subjects with Major Depression: preliminary results of an exploratory study in the "real world" clinical practice

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Conflict of interest
The Authors declare no conflict of interest.

Summary

The goal of this study was to evaluate the potential relationships between religiosity and suicide ideation in drug-naïve outpatients with Major Depression (MDD).

Filthy-four adult outpatients with MDD were assessed through the Hamilton Depression Rating Scale (HAM-D), the Duke University Religion Index (DUREL), and the Scale of Suicide Ideation (SSI).

The results showed that the DUREL scale exhibited a strong negative correlation with MDD and SSI and, conversely, HAM-D was positively correlated with SSI. Moreover, regression analysis showed that higher DUREL scores were associated with lower suicide ideation, whereas higher HAM-D scores were associated with higher suicide ideation.

In conclusion, religiosity may be a protective factor against the development of suicide ideation, despite the severity of depressive symptoms. The evaluation of religiosity as a protective factor should be performed in MDD subjects in everyday clinical practice. However, this study was preliminary, and limitations must be considered.

Key words: religiosity, depression, suicide ideation, prevention

Introduction

Major depressive disorder (MDD) is one of the most disabling and frequent psychiatric disorders in the world [1]. The relationship between MDD and suicide ideations has been investigated in several studies [2]. When associated, suicide ideation is a significant cause of the transition to suicidal behavior and attempts in MDD subjects increasing the overall burden of the disorder [3]. Knowing the warning signs for suicide in MDD and how to get help can save lives [4,5]. Moreover, suicide prevention plans are mandatory to reduce the phenomenon [6,7].

However, some factors may be protective of suicide even if in severe cases of MDD, and these factors should always be considered also if these are relatively few studies [8]. One of these factors is the religiosity [9,10]. It has been demonstrated that there is a negative association between religiosity and suicidality in the general population [11]. Moreover, a well-conducted meta-analysis on nine studies concerning religion and completed suicide found a generally protective influence of religiosity, with analyses revealing critical protective effects in Western cultures, nations with religious homogeneousness, and in the elderly [12].

To date, we recognize that faith, belief, and trust reinforce the support of psychological well-being [13]. Religious and spiritual beliefs and values, may affect the course of several psychiatric disorders, including MDD [14]. Lamba and Ellison [15] wrote that "…rapprochement may best be achieved by raising psychiatric awareness and knowledge of the basic concepts of Religion and Spirituality and by having a willingness to embrace intellectual, cultural, and religious pluralism…" and the available data seem to confirm this statement [13,16]. Interestingly, Miller et al. [17] showed that a high self-report rating of the importance of religion and Spirituality had a protective effect against the recurrence of depression, particularly in adults with a history of parental depression.

However, to date, relatively few studies have accurately assessed the relationships between religiosity and suicide ideation in MDD [18,19]. Therefore, in the present exploratory study, we aimed to: i) evaluate the correlations between religiosity and suicidal ideation in MDD controlling for several variables; ii) assess the effect of certain clinical variables in the likelihood of suicidal ideation using a linear regression analysis model.

Methods

A total of catholic 54 adult outpatients (29 males, 25 females) of the Catholic faith with a *Diagnostic and Statistical Manual for Mental Disorders*, Fourth Edition, Text-Revision (DSM-IV-TR) [20] diagnosis of MDD with melancholic features were recruited at several mental health facilities across Central Italy in an everyday clinical practice setting. All diagnoses were made by psychiatrists with at least five years of clinical experience and confirmed with the Structured Clinical Interview for DSM-IV (SCID) [21]. Eligible patients met the criteria for a Major Depressive Episode (MDE) with a score ≥16 at the *Hamilton Depression Rating Scale* (HAM-D), 17-item version [22]. Patients' age ranged between 18 to 45 years and were naïve treatment seeker for MDE. Within subjects diagnosed with MDD, we distinguished between patients with their first depressive episode (n = 39, 72.2%) and patients with recurrent depressive episodes with one depressive episode before the present one (n = 15, 27.8), but never treated with antidepressants or other psychotropics.

Exclusion criteria were the following: any additional axis-I disorder, including substance use disorder, mental retardation, severe medical diseases, and the presence of any organic mental disorders.

Religiosity was assessed with the *Duke University Religion Index* (DUREL) *scale* [23]. The DUREL is a 5-item questionnaire designed to assess three main aspects of religiosity: organized religious activities, non-organized religious activities, and intrinsic religiosity. The total score of the DUREL scale was considered in the present study. Response options are on a 5- or 6-point Likert scale. The overall score is calculated by summing the scores of all items that ranged from 5 to 27.

In order to assess suicidal ideation, the total score of the Scale of Suicide Ideation (SSI), a 19 items clinician-rated scale that measures the intensity, pervasiveness, and characteristics of suicidal ideation in adults, was administered [24]. MDD severity was assessed with the 17-item HAM-D total score [22].

The rating scales' records were collected as a part of everyday "real world," routine clinical practice evaluation, and assessment of patients.

Statistical analysis

The gender differences were tested using a t-test. Partial correlations between DUREL, HAM-D, and SSI controlling for age, gender, duration of illness, and recurrence were conducted. Block-wise linear regression analyses were performed to ascertain which variables were associated with the severity of suicidal ideation (SSI as a dependent variable). Age, gender, duration of illness, and recurrence were added to the first block. At the second block, HAM-D scores were added to the model. The DUREL total score was entered in the third and last step. P values ≤ 0.05 were deemed statistically significant. All statistical testing was two-tailed.

Results

Gender comparisons between demographic and clinical variables showed no significant differences concerning any of the accounted variables. The mean duration of illness was 15.4 ± 6.5 months. The total score for the DUREL in the whole sample was 18.7 ± 7.6.

Partial correlation between DUREL, HAM-D, and SSI total scores controlling for age, gender, duration of illness and recurrence, showed that DUREL was negatively correlated with both SSI ($r = -0.78$, $p < 0.001$) and HAM-D

Table I. Results of the linear regression analysis with SSI as the dependent variable and other variables as independent. Only statistically significant variables are shown.

	Unstandardized coefficients		Standardized coefficient	t	*p*	95% Confidence Interval for *B*	
	B	SE	Beta			Lower bound	Upper bound
HAM-D	0.19	0.06	0.26	3.03	0.004	0.07	0.32
DUREL	-0.31	0.04	-0.70	-8.22	< 0.001	-0.38	-0.23

R^2: 0.65; dF: 53; F: 49.9; p < 0.001.

(r = -0.30, p = 0.03). In contrast, HAM-D was positively correlated with SSI (r = 0.51, p < 0.001).

In the linear regression models (Tab. I), higher DUREL scores were associated with lower suicide ideation (using SSI as a dependent variable). In contrast, higher HAM-D scores were associated with higher suicide ideation. In the current analyses, the R^2 values accounted for 65% of the variance in the SSI score. Besides, the Durbin-Watson coefficient was 1.748 (near to the optimum of 2.0). A scatter plot of residuals and a plot of regression-standardized residuals indicated a near-normal distribution.

Discussion

To our knowledge, this was one of the first studies that evaluated the relationships between religiosity and suicidal ideation in a sample of outpatients with MDD in a "real world" setting of everyday psychiatric practice.

Patients with higher religiosity showed less MDD severity, and these results may account for a potential protective effect of religiosity in the development and course of MDD. Miller et al. [17] followed longitudinally for ten years, 114 adult offspring of depressed and nondepressed parents. They found a long-term protective effect of the high personal importance of religion/spirituality against MDD, and subjects with particular high significance of Religion/Spirituality had about one-fourth the risk of having an episode of depression over a 10-year prospective period. The religiosity may foster the resilience in several persons that are at high risk of developing MDD, thus increasing the possibility to better cope with the disorder [25]. This finding of our study may also be interpreted in light of previous research on the biological correlates and heritable contribution of religiosity/spirituality, as representing a phenotypic expression that works interactively or systematically in tandem with depression but is structurally distinct at the level of the component that it is not merely an artifact of an ongoing clinical MDD episode or neither an attempt to seek external comfort [26,27].

However, the main results of the present study were that religiosity was associated with less severe suicidal ideation, and it was a predictive factor of reduced suicide risk in a linear regression model, somewhat counteracting the pro-suicidality effect of MDD severity. Several theories may explain the lower risk of suicidality in persons with a Religion [28]. First, coping with private problems may be eased by relating oneself with God, spiritual supervision, and faith principles [29,30]. Moreover, the protective effect of religiosity on suicidality may also be mediated by the strong social support given by catholic communities to the subject with MDD [31]. The individuals with religion may be more likely to have more robust social support and less likely to be utterly isolated than those without religion, and these factors may be highly protective against the MDD-related suicide risk [32]. Jacob et al. [11] evaluated the association of religiosity with suicidal ideation and suicide attempts in the United Kingdom nationally representative sample using cross-sectional data from 7,403 people who participated in the 2007 Adult Psychiatric Morbidity Survey. They found a significant and negative association of religiosity with past 12-mont suicidal ideation, lifetime suicidal ideation, and lifetime suicide attempts after controlling for several social and psychopathological variables. More recently, Gawad et al. [33] evaluated with the DUREL scale 688 adults admitted to an acute psychiatric facility with a primary mood or psychotic disorder and found that high religiosity scores were associated with significantly less suicidal ideation. Nevertheless, it has been demonstrated that religiosity, either as broad participation or through a religious association, was associated with protection against suicide proportional to the degree of participation in religious activities [34]. Jongkind et al. [35] demonstrated that higher moral objections to suicide (MOS) and a positive-supportive God representation in Christian patients with MDD were negatively correlated with suicide ideation.

The present study was preliminary and exploratory. As such, we would prompt the following limitations in the interpretation of these preliminary results. The first limitation was the quite small sample size (even if all the evaluated patients were drug naïve that are often hard to find). Additionally, even if the severity of MDD and suicidal ideation were analyzed using clinician-rated rating scales, religiosity was assessed by a self-rated scale, with probable biases due to the intrinsic nature of self-rating scales. Furthermore, we employed a cross-sectional design that limits statements regarding causality: our study lacks follow-up data. The cross-sectional method of the present study precluded any firm conclusion about any eventual hierarchical role interaction of either religiosity or MDD severity. In conclusion, the findings of our study confirm a potential protective role of religiosity against the development of suicide ideation, thus reducing the suicide risk in MDD subjects. Therefore, discussing religiosity with MDD patients may offer insights on why some persons are more

likely to consider or not suicide, and this may have implications for both patient care and the institution of effective suicide prevention strategies [36,37]. In several cases, the collaboration with spiritual care providers, such as priests and ecclesiastics, may enhance suicide prevention efforts [38,39]. We also advise that religiosity should always be measured in the "real world" everyday clinical practice in the subjects with MDD as the use of DUREL is very brief and straightforward.

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