Spirituality and religiousness as predictive factors of outcome in schizophrenia and schizo-affective disorders

Sylvia Mohr [a,*], Nader Perroud [a], Christiane Gillieron [b], Pierre-Yves Brandt [c], Isabelle Rieben [a], Laurence Borras [a], Philippe Huguelet [a]

[a] University Hospital of Geneva and University of Geneva, Division of Adult Psychiatry, Rue du 31-Décembre 36, 1207 Geneva, Switzerland
[b] University of Geneva, Faculty of Psychology and Education, Genève, Switzerland
[c] University of Lausanne Faculty of Theology and Sciences of Religion, Lausanne, Switzerland

ABSTRACT

Spirituality and religiousness have been shown to be highly prevalent in patients with schizophrenia. This study assesses the predictive value of helpful vs. harmful use of religion to cope with schizophrenia or schizo-affective disorder at 3 years. From an initial cohort of 115 outpatients, 80% were reassessed for positive, negative and general symptoms, clinical global impression, social adaptation and quality of life. For patients with helpful religion at baseline, the importance of spirituality was predictive of fewer negative symptoms, better clinical global impression, social functioning and quality of life. The frequencies of religious practices in community and support from religious community had no effect on outcome. For patients with harmful religion at baseline, no relationships were elicited. This result may be due to sample size. Indeed, helpful spiritual/religious coping concerns 83% of patients, whereas harmful spiritual/religious coping concerns only 14% of patients. Our study shows that helpful use of spirituality is predictive of a better outcome. Spirituality may facilitate recovery by providing resources for coping with symptoms. In some cases, however, spirituality and religiousness are a source of suffering. Helpful vs. harmful spiritual/religious coping appears to be of clinical significance.

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1. Introduction

Schizophrenia is often a chronic, disabling condition, associated with impairments in multiple domains of functioning. This disorder is known for its great heterogeneity across individuals and variability within individuals over time. Numerous factors have been associated with the outcome of schizophrenia including biological, phenomenological, social and demographic aspects (American Psychiatric Association, 2000; Altamura et al., 2007). Religion, defined in a broad sense which includes both spirituality (concern with the transcendent, addressing the ultimate questions about life's meaning) and religiousness (beliefs systems, behavioral, social and denominational characteristics) (Pargament, 1997), has seldom been considered in its potential role as a predictive factor of outcome in schizophrenia. Research on religion involving patients with schizophrenia has mainly focused on religious delusion, thus linking religion and psychopathology in this disorder (Mohr et al., 2004). However, in recent years, some studies have shown that religion was of great importance for many people with psychosis (Wahass and Kent, 1997; Corrigan et al., 2003; Mitchell and Romans, 2003; Pieper, 2004;

Bellamy et al., 2007; Teuton et al., 2007; Borras, Mohr et al. 2010) and severe mental disorders (Koenig, 2009). Compared to lay methods of coping, spirituality and religiousness may offer answers to the problems of human shortenings (Pargament and Brandt, 1998). Thus, it is not surprising that many people with mental illness use religion as a coping device. Spirituality may even play a key role in the psychological recovery from severe mental disorders such as schizophrenia (Fallot, 2007).

In a cross-sectional study on spiritual/religious coping in schizophrenia, we were able to show that when religion was helpful, its importance for the patients and the extent to which they depend on it for coping with their illness correlated with fewer symptoms, better social functioning, reduced substance misuse, reduced suicide attempt rate and stronger treatment adherence. Inverse relationships were found when religion was harmful (Mohr et al., 2006). Longitudinal data providing insight into the causal relationship between outcome and religion are lacking. Few studies have investigated the relationship between religion and outcome in psychosis. In India, an increase in religious practice was predictive of better clinical and functional outcome at 2 years (Verghese et al., 1989). Among Vietnam veterans in the USA, religiosity was a protective factor against re-hospitalization for substance abuse and psychiatric disorders at 2 years (Benda, 2002). A study by Phillips and Stein (2007) focused on how religious meaning may be given to

* Corresponding author. Tel.: +41 223823103; fax: +41 223823105.
E-mail address: Sylvia.Mohr@hcuge.ch (S. Mohr).

psychosis. The authors found that, at 1 year, a benevolent religious reappraisal of the illness was predictive of stress-related improvement and psychological well-being. Conversely, judging illness as God's punishment, and reappraising God's power as ineffective were predictive of self-reported distress and personal loss (Phillips and Stein, 2007). Similar results were reportedly obtained in other populations. For example, in physically ill elderly patients, religious struggle was associated with an increased risk of death during the following two years, whereas positive religious coping was associated with improvements in health (Pargament et al., 2004). Another finding observed in longitudinal studies is that religiosity increased when people had to cope with stressful events (Pargament, 1997). This finding was also reported in individuals coping with depression (Vaillant et al., 2008), HIV (Ironson et al., 2006) and recovery from substance misuse (Robinson et al., 2007).

The objective of the present study is to assess the predictive value of spirituality and religiousness in patients with schizophrenia. We hypothesized that when religion is helpful, religious patients would show better clinical outcome. Inversely, we hypothesized that when religion is harmful, its importance would be predictive of a poorer clinical outcome.

2. Method

2.1. Design

One hundred and fifteen subjects ($N = 115$) fulfilling DSM-IV criteria of schizophrenia or schizo-affective disorder recruited from four public psychiatric outpatient facilities in Geneva participated in the initial study (Mohr et al., 2006). In the initial study, patients were randomly selected, only three patients refused to participate. All available patients from this cohort were invited to take part in the present follow-up study. Data collection took place from May 2006 to June 2007, three years ($\pm$ 3 months) after the initial investigation. Assessors were not involved in the patients' care. The study was approved by the ethics committee of the University Hospital of Geneva. Patients signed a written detailed consent form prior to participating in the study.

2.2. Clinical measures

During the follow-up interviews, the same clinicians (SM and LB) reassessed spirituality and religiousness, symptoms and psychosocial adaptation (Positive and Negative Syndrome Scale (Kay, 1992), Clinical Global Impression (Guy, 1978) and Global Assessment of Functioning (APA, 2000)). The patients estimated their quality of life with a Visual Analogue Scale ranging from 0 (very unhappy) to 10 (very happy). The MINI (Sheehan et al., 1998) was administered to screen for current or past history of formally diagnosable psychiatric disorders, substance misuse and suicide attempts.

2.3. Assessment of spirituality and religiousness

At baseline, the patients' spirituality and religiousness were assessed with a semi-structured interview (Mohr et al., 2007). We retained a modern version of spirituality and religiousness, i.e. spirituality is limited to the area of the sacred and/or the transcendent, but may occur outside an established religious tradition (Koenig, 2008). For patients with psychosis, for whom religion can also be mixed with their psychopathology, the most appropriate evaluation method is the clinical interview, which allows for the clinician to adapt his language to the beliefs of each individual. Open questions were based on previous questionnaires for religion and religious coping in health research (Koenig et al., 1997; Fetzer Institute 1999; Pargament et al., 2000). This interview was designed to explore the patients' spiritual and religious history, spiritual beliefs, private and communal religious practices; the importance of religion in their lives, in their coping with their illness and its consequences; its interaction with the psychiatric treatment. This interview allowed for the clinician to grasp the patients' spiritual and religious worldview, the range and intensity of their religious practices (individual and collective) and how they resort to it (or not) to cope with their illness. In addition to the structured interview, we used a Visual Analogue Scale to obtain self-report measures on the salience of those various dimensions was measured by a Visual Analogue Scale ranging from 0 (of no importance) to 10 (essential). To make responses more precise, especially for patients who presented deficits in abstraction, five anchored points were provided. The duration of the interview was about 30 minutes.

In addition to this quantitative estimate, a qualitative content analysis of all interview transcripts was conducted independently by the two clinicians (SM and LB) to obtain a comprehensive view of religious coping strategies. Qualitative analysis categorized patients into three sub-groups: 1—helpful use of religion for coping with existential and symptomatic issues (i.e. religion provided patients with a positive sense of self or a spiritual sense of their illness that helped them accept it and mobilize their religious resources to cope), 2—harmful use of religion (i.e. religion contributed to a

negative sense of self, in terms of despair and suffering or a spiritual sense of the illness including fear, anger, or guilt) and 3—no use of religion (i.e. patients without spiritual beliefs or religious practices or if their religion was not mobilized to cope with their illness in any way). A high inter-rater reliability was obtained (kappa = 0.86).

2.4. Statistical analyses

Baseline clinical and demographic characteristics between subject with helpful and harmful use of religion to cope with existential and symptomatic issues were compared using a linear logistic regression adjusted for age and gender for categorical and continuous variables respectively.

Predictors of drop-out from the 3 years follow-up were assessed using Cox proportional hazard regression adjusted for age and gender.

Linear mixed models (Rabe-Hesketh and Skrondal, 2005; Uher et al., 2009) with fixed effect of treatment year and a random effect of individual, fitted with maximum likelihood with additional fixed effects of linear and quadratic functions of time, age, gender, and baseline severity of each individual scales was used to analyze if helpful vs. harmful use of religion was a predictor of treatment response for continuous scales. Treatment response was evaluated using the following scales: PANSS negative, positive, general symptoms and total score, and the Global Assessment functioning. The results of regression models are presented as standardized regression coefficients (β) with 95% confidence intervals which can be interpreted as effect size.

For ordinal outcome (the subjective quality of life, the clinical global impression and the global evaluation of clinical and functional status), prediction of positive and negative changes by the type of religious use (helpful vs. harmful) during the 3 years follow-up was analyzed using generalized linear latent and mixed model (gllamm) in STATA with adaptive quadrature to obtain maximum likelihood estimates for the individual random-intercept and slope model. As for the Linear mixed models, to relax the assumption of conditional independence in the responses of the same person, we included a subject-specific random-intercept. The analyses assumed a binomial error distribution. Helpful vs. harmful use of religion was included as fixed factors adjusted for age and gender.

In a second sensitivity analysis, the subjective importance of religion in daily life, to give meaning to life (SIRL), to cope with symptoms (SIRS), the frequency of communal religious activities and the support from the religious community were also investigated as potential predictors of response inside the two groups (harmful vs. helpful use of religion).

3. Results

3.1. Attrition

Twenty-three (20%) patients out of the 115 dropped-out at follow-up. One patient committed suicide, four were unattainable and the others refused the follow-up on the grounds that they were not interested in the topic. Of the 23 drop-outs, five patients had a harmful use of religion, 12 had a helpful use, and six showed no religious interests. In the follow-up group: harmful ($N = 13$), helpful ($N = 76$) and no religious interests ($N = 3$). This difference in helpful vs. harmful religion was significant ($p = 0.01$) and being a subject showing no religious concern was a predictive factor of drop-out with a hazard ratio (HR) of 4.72 (95% CI: from 1.70 to 13.07; $p = 0.003$). After adjusting for age and gender, better education and not having made a suicide attempt were both predictors of drop-out (HR = 3.24, 95% CI: from 1.27 to 8.25; $p = 0.014$ and HR = 0.36, 95% CI: from 0.13 to 0.97, $p = 0.044$). In a multivariate models and after adjusting for age and gender, better education and having no religious concern were the two remaining predictors of drop-out (HR = 3.61, 95% CI: from 1.39 to 9.34, $p = 0.008$ and HR = 3.55, 95% CI: from 1.24 to 10.17, $p = 0.018$ respectively). No other baseline demographic or clinical characteristics were associated with drop-out.

3.2. Baseline religious, clinical and demographic characteristics

The majority of the patients were Christians (63%); 10% came from other traditional religions (Judaism, Islam and Buddhism), 12% from minority religious movements and 15% had no religious affiliation. One-third of patients participated in religious activities with other people at least once a month, 14% occasionally and 52% never. Two thirds reported daily or weekly individual religious practices; and only 21% never. Nearly half of the patients (46%) reported that religion was the most important element in their lives. For most measures, between half and three-quarters of the patients rated religion as