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Delusions with Religious Content in Patients with Psychosis: How They Interact with Spiritual Coping

Sylvia Mohr, Laurence Borras, Carine Betrisey, Brandt Pierre-Yves, Christiane Gilliéron, and Philippe Huguelet

Delusions with religious content have been associated with a poorer prognosis in schizophrenia. Nevertheless, positive religious coping is frequent among this population and is associated with a better outcome. The aim of this study was to compared patients with delusions with religious content (n = 38), patients with other sorts of delusions (n = 85) and patients without persistent positive symptoms (n = 113) clinically and spiritually. Outpatients (n = 236) were randomly selected for a quantitative and qualitative evaluation of religious coping. Patients presenting delusions with religious content were not associated with a more severe clinical status compared to other deluded patients, but they were less likely to adhere to psychiatric treatment. For almost half of the group (45%), spirituality and religiousness helped patients cope with their illness. Delusional themes consisted of: persecution (by malevolent spiritual entities), influence (being controlled by spiritual entities), and self-significance (delusions of sin/guilt or grandiose delusions). Both groups of deluded patients valued religion more than other patients, but patients presenting delusions with religious content received less support from religious communities. In treating patients with such symptoms, clinicians should go beyond the label of "religious delusion," likely to involve stigmatization, by considering how delusions interact with patients' clinical and psychosocial context.

According to the DSM-IV-TR (American Psychiatric Association, 2000), a delusion is a false belief based on incorrect inference about external reality that is firmly sustained despite what almost everyone else believes and despite what constitutes incontrovertible and obvious proof of evidence to the contrary. Yet, defining a delusion is not always an easy task.

The diagnostic approach sets up qualitative differences between delusions and other beliefs. The belief is not one ordinarily accepted by other members of the person's culture or subculture (e.g., it is not an article of religious faith). When a false belief involves a value judgment, it is regarded as a delusion only when the judgment is so extreme as to defy credibility. Delusional

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conviction occurs on a continuum and can sometimes be inferred from an individual's behavior. It is often difficult to distinguish between a delusion and an overvalued idea (in which case the individual has an unreasonable belief or idea but does not hold it as firmly as a delusion). The contents of delusions may include a variety of themes (e.g., persecutory, referential, somatic, religious, or grandiose).The aforementioned definition of delusions has been widely criticized. The falsity criterion of delusions has been dismissed as impossible to apply, difficult to prove or even irrelevant in the sense that a delusion's content can actually be true (Spitzer, 1990). In particular, delusional religious beliefs lack any clear empirical content (Lesser & O'Donohue, 1999); the level of conviction may change with time (Myin-Germeys, Nicolson, & Delespaul, 2001); individuals can form a community based on the content of delusional beliefs (Bell, Maiden, Munoz-Solomando, & Reddy, 2006); and religious beliefs, like delusions, lie outside the realm of objective "falsifiability," subjective certainty, and incorrigibility (Pierre, 2001). However, the categorical nature of the diagnostic approach underlines a core psychopathological feature indicative of a substantial break with reality, with widespread clinical acceptance and demonstrated reliability (Bell, Halligan, & Ellis, 2006).

The discontinuity between pathology and normality has been challenged by epidemiological studies with standardized diagnostic instruments which have demonstrated the presence of delusions in the general population without psychiatric disorders (Eaton, Romanoski, Anthony, & Nestadt, 1991; Kendler, Gallagher, Abelson, & Kessler, 1996; Van Os, Hanssen, Bijil, & Vollenbergh, 2001). With this in mind, delusions can be considered as complex and multi-dimensional phenomena rather than as discrete discontinuous entities. Thus, the most effective way to assess the presence of a delusion may be to consider a list of dimensions. While no single dimension is necessary or sufficient to establish the presence of a delusion on its own, considering these elements together can consolidate agreement. For instance, the more a belief is implausible, unfounded, strongly held, not shared by others, distressing, and preoccupying, the more likely it is to be considered a delusion (Freeman, Pugh, Green, Valmaggia, Dunn, & Garety, 2007). The number and the nature of these dimensions varies across studies; the most commonly retained dimensions are conviction, preoccupation, pervasiveness, negative emotionality and action-inaction (Combs, Adams, Michael, Penn, Basso, & Gouvier, 2006). Peters, Joseph, Day, and Garety (2004) retained three dimensions: distress, preoccupation, and conviction associated with current delusional ideations. Members of new religious movements have been shown to endorse as many delusional beliefs as psychotic inpatients, with the same level of conviction, but without preoccupation or distress (Peters, Day, McKenna, & Orbach, 1999). Jones and Watson (1997) compared the characteristics of delusions in subjects with schizophrenia to beliefs about the existence of God in a control group of highly religious Christians. Their religious beliefs and delusions did not differ with regard to conviction, falsity, affect, or influence on behavior. They only differed in their degree of preoccupation and the role of perception in belief.

These studies indicate that assessing the content of beliefs is of little use in differentiating religious beliefs from delusions. When Appelbaum, Robbins, and Roth (1999) compared the non-content dimensions of delusions (conviction, pervasiveness, preoccupation, action, inaction, and negative affect) across various types of delusions (persecutory, body/mind control, grandiose, thought broadcasting, religious, guilt, somatic, influence on others, jealousy, and other), they found that religious delusions were held with more conviction and pervasiveness than other delusions.

The prevalence of diagnosed religious delusions has varied across epochs and cultures. Some studies have compared the prev-

alence of religious delusions across populations (Azhar, Varma, & Hakim, 1995; Kim, Hwu, Zhang, Lu, Park, & Hwang, 2001; Ndetei & Vadher, 1984; Suhail, 2003). The prevalence rate for inpatients with psychosis varied from 6% in Pakistan, 7% in Japan, 20% in Italy, 21% in Germany, 21% in Austria to 36% in North America (Appelbaum et al., 1999; Raja, Azzoni, & Lubich, 2000; Stompe, Friedman, Ortwein, Strobl, Chaudhry, Najam, 1999; Tateyama, Asai, Hashimoto, Bartels, & Kasper, 1998). These studies highlight the role of the culture in the interpretation of psychotic experience. For example, in persecutory delusion, the persecutors are more often supernatural entities among Christians than among Buddhists or Muslims (Stompe et al., 1999; Tateyama et al., 1998). In Egypt, the religious delusions rate varied according to the religious changes in the country (Atallah, El-Dosoky, Coker, Nabil, & El-Islam, 2001). Intensive religious practices are associated with increased religious delusion rates (Getz, Fleck, & Strakowski, 2001; Peters et al., 1999; Siddle, Haddock, Tarrier, & Faragher, 2002), but are not a necessary condition for religious delusion (Drinnan & Lavender, 2006; Siddle et al., 2002). All these studies draw attention to the influence of culture on the contents of delusions. Religious delusions are typically persecutory (often involving the devil), grandiose (messianic complex) or belittling (commission of unpardonable sins) in content (Wilson, 1998). Siddle and colleagues (2002) found that secondary religious delusions are the most common; for example, a patient hears a voice or has some other hallucination attributed to God or the devil. Labeling this process as a religious delusion is somewhat confusing, especially when considering the fact that patients with non-psychotic psychiatric illness (Pfeifer, 1999), as well as the general population (Hartog & Gow, 2005), commonly attribute the causes of mental illness to God or Satan. Two theoretical models aim to explain the formation of delusions: a motivational model (delusions serve a defensive, palliative function, representing an attempt to relieve pain, tension, and distress) and a deficit or defect model (delusions as a consequence of fundamental cognitive or perceptual abnormalities (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001)). McKay, Langdon, and Coltheart (2007) have integrated these two models: motivation plays a role in the formation of delusional hypotheses to explain anomalous perceptual experiences. A central psychological function of spirituality and religion is to give meaning to life experiences (Park, 2007). Drinnan and Lavender (2006) have depicted how the religious backgrounds of seven patients with religious delusions form a framework for interpreting their anomalous experiences. This underscores the need to take religious coping into account when evaluating religious delusion. Indeed, for many patients with schizophrenia, spirituality and religion appear to be an important (if not the most important) element in their lives. Moreover, spirituality and religion frequently help them to cope with hallucinations and/or delusions (Mohr, Brandt, Borras, Gillieron, & Huguelet, 2006). In a study of 153 patients suffering from serious mental illness, religious coping was associated with recovery, but religious delusions were not related to functional or other recovery-related outcomes (Yangarber-Hicks, 2005).

The religious delusion category may in itself be misleading. In an attempt to link dimensions of psychopathology to putative neurobiological mechanisms, Kimhy, Goetz, Yale, Corcoran & Malaspina (2005) concluded that delusions were best described in three distinct subtypes: delusions of persecution, delusions of self-significance, and delusions of influence. In analyzing the content of persecutory delusions, Green, Garety, Freeman, Fowler, Bebbington, Dunn, and Kuipers (2006) found that 19% of the persecuting agents were spiritual and could be labeled as religious delusions. Religion is the most common content of grandiose delusions across cultures (Ndetei & Vandher, 1984). Smith, Freeman, and Kuipers (2005) found that 55% of grandiose delusions had religious

content. Pacherie, Green, and Bayne (2006) pointed out that the agent of control in influence delusions may be another person, a collective of others, or a non-human device such as a satellite or a computer, but also a supernatural entity.

The aim of this study is to analyze the relationships between religious coping and religious delusion among patients with schizophrenia or schizo-affective disorder. To achieve this goal, we compared social, clinical, and religious coping in outpatients with delusions with religious content versus outpatients with delusions without religious content versus outpatients without delusions. We hypothesized that 1) the presence of a religious content in a delusion does not worsen a patient's clinical status, and 2) positive religious coping may coexist with delusions with religious content.

METHODS

Study design and procedure

A study examining spirituality and religiousness in the process of coping with psychotic illness was conducted in Geneva, Switzerland (Mohr et al., 2006) . This study was replicated in Trois-Rivières, Québec. For the present paper, data of both studies were pooled together. Two hundred thirty-six outpatients were included in the study. One hundred eighteen patients were randomly selected from Geneva's 4 public psychiatric ambulatory facilities, and 126 consecutive outpatients were selected from the Assertive Community Treatment (ACT) program in Trois-Rivières. Only 8 patients refused to participate. Participants were adult outpatients who met ICD-10 criteria for schizophrenia or schizo-affective disorders. Best estimated diagnoses were established by the MINI (a screening instrument for current or past history of formally diagnosable psychiatric disorders, substance misuse, and suicide attempts) (Sheehan, Lecrubier, Sheehan, et al., 1998) and the review of patients' charts. The study was approved by the ethical committees of the University Hospital of Geneva and the Trois-Rivières University. All participants received detailed information about the study and gave written consent. Data collection took place between May 2003 and June 2004 in Geneva; and between October 2006 and December 2006 in Québec.

Demographic and clinical data were collected from medical charts. The Positive and Negative Syndrome Scale (PANSS) (Kay, Opler & Fiszbein, 1992), the Clinical Global Impression (CGI (National Institute of Mental Health [NIMH], 1978), and the psychosocial adaptation (axis V of the DSM-IV (APA, 2000)), and the MINI (Sheehan et al., 1998) were administered by trained raters (SM and LB). Patients estimated their subjective quality of life through a visual analogue scale ranging from 0 "very unhappy" to 10 "very happy."

By "religion" we mean both spirituality, which is concerned with the transcendent, addressing the ultimate questions about life's meaning, and religiousness, which refers to specific behavioral, social, doctrinal, and denominational characteristics. Patients' religion was assessed with our semi-structured interview (Mohr, Gillieron, Borras, Brandt, & Huguelet, 2007). This interview explored the spiritual and religious history of patients, their beliefs, their private and their communal religious activities, the importance of religion in their daily lives, the importance of religion as a means of coping with their illness and its consequences, the synergy versus incompatibility of religion with somatic and psychiatric care, and their ease in speaking about religion. Our clinical grid proved its applicability to a broad diversity of religious beliefs, even pathological ones, with high inter-judge reliability and construct validity. In addition to this interview, the salience of religiousness (i.e., the frequency of religious activities and the subjective importance of religion in daily life), religious coping, and synergy with psychiatric care were auto-evaluated by means of a visual analogue scale with 5 anchored

points. The duration of the audiotaped interview was about 45 minutes.

Statistical analysis

Data were analyzed using the Statistical Package for the Social Sciences, version 15 (SPSS, 2007). Due to the non-normally distributed variables and the non-assumption of homogeneity of variances, non-parametrical statistics were used to compare the 3 groups of patients (chi-square, Kruskal-Wallis tests). If the comparisons were significant at a *p*-level of .05, post hoc tests were used to follow up these differences. Mann-Whitney tests were used with a Bonferroni correction on the *p*-level of significance ($p = .05/3 = .0167$). Mann-Whitney tests were also used to compare both samples according to the area.

In addition, stepwise regressions analyses were performed to control for confounder variables (age, gender, and area) with a *p*-level of .05 for entering and of .10 for removing a variable. A principal component analysis was conducted on 12 items concerning religious dimensions, with orthogonal rotation (varimax).

RESULTS

Sociodemographic and Clinical Characteristics and Analysis of Delusions

According to the levels of four positive symptoms on the PANSS (Kay, Opler & Fiszbein, 1992) (P1: delusion; P3: hallucinations; P5: grandiosity; and P6: persecution), patients were divided into two groups. A group of 113 patients (48%) had "no" to "low" positive symptoms, and a group of 123 patients (52%) had "moderate" to "severe" positive symptoms. A qualitative content analysis of all the transcripts of the latter group was conducted independently by two authors (SM and LB). Based on the phenomenology of symptoms, delusions of persecution, delusions of self-significance, and delusions of influence were categorized as delusions with religious contents when the agents of persecution, of power, or of control were spiritual entities. This analysis made it possible to differentiate patients according to the presence or absence of religious content in delusions. Inter-rater reliability was high (kappa = 0.89). A sub-group of 38 patients (16%) displayed delusions with religious content.

Table 1 compares the social and clinical characteristics of the patients included according to the presence of delusions with religious content (Group 1, G1), delusions without religious content (Group 2, G2), and the absence of delusions (Group 3, G3). The ethnic majority (Caucasian) is not equally distribute into the 3 groups ($X^2(2) = 7.22$, $p < .05$). More patients issued from ethnic minorities displayed no delusions (5%, $z = -2.57$, $p < .0167$). At the clinical level, logically, presence of positive symptoms is different according to the groups ($H(2) = 105.26$, $p < .00$). Group 3 displayed lower positive symptoms (M = 11) than Group 1 (M = 19, $z = -7.64$, $p < .0167$) and Group 2 (M = 17, $z = -8.91$, $p < .0167$). Groups also differ at the level of the scales of global clinical impression, psychosocial functioning and general symptoms ($H(2) = 33.31$, $p < .001$; $H(2) = 28.13$, $p < .001$; $H(2) = 7.80$, $p < .05$). Group 3 was characterized by better global clinical impression (M = 2.7) than Group 1 (M = 3.4, $z = -4.54$, $p < .02$) and Group 2 (M = 3.3, $z = -4.86$, $p < .0167$), better psychosocial functioning (M = 59) than Group 1 (M = 51, $z = -4.61$, $p < .0167$) and Group 2 (M = 53, $z = -4.06$, $p < .0167$), lower general symptoms (M = 27) than Group 1 (M = 32, $z = -2.82$, $p < .0167$). Also diagnoses are not equally distributed into the 3 groups ($X^2(2) = 12.45$, $p < .01$). A more frequent diagnosis of schizo-affective disorder is registered in Group 3 (32%) than in Group 2 (11%, $z = -3.53$, $p < .0167$).

It is interesting to point out that no statistically significant difference had been

TABLE 1. Demographic and Clinical Characteristics of 236 Outpatients in a Study of Religious Coping and Delusion with Religious Content in Schizophrenia and Schizoaffective disorder

	Group 1 Delusions with religious content (n = 38)	Group 2 Delusions without religious content (n = 85)	Group 3 No delusions (n = 113)	Statistics[c]	P Value
Mean age (years) (SD)	43 (13)	40 (13)	45 (13)	H(2) = 6.111	.047
Male gender (%)	71	62	62	$X^2(2) = 1.101$	.557
Married (%)	11	6	4		
Divorced (%)	13	19	29	$X^2(4) = 7.287$	.121
Has a child or children (%)	29	21	35	$X^2(2) = 4.375$	.112
Professional education (%)	53	59	55	$X^2(2) = 0.508$	.776
Caucasian (%)	84	84*	95*	$X^2(2) = 7.216$	.027
Assisted employment (%)	29	46	44		
Regular job or study (%)	5	6	10	$X^2(4) = 5.539$	.236
With disability pension (%)	95	89	92	$X^2(2) = 1.033$	.597
Living with family (%)	26	22	15		
Living in a halfway house (%)	16	35	34	$X^2(4) = 7.454$	.114
Diagnosis:					
Schizophrenia (%)	76	89*	68*		
Schizoaffective disorder (%)	24	11*	32*	$X^2(2) = 12.454$	.002
Substance misuse (%)	24	21	19	$X^2(2) = 0.514$	.773
Nicotine dependency (%)	79*	64	57*	$X^2(2) = 6.091$	.048
History of suicide attempt (%)	50	42	39	$X^2(2) = 1.438$	.487
Antipsychotic medication:					
Non-adherence (%)	18	13	10		
Partial adherence (%)	13	7	6		
Depot medication (%)	24	13	14		
Good adherence (%)	45	67	70	$X^2(6) = 8.695$	.191
Mean subjective quality of life (SD)[a]	6.0 (2.5)	5.9 (2.5)	5.9 (2.0)	H(2) = .083	.960
Hospitalizations:					
Mean number (SD)	8 (8)	11 (14)	8 (10)	H (2) = 6.141	.046
Mean duration (in months) (SD)	10 (15)	18 (30)	10 (15)	H (2) = 6.239	.044
Mean duration of illness (years) (SD)	20 (12)	19 (13)	18 (12)	H (2) = 1.220	.543
Mean CGI (SD)[b]	3.4 (0.9)*	3.3 (0.8)*	2.7 (0.8)*	H (2) = 33.309	.000
Mean GAS (SD)[c]	51 (10)*	53 (11)*	59 (8)*	H (2) = 28.131	.000
Positive and Negative Syndrome:[d]					
Mean positive symptoms (SD)	19 (6)*	17 (5)*	11 (3)*	H (2) = 105.26	.000
Mean negative symptoms (SD)	15 (6)	16 (7)	15 (6)	H (2) = .418	.811
Mean general symptoms (SD)	32 (10)*	29 (11)	27 (7)*	H (2) = 7.797	.020
Mean total score (SD)	66 (19)*	62 (20)*	52 (13)*	H (2) = 21.744	.000

[a]Subjective quality of life, possible scores ranging from 0 to 10, with higher scores indicating better quality of life. [b]Clinical Global Impression, possible scores ranging from 1 to 5, with higher scores indicating a more severe illness. [c]Global Assessment Score, possible scores range from 1 to 100, with higher scores indicating better functioning. [d]Positive and Negative Syndrome Scale, possible scores range from 7 to 49 for positive and negative symptoms from 16 to 112 for general symptoms, and from 30 to 210 for total score, with higher scores indicating severity of symptoms. [e]Kruskal-Wallis tests and Chi-square tests, post-hoc tests (Mann-Whitney). *Significant differences between G1 and G3 and/or G2 and G3, at a p-value of .0167.

found between the two groups with delusions (G1/G2) on social and clinical characteristics.

Besides, patients from Québec were older (48 vs. 39 years old, z = -5.21, $p < .001$) and featured a longer duration of illness than the Geneva patients (M = 21 vs. M = 15 years, z = -3.63, $p < .001$). The Trois-Rivières patients also appeared to be more symptomatic than the Geneva patients according to the negative symptoms scale (M = 18 vs. M = 13, z = -6.59, $p < .001$) and the general symptoms scale (M = 31 vs. M = 25, z = -7.33, $p < .001$) of the PANSS, as the former were followed by an ACT team devoted to severely ill patients.

Stepwise regression analyses showed that the results of the CGI, the GAS, and the positive and negative symptoms scales were independent of age and gender. For the general symptoms scale, women displayed more symptoms than men ($R^2 = .025$ for Step 1, $t(227) = -2.394$, $p < .05$).

Spirituality, Religious Practices, and Religious Coping vs. Content of Delusions

A principal component analysis (with varimax rotation) conducted on the whole sample of 236 outpatients elicited 3 components with eigenvalues greater than 1 (Kaiser's criterion) in the religious construct: Component 1, the "subjective factor" (frequencies of religious activities alone, subjective importance of religion in day-to-day life, in attributing meaning to life and the illness, in coping with the illness, in gaining control and comfort); Component 2, the "collective factor" (frequencies of religious activities with other people and support from the religious community); and Component 3, "synergy with psychiatric treatment" (antagonism between religion, medication, and consultations with a psychiatrist, and the ease with which patients could speak to a psychiatrist about religion (inverted)). The 3 components, after rotation, explained 63% of the variance (35%, 14%, and 14% respectively).

In addition to this quantitative estimate, a qualitative content analysis of all interview transcripts was conducted by two authors (SM and LB) in order to obtain a comprehensive view of religious coping strategies. The result of this investigation showed that patients could be separated into three groups reflecting their coping strategies at a "psychological level" (i.e., coping with existential and symptomatic issues), those who featured 1) positive coping, 2) negative coping, and 3) "no religious coping." Patients were placed in the positive group if their religion provided them with a positive sense of self, and/or a spiritual sense of the illness that helped them to accept it and mobilize their religious resources to cope. This form of religious coping led to decreased symptoms and improved social relationships. Patients were placed in the negative group if their religion contributed to a negative sense of self, in terms of despair and suffering and/or a spiritual sense of the illness inducing fear, anger, or guilt. This form of religious coping led to increased symptoms and social isolation. Patients were placed in the "no religious coping" group not only if they had absolutely no spiritual beliefs or religious practices, but also if their religion was marginal, that is, not mobilized to cope with their illness in any way. With these criteria in mind, the third author independently classified the patients into the three groups. Inter-rater reliability was high (kappa = 0.86).

Table 2 compares the religious characteristics of the patients included according to presence and content of delusions. The three groups were equally distributed across the various religions ($X^2(6) = 9.098$, n.s.). Patients from the different groups attributed not the same importance to religion (Component 1) ($H(2) = 6.479$, $p < .05$). Patients with positive symptoms (G1 and G2) tended to attri-

TABLE 2. Spirituality, Religiousness and Religious Coping of 236 Outpatients in a Study of Religious Coping and Delusion with Religious Content in Schizophrenia and Schizoaffective Disorder

	Group 1 Delusions with religious content (n = 38)	Group 2 Delusions without religious content (n = 85)	Group 3 No delusions (n = 113)	Statistic[e]	P Value
Religious preference					
Christians (%)	68	75	82		
Judaism, Islam, Buddhism (%)	5	6	4		
Minority religious movements (%)	16	8	3		
Without religious affiliation (%)	11	11	11	$X^2(6) = 9.098$	.168
Component 1 "Subjective dimension of religion"[a]					
Mean score on Component 1 (SD)	0.29 (0.81)	0.10 (1.01)	-0.18 (1.03)	H (2) = 6.479	.039
Component 2 "Collective dimension of religion"[b]					
Mean score on Component 2 (SD)	-0.40 (0.87)*	0.05 (1.10)*	0.09 (0.94)*	H (2) = 13.057	.001
Component 3 "Antagonism of religion with psychiatric treatment"[c]					
Mean score on Component 3 (SD)	0.55 (1.44)*	-0.11 (0.82)*	-0.11 (0.89)*	H (2) = 12.473	.002
Global evaluation of religious coping[d]					
positive (%)	45	85	84		
absent (%)	0	7	8		
negative (%)	55	8	8	$X^2(4) = 54.63$	.000

aMean (SD) score for the total sample on F10.0 (1.0), with higher scores indicating more subjective importance of religion in day-to-day life, with more frequent religious activities alone, in giving meaning to life and the illness, in coping with the illness, in controlling the illness, in gaining comfort and more frequent individual religious practices. bMean (SD) score for the total sample on F2 0.0 (1.0), with higher scores indicating more frequent collective religious practices and more support from the religious community. cMean (SD) score for the total sample on F3 0.0 (1.0), with higher score indicating more antagonism between religion, Medication, and consultations with a psychiatrist, and feeling less comfortable speaking about religion with a psychiatrist. dPositive religious coping means that religion provides a positive sense of self and helps to reduce the symptomatology. No religious coping means that religion is of little importance and is not used to cope with the illness. Negative religious coping means that religion contributes to a negative sense of self and increases symptomatology. eKruskal-Wallis tests and Chi-square tests, post-hoc tests (Mann-Whitney). *Significant differences between G1 and G3 and/or G1 and G2, at a p-value of .0167.

bute more subjective importance to religion than patients without positive symptoms. Patients with delusions with religious content had fewer collective religious practices and less support from their religious communities (Component 2) ($H(2) = 13.057$, $p < .01$) than other patients (G1 vs. G2, $z = -2.559$, $p < .05$; G1 vs. G3, $z = -3.720$, $p < .001$). Patients with delusions with religious content were more likely to experience conflicts between religion and psychiatric care (Component 3) ($H(2) = 12.473$, $p < .01$) than other patients (G1 vs. G2, $z = -3.216$, $p < .01$; G1 vs. G3, $z = -3.291$, $p < .01$). Indeed, a fourth of them thought that their religious beliefs were in contradiction with their antipsychotic medication or supportive therapy (26% vs. 11% for Group 2 and 7% for Group 3). Stepwise regression analyses showed that the 3 religious factors were independent of age, gender and area (Quebec vs. Geneva).

Religion was more likely to be a source of suffering and a burden (negative religious coping) for patients with delusions with religious content than for other patients (55% vs. 8% for Group 2 and 3).

Main Types of Delusions with Religious Content

Table 3 compares the distribution of types of delusions with religious content according to positive or negative religious coping. Even for patients with delusions with

religious contents, religious coping may alleviate the severity of delusions by decreasing the levels of conviction, the levels of fear, and prevent maladjusted behavior. Some examples of positive religious coping will clarify this finding.

Delusion of persecution. For five patients, the agent of threat in their delusion was a malevolent spiritual entity, but their religion helped them to cope with their delusion of persecution. For example, a 63-year-old man with schizoaffective disorder reported how leaning on a loving God reduces the despair associated with a delusion of persecution. He said: "I am Catholic, I believe 100 percent in God, angels, saints, and the Madonna. I believe in my guardian angel. I pray often, every day. God is almighty and loving. For 10 years, the auras of bad people I met during my last psychiatric hospitalization have persecuted me. The auras say "we will catch him" and "we will kill him," and they make me feel external pain. At the beginning, I was hopeless and I believed that the auras were strong and superior. I spoke to the priest about the auras, and he helped me to find the courage to fight. God loves me and comforts me. With the help of God, I am winning against the auras. They cannot hurt me anymore, and they are inferior. I don't speak about this to the psychiatrist, because it is very personal. I do not have a mental disorder, but a physical illness due to the auras, so I take the medication."

Delusion of influence. Seven patients had the delusion of being controlled by supernatural entities, but their religion helped them to cope with their delusion of influence. For example, a 27-year-old man with paranoid schizophrenia reported: "I am Catholic; I believe in God. My beliefs saved my life. At the hospital, I lost all hope. I was hearing voices all the time. I prayed the prayer for the ill, and it got worse. I heard the voice of God in my head telling me "kill!" and things that were exactly the opposite of what I thought. I was not me anymore, but controlled by God. I stopped praying. I thought about taking medication to die. I asked the priest to help me. He was compassionate, understanding how hard it was to hear voices in my head and pray at the same time. He prayed for me, and I suddenly understood that the voices were my illness and not God. I regained faith, and since that time, praying has helped me to have the courage to face the voices. They are not from God, but God is in my heart, not in my head. Voices are symptoms of my illness, without the power to control me."

A 64-year-old woman with paranoid schizophrenia reported that her illness began when her sister had an abortion. She felt excessively guilty about this event; she was angry at God and stopped praying for several years. Then, she heard voices from beyond the grave of souls in purgatory telling her: "it is enough, it is enough" and "pray again." She also saw lights. She interpreted these experiences as warnings from God. Since then, she has begun praying again and has felt released from her guilt and protected by Jesus and the Virgin Mary. She still hears the voices every November, the month of the deceased, according to her Catholic beliefs.

Delusion of self-significance. Four patients had grandiose delusions that they were spiritual entities or had special spiritual powers, but their religion helped them to cope with their delusions. For example, a 38-year-old woman with schizoaffective disorder reported how religious knowledge has shaken her deluded conviction: "I have mystical periods when I feel close to God and terrified of God. During the last one, I had the revelation that I was the reincarnation of Orpheus. I had the knowledge of Orphic mysteries and secrets. I could see the future. Since that time, I have been very interested in religion. I read about Christianity, Islam, Judaism, Buddhism, mythology and also the depth psychology of Jung. I still hear voices like melodies, and I experience premonitory phenomena, but, from my readings, I doubt that I am Or-

TABLE 3. Main Types of Delusions with Religious Content in a Study of Religious Coping and Delusion with Religious Content in Schizophrenia

	Global evaluation of religious coping					
	positive		negative		Total	
	n	%	n	%	n	%
	17	45	21	55	38	100
Main delusional type:						
Delusion of persecution	6	35	3	14	9	24
Delusion of self-significance	6	35	15	71	21	55
grandiose	5		9		14	
guilt/sin	1		5		5	
reference	0		1		1	
Delusion of influence	5	29	3	14	8	21

pheus. Instead, I think that my knowledge comes from the collective unconscious."

DISCUSSION

The main results of this study are that patients who have persistent delusions with religious content do not feature worse clinical and social status than other deluded patients, but more frequently feature antagonism with psychiatric care and get less support from their religious communities. Negative religious coping was more frequent for this group, with 45% of them obtaining positive religious resources in terms of coping.

Delusion with Religious Content and the Subjective Dimension of Religion and Spirituality

For patients with positive symptoms, religion tended to be more important than for other patients. This difference cannot be explained by the presence of more negative symptoms such as apathy or avolition among other patients, since the levels of negative symptoms were the same for the three groups. Two related phenomena may explain these results. On one hand, a central psychological function of spirituality is to give meaning to life experiences (Park, 2007). Psychotic symptoms, especially hallucinations, are often distressing abnormal experiences. In this context, spiritual explanations are particularly appealing (Drinnan & Lavender, 2006; Hartog & Gow, 2005; Pfeifer, S., 1999; Wilson, 1998). On the other hand, patients depend on spirituality to lessen their fear of, preoccupation with and conviction in psychotic symptoms; they use spirituality to cope with the illness and to recover, as exemplified in our content analysis and in the literature (Mohr et al., 2006; Yangarber-Hicks, 2005). This finding shows that the association between delusion and religion in schizophrenia is not necessarily pathological.

Delusion with Religious Content and the Collective Dimension of Religion (Religiousness)

Delusions with religious content were an obstacle to participation in religious activities with other people and support from a religious community. For the few patients who reported such help in the midst of their delusional ideations, it was a turning point toward healthy religious coping. But some patients were also rejected by religtious communities due to the dysfunctional behaviors related to their delusions. Consequently, the

presence of delusions with religious content made it more difficult for these patients to be helped, as they kept their distance from both psychiatric care and religious communities.

Delusion with Religious Content and Positive vs. Negative Religious Coping

Patients with religious delusions were less likely to feature positive religious coping. Yet, our data show that the equations "delusion with religious content = negative religious coping" and "delusion without religious content = positive religious coping" are not valid. Even if the association leans in this direction, it is not always the case. The presence of a delusion with religious content does not imply that religion is globally pathological. It is also worth pointing out that patients with schizophrenia sometimes live through spiritual struggles like loss of faith and anger against God or the religious community, and that such negative religious coping is not systematically related to psychopathology, such as delusions with religious content (Pargament, Zinnbauer, Scott, Butter, Zerowin, & Stanik, 1998).

Ethnicity

The rates of delusions with religious content have been shown to vary across cultures (Appelbaum, Robbins, & Roth, 1999; Raja, Azzoni, & Lubich, 2000; Stompe et al., 1999; Tateyama et al., 1998), but religious delusion rates were similar across ethnicities in our sample. This could be due to the great heterogeneity of cultures of the non-Caucasians in our sample, pooled together due to the sample size. This reduction probably suppressed variation across cultures.

Diagnosis

Patients with a diagnosis of schizoaffective disorder were less likely to feature delusions--with or without religious content--than patients with a diagnosis of schizophrenia. This result is congruent with the literature. Delusional phenomena are not limited to the diagnosis of schizophrenia (APA, 2000). However, the rate of delusion is highest in schizophrenia, then in bipolar disorder, and lowest in depression and substance misuse (Appelbaum, Robbins & Roth, 1999). Moreover, delusions are more persistent in schizophrenia than in other mental disorders (Appelbaum, Robbins, & Vesselinov, 2004).

Delusions with Religious Content and Clinical Features

In some studies, delusions with a religious content have been associated with a poorer prognosis (Appelbaum, Robbins, & Roth, 1999; Siddle, Haddock, Tarrier, & Faragher, 2002; Thara & Eaton, 1996). Our data do not confirm this tendency, but point out how delusions with religious content may lead to a poorer therapeutic alliance. In the present study, deluded patients with religious content had been hospitalized for a shorter time than other deluded patients and were more likely to experience a conflict between their religion and psychiatric treatment. The latter issue could be related to the fact that some patients may find hallucinations or delusions to be agreeable, in their function as coping mechanisms which help avoid the painful experience of reality (Jenner, Rutten, Beuckens, Boonstra, Sytema, 2008). Beyond cognitive elements preventing insight, this could be the main factor explaining their reluctance to seek medical care. Thus, it is harder for clinicians to treat patients when their delusions have a religious content. In addition, when religious coping is taken into account, these patients are less likely to benefit from the support of their religious communities, and their religion is more often a burden than a support. This situation is likely to be challenging for both clinicians and religious clergy.

Delusions with Religious Content and Religious Preference

Our sample was representative of outpatients treated in our psychiatric services, with an over-representation of Christians. In this sample, the frequency of delusions with religious content was independent of religious preference (but our study was not designed to address this issue). In major religions (Christianity, Islam, Judaism, Buddhism, and Hinduism), beliefs about demons, evil spirits, and divine powers influence the understanding of mental illness and its treatment (Kinzie, 2000). However, the prevalence of delusions with religious content varies across religions (Atallah et al., 2001; Azhar, Varma & Hakim, 1995; Getz, Fleck, & Strakowski, 2001; Kim et al., 2001; Ndetei & Vadher, 1984; Raja, Azzoni & Lubich, 2000; Siddle et al., 2002; Suhail, 2003; Stompe et al., 1999; Tateyama et al., 1998).

Limitations

This study had some limitations. Longitudinal data are crucial to a better understanding of the phenomena studied. Indeed, like other delusions, delusions with religious content vary over time. Some patients spontaneously reported how past delusions with religious content had radically changed the course of their spiritual and religious life, from loss of faith to a refocusing of their whole life around religion. Longitudinal data are also needed to clarify the way patients seek help and how they are cared for by psychiatric and religious communities.

Our sample is representative of patients treated in our areas, thus not representative of the multitude of religions that exist around the world. Each religion is unique and has a unique response to the fundamental questions of humankind. Moreover, the relationships between psychiatric care and spiritual care depend on local resources. This study calls for replication in others cultural contexts.

Delusions with Religious Content and Clinical Implications

The complex relationships elicited between delusions with religious content and religious coping can explain how confusing it can be for clinicians to manage this issue. Clinicians need guidelines to dissociate pathology from religion. In the perspective of clinical care oriented toward recovery, the concept of "religious delusion" should be considered with caution. It may be humiliating for some patients to be labeled as suffering from " religious" or "mystical delusion." Indeed our data shows that religion can be part of one's identity and that religious coping may be helpful even in those cases. When examining the core themes of delusions with religious content, we find that they deal with good and bad, life and death (persecution, guilt/sin), the value of individual beings (grandiose delusion), free will (delusion of influence), and so forth. Even if these themes are expressed in a delusional way, they belong to the central preoccupations that human beings have had for centuries, variously elaborated by different religions. Thus, it is in the patient's best interest to replace the label "religious delusion" with more pertinent and valid categories of delusion, like delusion of persecution, delusion of self-significance, and delusion of influence. The next step is to treat these delusions like others, according to clinical guidelines.

Given the importance religion may have in coping with psychosis, spirituality and religiousness. Spirituality should be systematically assessed in patients. This assessment requires respect for all religious beliefs, even when expressed in a deluded way. Noteworthy is that religious delusions and religious beliefs cannot be differentiated by their contents (Pierre, 2001). The spiritual assessment allows clinicians to identify patients' spiritual needs and resources. When possible, collaborating with clergy can be of special interest in patient care. Indeed, our study highlights the necessity of considering

the advice and needs of the clergy, especially for patients with delusions with religious content.

CONCLUSION

The presence of religious content in delusions does not appear to be a marker of a more severe pathology as compared with other contents. However, these patients do appear to be at risk of a reduced collaboration with both psychiatric care and the clergy. Yet positive religious coping with delusion may be effective in reducing the levels of conviction, fear, preoccupation, and dysfunctional behavior, even for delusions with religious content. Thus "healthy" spirituality/religiousness and delusions with religious content may cohabit. These delusions should be treated with standard care; the patient's spiritual struggles and spiritual resources should be assessed; and collaboration with the clergy should be sought when appropriate. This ensures that the whole person is taken into account (Mezzich, 2007), enhancing collaboration with treatment.

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