

## Influence of culture on the world end (apocalyptic) delusions

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**Abstract** This article attempts to explore the genesis of the world's end (Apocalyptic) delusions. Religious ideas of the world end given in the Sacred Scripture is found in the content of delusions but is added with inclusion of modern signs and description of the apocalypse, produced in delusional thinking of contemporary patients suffering from schizophrenia and related disorders. 295 patients suffering from schizophrenia participated in this study at the Vilnius Mental Health Center in Lithuania, among whom 69.8% reported apocalyptic delusional themes (lifetime-prevalence), both religious and culture-sensitive. Investigation of the influence of personal importance of their religious beliefs on the content of (Apocalyptic) delusions is made. We conclude that schizophrenia patients for whom their faith is of personal importance feel the coming end of the world more often than those for whom it is not. There is no significant difference found between gender or age factor on the development of the world end (Apocalyptic) delusions.

**Key words:** Schizophrenia, world end (apocalyptic) delusions, Sacred Scripture, modern signs, cultural psychiatry

WCPRR Apr 2008: 96-105. © 2008 WACP  
ISSN: 1932- 6270

**INTRODUCTION** Despite the intensive efforts in research that began with Emil Kraepelin (Littlewood and Dein, 2000) and Eugen Bleuler (Bleuler, 1924 and 1951), the etiology and pathogenesis of the schizophrenic psychoses have hitherto been only partially clarified (Stompe et al., 1999), thus many fundamental questions about the phenomenology of delusions remain unanswered (Kimhy et al., 2005). Cross-cultural psychiatry studies also tried, by means of its methodological inventory, to analyze the influence of biological and environmental factors on the pathogenesis and phenomenology of schizophrenia (Stompe et al., 1999). Signs of society events are able to create delusional environment, described by E. Bleuler (Bleuler, 1924 and 1951), which could find a reflection in the psychopathology (Rudaleviciene and Narbekovas, 2006). Data on psychotic symptoms like content of delusions, hallucinations, or Schneider's first rank symptoms evoke the existence of a remarkable influence of culture (Stompe et al., 2006). For the content of delusions the personal and cultural system of values of an individual is of particular importance. The discussion whether and to which extent the prevalence and shape of psychotic symptoms depends on culture has longstanding tradition. Zutt established the term pathoplasticity in German psychiatry in order to describe the culture-sensitive part of the symptomatology of mental disorders. However, until today this term has more or less a

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metaphoric character. Although most professionals would agree that a cultural pattern may influence psychotic features, it is an unsolved question to what extent the variability of psychotic symptoms is caused by culture in a wide sense (socialization, religion, symbols, values, but also values and nutrition). A number of recent case reports published during the last 20 years described a quick inclusion of new technologies and cultural innovations into schizophrenic delusions which led to the conclusion of creating a new delusional content (Stompe et al., 2003, 2006).

The way a patient expresses his illness is influenced by his culture (Kortman, 2005), symptoms experience is embedded in the culturally based system of meaning and discursive practices (Kirmayer, 2005; Bartocci, 2006).

Cultural interview when dealing with patients, is increasing in volume and in skill (Bartocci, 2006), the value and importance of understanding religious anamnesis and personal religious beliefs of psychiatric patient has been reported (Boehnlein, 2006; Brewerton, 1994; Browning, 2003; Campbell, 1998; Cohen, 2002; Mohr and Huguelet, 2004; Rudaleviciene and Narbekovas, 2005)

One of the most interesting delusional themes, which was found in nearly every culture investigated is apocalyptic delusions or the delusions of the end of the world (Wetzel, 1922; Stompe et al., 2006).

Karl Jaspers, a psychiatrist and a philosopher, as well as a major contributor to existential psychoanalysis and to the understanding of the content of psychiatric patients' delusions had discussed the end of the world, presupposed by Jesus, which was seen as a catastrophe (Jaspers, 1962, 1997, 2000; Kaplan et al., 1994). In the middle of the last century, he considered the message of the end of the world and the kingdom of heaven passed by Jesus Christ 1950 years ago (Jaspers, 1962). Introduction to the Christian understanding of the world end is presented in the Sacred Scripture in all the four main Gospels (Sacred Scripture, 1990; The New Testament, 2006; Catechism of the Catholic Church, 1996). Luke, who was a physician according to his profession, and the one who accompanied St. Paul in his journey, said: "Nation will rise against nation, and kingdom against kingdom. And there will be great earthquakes in various places, and in famines and pestilences; and there will be fearful sights and great signs from heaven" (Luke 21: 10-11; The New Testament, 2006). He warned: "And there will be signs in the sun, in the moon, and in the stars; and on the earth distress of nations, with perplexity, the sea and the waves roaring; Men's hearts failing them from fear and the expectation of those things which are coming on the earth for the powers of the heavens will be shaken. They will see the Son of Man coming in a cloud with power and great glory" (Luke 21: 25-27; The New Testament, 2006). Another apostle Matthew explained: "And you will hear of wars and rumors of wars... For nation will rise against nation, and kingdom against kingdom. And there will be famines, pestilences, and earthquakes in various places. And then many will be offended, will betray one another, and will hate one another. And because lawlessness will abound, the love of many will grow cold" (Matthew 24: 6-7, 10, 12; The New Testament, 2006). Mark proclaimed: "...brother will betray brother to death, and father his child; and children will rise up against parents and cause them to be put to death (Mark 13, 12; The New Testament, 2006). This was prevailing apocalyptic conception a message from Jesus, given to his pupils, the apostles, on the Mount of Olives. This understanding of apocalypse was known both to professionals and their patients, and its reflection was found in psychotic symptoms. Each individual is faced with the question of what will become of him in the catastrophe. For the end of the world is also a judgment, in which man is either accepted or rejected by God (Jaspers, 1962).

Psychiatric patients today describe the view of the world ending according to their reality, parallel to the messages from the Sacred Scripture. Thus to explore this topic is the way to consider psychopathological symptoms which reflect world end themes, and one's personal understanding of schizophrenic patients.

Lithuania was characterized as a highly catholic country, but during occupation and isolation, religious roots of the country were damaged with no other spiritual source offered (Maceina, 2005). In this historical period Lithuanian people were forced not to mention the name of God, to keep their religious feelings hidden and suppressed as a private and secret experience (Rudaleviciene and Narbekovas, 2005, 2006).

Aim of this study was (1) to explore the life-time prevalence and to evaluate the content of the world end delusions; (2) to determine cultural factors related to, and to find out the relationship between this delusional content and religious beliefs of these patients as well as the personal importance of their faith.

**MATERIALS AND METHODS** Data were obtained from the Research in Cultural Psychiatry (RCP), Content of Delusions, Hallucinations (DH) and First Rank Symptoms (FRS), which was conducted in 2006 at the Vilnius Mental Health Center, with permission of the Lithuanian Bioethics Committee. Inclusion criteria were a clinical diagnosis of schizophrenia already established, according ICD-10 (International Classification of Diseases, 2004), in patients between 18 and 80 years of age, male and female, who were capable of participating in a productive interview according to their mental state. Structured Clinical Interview (SCI) Content of delusions, hallucinations and first rank symptoms were classified by means of the “Fragebogen fur psychotische Symptome” FPS - a semi-structured questionnaire developed by Cultural Psychiatry International research group in Vienna, which was translated into the language of the participating patient, double translation was performed. Examination was conducted on 295 patients (the mean age – 42.4 [SD 9.7] years; women - 51.5%). The age of onset did not differ between the sexes. For this study a question about world end was asked to the patients: “Did you feel the world had come to an end or would soon come to an end? If yes, why and which way?”

Apocalyptic delusions was further analyzed on the basis of their content:

*Religious* – explain the world end according the Sacred Scripture, giving the answers as:

”Jesus Christ will come and will not leave”; “brother goes against brother”;  
”nation will raise against nation”; ”we come from dust and we return to dust”;  
”evil is dominant and God will judge us”; ”the Bible says that Jesus Christ will come accompanied by sounds of buzzing trumpets”, ”there is to much evil foretold in the Scripts, the God will pass judgment”, etc;

*Modern* – show many parallels with Sacred Scripture, but include signs from reality around, answers such as: “people very bad now-days, kill each other even schoolchildren use alcohol”; ”there will be a war”; ”much terror, old and young are being killed, my wife has had an abortion”; ”abundant mafia will offer an explosion on the earth”, “was announced on TV”, ”the priest said”, “it is possible, because there is no love anywhere, God is love”, etc.;

*Global* - “the world has gone mad; there is no need to be”; “there will be an accident in the Mazeikiai oil factory”; “I am an atomic war instructor - there will be more Chernobyl disaster”; There will be tsunami“, “There will be total chaos”; “planets will collide”; “the Earth will explode” etc.

#### **Statistical analysis of the data**

The statistical analysis applied a  $\chi^2$  test, Fisher’s exact test, Spearman’s rank correlation and logistic regression. Continuous or ordinal data were analyzed using *t* test. The quantitative evaluation of the impact of the studied determinants (age, sex, age-onset, education, birthplaces, marital status, and the personal importance of the faith) on the development of the end of the world delusions was performed using logistic regression (odds ratio, 95% confidence interval).

Level of statistical significance was set at 5%. Statistical analysis of the data was performed using the statistical software package SPSS 11.5.

**RESULTS** Socio-demographic data on 295 surveyed patients with schizophrenia are presented in Table 1. There was a significant difference in the patients' distribution in marital status groups according the gender. Male patients were more likely to be divorced/separated than women.

**Table 1 - Demographic data of patients with schizophrenia**

Characteristic	All <sup>a</sup> N=295	Men <sup>a</sup> N=143	Women <sup>a</sup> N=152
<b>Age (SD), range, years</b>	42.4 (9.7) (20÷74)	42.1 (9.9) (20÷74)	42.7 (9.5)(22÷68)
Duration of illness, years <sup>b</sup>	18 (13)	18 (13)	18.0 (13)
Age at onset, years <sup>b</sup>	25 (6)	25 (5)	25 (6)
<b>Age at onset</b>			
Early onset ≤20 years	21.0 (62)	17.5 (25)	24.3 (37)
Middle onset (21 - <35) years	76.6 (226)	81.8 (117)	71.7 (109)
Late onset (35 - <60) years	2.4 (7)	0.7 (1)	3.9 (6)
<b>Marital status<sup>c</sup></b>			
Married	28.8 (85)	21.7 (31)	35.5 (54)
Single	18.3 (54)	18.9 (27)	17.8 (27)
Separated or divorced	52.9 (156)	59.4 (85)	46.7 (71)
<b>Birthplace of patient</b>			
City	76.7 (224)	77.3 (109)	76.2 (115)
Country-side	23.3 (68)	22.7 (32)	23.8 (36)
<b>Education</b>			
Unfinished secondary	3.0 (9)	2.1 (3)	3.9 (6)
Spec. secondary	8.3 (25)	8.9 (13)	7.7 (12)
Secondary	21.6 (65)	21.9 (32)	21.3 (33)
Higher	3.0 (9)	2.1 (3)	4.1 (6)
Unfinished university	4.7 (14)	4.1 (6)	5.2 (8)
University	59.5 (179)	61.0 (89)	58.1 (90)
Believer <sup>d</sup>	88.5 (261)	93.7 (134)	83.6 (127)
Faith was of personal importance <sup>e</sup>	84.1 (248)	89.5 (128)	78.9 (120)

<sup>a</sup> values are given as percent for proportion (abs. number) or as appropriate

<sup>b</sup> median (interquartile range)

Statistical significance of the differences between the genders was calculated by Chi-square tests:

<sup>c</sup> ( $\chi^2=7.2$  df=2 p<0.05)

<sup>d</sup> ( $\chi^2=7.5$  df=1 p<0.05)

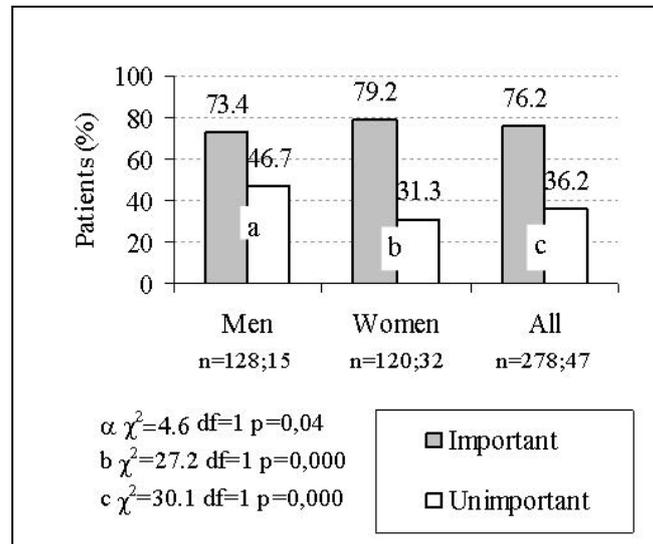
<sup>e</sup> ( $\chi^2=6.1$  df=1 p<0.05)

Of 295 respondents, 248 (84.1%) reported that their faith was of personal importance for their life (Table 1). Men and women differed significantly – 89.5% of men and 78.9% of women evaluated their faith as “important” ( $\chi^2=6.1$  df=1 p<0.05).

206 (69.8%) respondents answered “Yes” to the question “Did you ever believe without any doubt that the world had come to an end or would soon come to an end?” There was no significant

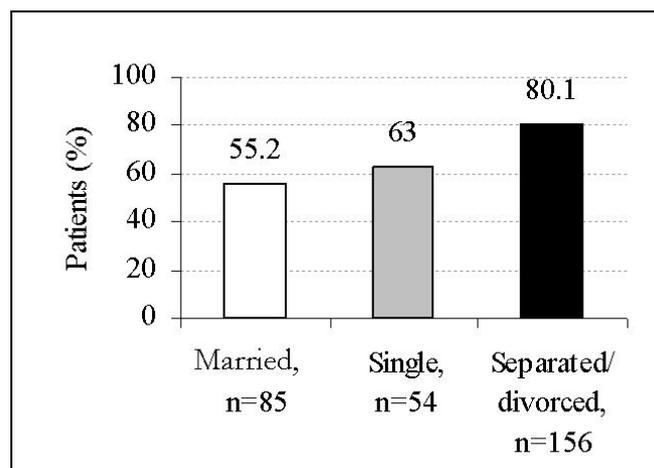
differences in the frequency of the development of the end of the world (Apocalyptic) delusions between men and women – 101 (70.6%) and 105 (69.1%) respectively ( $\chi^2=1.1$ ;  $df=1$ ;  $p>0.05$ ).

A significant relationship was found between the development of the end of the world delusions and the importance of the faith (Spearman correlation  $r=0.33$ ;  $p<0.001$ ). The end of world was felt by as many as 75.8% (73,4% among men and 79.2% among women) of those for whom their faith was of personal importance and only 36.2% (46,7% and 31.3%) of those schizophrenia patients for whom their faith was not important (sex and age adjusted OR=6.0 95%; CI 3.1-11.9) (Figure 1).



**Figure 1- The distribution of delusions of apocalypse (%) in patients with schizophrenia according to the importance of their faith**

The analysis showed that the marital status was associated with (Spearman correlation  $r=-0.25$   $p<0.001$ ) the development of the end of the world delusions (Figure 2). Divorced patients, independently of the age and gender, more frequently experienced delusions of the end of the world compared to married patients (sex and age adjusted OR=3.3 95% CI 1.8-5.9).



**Figure 2 - The distribution of delusions of apocalypse (%) in patients with schizophrenia according to marital status**

No significant differences were found concerning the frequencies of the development of delusions of the end of the world according to education, to birthplace, and to age-onset. However, these

potential confounding variables, and marital status and presence of the personal importance of faith were entered into the forward stepwise logistic regression models with presence of delusions as the dependent variable. Overall, this analysis shows that, being divorced/separated and having the personal importance of faith independently increased the frequency of the end of the world delusions (Table 2).

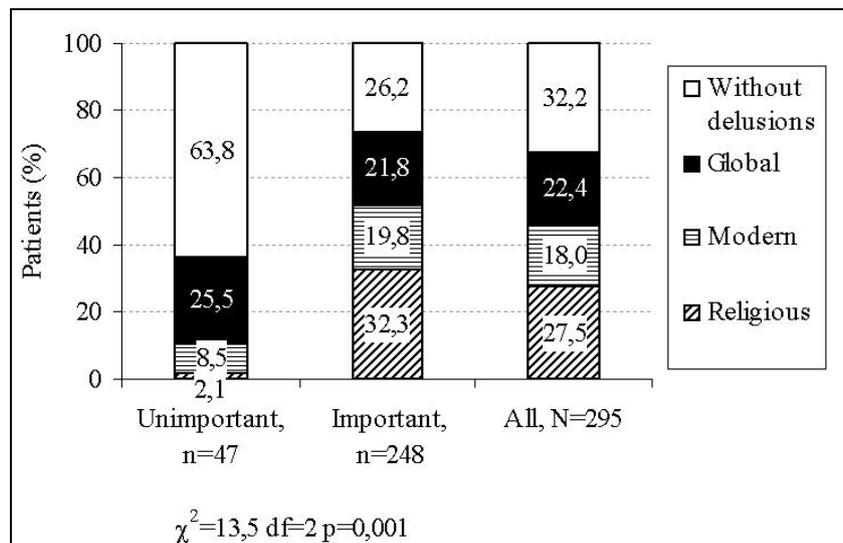
**Table 2 - The factors related to the development of end of world delusions in patients with schizophrenia (adjusted for sex, age, age-onset, birthplace, education)**

Factors	N	OR (95% CI) <sup>a</sup>	p
Faith was of personal importance, (1 - No; 2 - Yes)	278	5.7 (2.9-10.9)	<0.001
<b>Marital status</b>			
Married <sup>#</sup>	85	1	
Single	54	1.1 (0.5-2.3)	0.781
Separated or divorced	156	2.7 (1.5-4.9)	0.001

Model Nagelkerke R<sup>2</sup>=0,179

<sup>a</sup> OR, Odds Ratio; CI, Confidence Interval; # reference category

The distribution of the theme of delusions of apocalypse in patients with schizophrenia according to importance their faith is presented in figure 3. One-third (32.3%) of patients who evaluated their faith as personal important indicated that they experienced apocalyptic delusions of religious content (only 2.1% among those for whom the faith was not important).



**Figure 3 - The distribution of the theme of delusions of apocalypse (%) in patients with schizophrenia according to importance their faith**

The association of the theme of apocalypse with gender was significant (Figure 4). The women experienced more delusions of religious content compared with men (32.2% and 22.4% respectively). More patients who experienced apocalyptic delusions with global content were found among men compared with women (30.1% and 15.1% respectively).

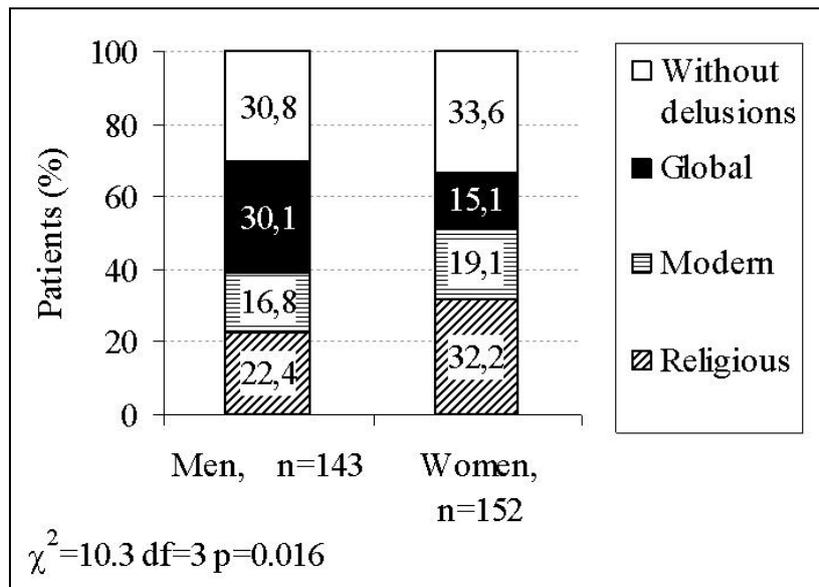


Figure 4 - The distribution of the theme of delusions of apocalypse (%) in patients with schizophrenia according to gender

**DISCUSSION** Respondents reviewed in this paper were of catholic faith they, however, differed in their relation to religious beliefs. One group of respondents comprised those to whom their faith was of personal importance and the rest - for whom it was not. This component was included in discussion and compared in answers on the world end.

69.8% of our total sample of schizophrenic patients developed world end delusions once during the course of their illness. Each patient gave an answer in individual way; every answer has been coded in the data base. Every respondent presented his/her individual perception of the world end. We classified these answers according to the themes: religious, modern, global. Several examples are given in this paper. There were cases, when respondents presented both religious and modern views of the world end. Many patients stated that the end of the world has already come.

In the group of patients for whom their faith was of personal importance (n=248) 76.2% felt the upcoming end of the world. But also in the other group (n=47) 36.2% felt the upcoming end of the world. This was declared expressing both a religious idea of the end of world under the Sacred Scripture, relating to their imaginary higher being and the events met in everyday life, which could be similar to the catastrophe. The belief of the patients that Jesus presupposes the forthcoming end of the world was seen as a catastrophe. “Now brother will betray brother to death, and a father his child; and children will rise up against parents and cause them to be put to death” – (Mark 12, 13; The New Testament, 2006). Patients said, that it this was “written in Bible”, that “Jesus Christ would come the second time for the ultimate Law”, “Jesus will come and will ask to go on their knees for everyone”, “the war will be, and the tongues of fire as in hell”, “Jesus will come when accompanied by the sounds of buzzing trumpets”. Larac found that young individuals had significantly higher scores for items related to suspiciousness and persecutory ideas, paranormal beliefs and apocalyptic ideas (Larøi et al., 2006). With clarity and biblical accuracy world end delusions exposes massive errors now flooding through media. These were considered as apocalyptic conceptions of today’s life, equal to the world end to patients suffering from schizophrenia. Investigation of themes suggested by patients present a picture of events which bring fearful emotions and vision of the upcoming world end. Unlike most of the apocalyptic preachers of his time, Jesus had little to say of the terrors of the end but because for him this event, usually regarded as far of, was imminent he believed it to be inexorable concern of every living man (Jaspers,1962). In the face of it, everything else paled to insignificance.

Whatever remains to do can take on meaning only in the light of this end? Meaning is possible, as for the end: of the world will bring not nothingness but the kingdom of heaven (Jaspers, 1962). The kingdom of heaven signifies the era in which God alone will govern. Inevitably it will come, not through any human acts but solely through divine action. 2000 years ago, Jesus predicted what would happen, but he was not merely purveying news to an idle crowd. His message was addressed to the man, who was in the situation which confronted by decision (Jaspers, 1962, 2000). Each individual is faced with the question of what will become of him in the catastrophe. The end of the world is also a judgment, in which a man is either accepted or rejected by God.

The affinity of schizophrenia to religion was soon recognized and was a topic for intense research already in the 19<sup>th</sup> century (Stompe et al., 1999). Studies demonstrate that religious delusions are frequent in catholic societies. Stompe stated, that obviously a certain balance of proximity and distance towards religion is necessary for the development of religious delusions (Stompe et al., 1999, 2001). A certain balance of proximity and distance towards religion is necessary for the development of religious delusions. Religions may not be identical with everyday life, but as a system of symbols it must be present in the conscience of a patient.

These were personal ethical norms of life, wanted by individuals to be addressed from others in order to feel comfortable and safe. Lack of ethical and human norms can lead to destruction and disturbances of the mental state. Bleuler described ethical impulses of particular importance for every living being in society. They preserve the community, and hence they often conflict with interests of the individuals (Bleuler, 1924). Moral laws have been in every individual in order for healthy survival (Maceina, 2005). Patients imagine and consider as the end of the world such events of life as “wars”, “terror acts”, “plane crash”, “tsunami” known for them from the media which disturb their psyche and imagination. These culture- sensitive events provide systems of symbols which psychotic patients integrate in their efforts of the outer and inner world experienced in their psychoses. Patients read or hear “too many people there are in the world”, “an accident will be in the oil factory this will be the start”. Negative events of personal importance, such as “a wife having an abortion”, “infidelity in one’s wife” have the power of an “end of personal life” and are equal to the world’s end. Personal approaches to the fearful events was predominant and could be percept as a catastrophe (Bleuler, 1924, 1951). An interesting finding was the association between the delusions of the end of the world and the marital status of the patients. In our study divorced patients of both genders, developed (80.1%; see Figure 3) apocalyptic delusions more frequently than married or single ones (55.2% and 63% respectively). Perhaps patients living alone experience life more fearful and threatening than those living in close relationships.

Fearful events in contemporary times can sometimes have an impact on the outbreak of psychotic episodes. Clinicians should be aware of the possible impact of terrorist activities on the mental health of vulnerable individuals. Reeves stated that the terrorist attack of September 11, 2001 shocked the world and had devastating effect on many people, including individuals with and without mental illness (Reeves and Beddingfield, 2006). This terror attack was reflected in Lithuanian psychiatric patient’s delusional content, as well.

In our study we found that those individuals, for whom their faith was no of personal importance, felt the upcoming end of the world less frequently. It seems that the Bible offers symbolic patterns for schizophrenic patients in order to help them to concretize acute psychotic fears.

**CONCLUSIONS** The results of our study on apocalyptic delusions point out the importance of informing psychiatrists about religious issues. Already Jaspers has stated of religion for the

understanding of both everyday life belief as well as of religious delusions (Jaspers, 1962). James also said that religion was frequently ignored within the clinical domain, yet when examined, empirical evidence indicated that specific aspects of religiosity were correlated with mental health (James and Wells, 2003). D'Souza suggested a need to include the spiritual and religious dimension of patients in their psychiatric care (D'Souza and George, 2006). Fabrega noted that the psychiatry of the 21st century would have to be different from the psychiatry of the 20th century and should integrate all facets of knowledge of the behavioral sciences, from biology, pharmacology, sociology, cultural anthropology, and to serve as providing expert scientific diagnosis and therapy in the light of an appreciation of the role played by cultural factors in shaping human behavior (Fabrega, 2001).

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