The relationships between patients' and caregivers' beliefs about the causes of schizophrenia and clinical outcomes in Latin American countries

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ABSTRACT

Beliefs about the causes of schizophrenia are thought to impact treatment outcomes. We investigated 3 theoretically opposing belief systems (biological, psychosocial, magical–religious) in relation to the severity of positive and negative symptoms and to attitudes towards medications. We recruited 253 patients with schizophrenia and their primary caregivers from public mental health clinics in Bolivia, Chile, and Peru. We assessed patients' and caregivers' beliefs about the causes of schizophrenia, which were used as predictors of symptom severity and medication attitudes in linear regression analyses. Patients' scores on biological, psychosocial, and magical–religious beliefs were positively correlated with one another, indicating that these domains were not, as anticipated, "opposing". Patients with higher levels of biological and psychosocial beliefs had significantly lower levels of positive and negative symptoms; in contrast, higher levels of magical–religious beliefs were associated with increased positive symptoms and less favorable attitudes towards medications. Patients' belief systems are significant predictors of symptom severity and medication attitudes. Research is needed on the extent to which psychotherapeutic treatments for schizophrenia should bolster patients' beliefs in the biological and psychosocial domains and weaken beliefs in the magical–religious domain; this research should also attend to the ethical considerations involved in intervening on belief systems cross-culturally.

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1. Introduction

Patients' and caregivers' beliefs about the causes of schizophrenia (which we term *causal beliefs*) influence help-seeking behaviors, adherence to treatment, disease management and clinical outcomes (Phillips et al., 2000; Saravanan et al., 2007). Causal beliefs are usually classified along three dimensions: biological (schizophrenia is a brain disorder due in part to hereditary factors), psychosocial (schizophrenia is caused by external factors such as economic conditions, stressors or level of educational attainment) and magical–religious (schizophrenia originates from supernatural or spiritual forces). In patients with schizophrenia and their caregivers, studies reported a preference for attributing

schizophrenia to psychosocial causes in diverse cultures, such as the United Kingdom (Pollock, 1988), Turkey (Karanci, 1995), China (Phillips et al., 2000) Germany (Holzinger et al., 2003) and Nigeria (Ilechukwu, 1988). Supernatural causes were common beliefs in patients with schizophrenia in India (Saravanan et al., 2007; Kate et al., 2012) and Israel (Al-Krenawi, 1999). In contrast, biological causes were mentioned rarely (Holzinger et al., 2003).

Studies show that patients' and caregivers' causal models of illness should match the biomedical and biological professionals' causal model (Angermeyer and Matschinger, 1996; Lobban and Barrowclough, 2005; Balhara and Yadav, 2012; Wiesjahn et al., 2014). The main assumption is that a biological causal model can help the patient understand the nature of the disease and the

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relevance of pharmacological treatment, improving engagement with psychiatric services and consequently clinical outcomes (Wiesjahn et al., 2014). Thus, some studies reported that patients with low-level symptoms and reasonably accurate insights into illness were more likely to accept biological causal beliefs, whereas patients with more severe symptoms more frequently held non-biomedical causal beliefs (e.g., magical–religious beliefs) (Saravanan et al., 2007). Patients who held magical–religious causal beliefs tended to replace or delay medical treatment (Saravanan et al., 2007; Borras et al., 2007). Similarly, studies of caregivers' causal beliefs showed that magical–religious beliefs were strongly related to lack of psychiatric treatment for patients with schizophrenia (Kurihara et al., 2006). It has been also reported that knowing the caregivers' beliefs may be fruitful for clinicians and help them form stronger therapeutic alliances with families (Brewin, 1994; Karanci, 1995; Phillips et al., 2000). In accordance with these findings, psychosocial treatments routinely focus on biological causal model of illness (e.g., cognitive behavioral therapy, psycho-education) (Sibitz et al., 2005; Kern et al., 2009).

However, several questions remain, the answers to which are needed to guide the optimal use of causal models by clinicians as they give more attention to cultural background in the therapeutic process.

First, despite the general agreement described above, the choice of the causal model to communicate has to be considered. Previous studies have mainly focused on pharmacological treatment. However, medications alone are not sufficient for recovery in schizophrenia, and psychosocial treatments are a necessary complement (Kern et al., 2009). Three recent studies suggested that a psychosocial causal model could be relevant for treatment success by promoting non-pharmacological treatment (Sanders et al., 2011; Lüllmann et al., 2011; Freeman et al., 2012). Causal beliefs may also act in divergent ways across the spectrum of treatment. For example, if biomedical models of beliefs can be used to facilitate treatment adherence, psychosocial beliefs may in turn facilitate the acceptance of psychosocial interventions. It is therefore important to understand the relative influences of the different causal models on adherence to treatment and severity of symptoms. Second, findings about patient and caregiver beliefs as a determinant of clinical outcomes draw on a separate literature, and should now be studied together. Finally, there is cultural variability in the beliefs about the causes of schizophrenia between countries as well as their relationships with clinical outcomes (Saravanan et al., 2007; Zafar et al., 2008; Sanders et al., 2011). Previous findings should thus be extended to Latin American countries where no published studies have investigated this issue.

Cultural background provides a framework for understanding the origins of psychiatric illness as well as for interpreting the changes in mental functioning that family members observe in their relative experiencing a psychiatric disorder – for example, through shared "social representations" of disorder (Holzinger et al., 2003). Features of the mental health system itself may also influence family members' causal beliefs (Kurihara et al., 2006), and are also important to consider in studying causal beliefs. Enhancing our understanding of the relationship of causal models held by patients and caregivers from this Latin-American context is therefore important for improving engagement with service providers and ultimately better psychiatric care (US Department of Health & Human Services (USDHHS), 2001).

Thus, the aim of this study was to determine whether biological, psychosocial and magical–religious causal beliefs in patients and caregivers were associated with attitudes towards medication and severity of symptoms in patients with schizophrenia from three countries in Latin America (Bolivia, Chile and Peru). We also investigated the influence of Aymara ethnicity on clinical outcomes. The Aymara culture, with a population of 2 million people, has lived in the Andes Mountains for centuries. However, recent generations of Aymara have undertaken a massive migration, moving from rural towns in the Highland to large cities. This rapid abandonment of rural settlements is one of the most difficult recent experiences of the Aymara (Köster, 1992; Van Kessel, 1996; Gundermann, 2000; Zapata, 2007; Gundermann et al., 2007). Rapid social change such as that experienced by the Aymara has been shown in other cultures to be related to the expression of psychiatric symptoms (Becker et al., 2005).

We tested the following hypotheses: (1) biological causal beliefs would be associated with positive attitudes towards medication and a low level of symptoms, whereas magical–religious causal beliefs would be associated with negative attitudes towards medication and high-level symptoms; (2) psychosocial causal beliefs would be associated with low-level symptoms, but unrelated to attitudes about medication (this hypothesis is based on the fact that psychosocial beliefs tend to be more strongly associated with participation in community-based treatments that strive to integrate patients into society); (3) finally, as far as caregivers' causal beliefs were concerned, we expected to find the same type of relationships as for patients' causal beliefs.

2. Method

2.1. Study participants

The process of recruitment of Aymara and non-Aymara patients and caregivers took place in public health sector clinics in each country. We selected the largest public health clinic in each region. The first author reviewed the lists of patients and caregivers who were attending each center, and the research team made assessments over a three month period in each country. Patients were invited to participate as they came to their monthly follow-up visits, usually accompanied by their key caregiver. Most of the people agreed to participate.

The study sample was comprised of patients with schizophrenia who were receiving services from mental health clinics in the Central-Southern Andean regions of northern Chile, southern Peru, and central-western Bolivia, and each patient's primary caregiver, defined as the person who fulfills the primary caring role and spends more time than anyone else with the patient in the task of caring. Diagnoses were made by treating psychiatrists based on the criteria established by the International Classification of Diseases, 10th version (WHO, 1992). The sample included both Aymara and non-Aymara patients and caregivers. Aymara patients and caregivers were identified by Aymara surnames as established by legislation regarding indigenous peoples in the three countries, or Aymara self-identification. Both the Aymara and non-Aymara patients live in the same urban areas, are served by the same mental health centers, and have roughly comparable socio-demographic characteristics.

We applied a small set of exclusion criteria to the patient (being in a state of psychotic crisis or having a sensory or cognitive type of disorder that prevents being evaluated) and caregiver (presence of organic symptomatology; having a psychoactive substance abuse disorder; having a sensory or cognitive type of disorder that prevents interviewing) groups to ensure ability to participate fully in the interviews. These criteria were applied by the treating psychiatrist. The final sample included 253 patients with an ICD-10 diagnosis of schizophrenia and 253 primary caregivers (33.6% from Chile, 33.6% from Peru, and 32.8% from Bolivia). Interviews were conducted between May 2012 and February 2013.