Psychiatry Research 227 (2015) 39–45

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Social anxiety disorder in recent onset schizophrenia spectrum disorders: The relation with symptomatology, anxiety, and social rank

Stephanie Sutliff, Marc-André Roy, Amélie M. Achim *

Département de Psychiatrie et neurosciences, Université Laval, Centre de Recherche de l'Institut Universitaire en Santé Mentale de Québec, Canada, 2601 Chemin de la Canardière, Québec, QC G1J 2G3

ARTICLE INFO

Article history:
Received 4 July 2014
Received in revised form
2 January 2015
Accepted 19 February 2015
Available online 9 March 2015

Keywords:
Social phobia
Comorbidity
Social comparison
Five-factor model
Symptoms
Cognition

ABSTRACT

Social anxiety disorder (SAD) represents a common comorbidity in schizophrenia, but questions remain regarding how this comorbidity is related to symptomatology and self-perceptions. Forty-two patients with recent-onset schizophrenia were evaluated for SAD, and assessed with the Positive and Negative Syndrome Scale (PANSS), as well as the Social Comparison Scale (SCS), which assessed how participants perceived themselves in relation with others (i.e. social rank). Eighteen patients met criteria for SAD (SZ+) while 24 patients did not (SZ−). Analysis of symptoms using a five-factor model of the PANSS revealed that the SZ− group had more severe symptoms than SZ+ on the Cognitive/Disorganization factor. Further analyses of individual symptoms demonstrated that the SZ− group was more affected in attention, abstract thinking, and cognitive disorganization (Cognitive/Disorganization symptoms), while the SZ+ group was more severely affected in anxiety, suspiciousness/persecution, and active social avoidance. Interestingly, severity of social anxiety symptom ratings correlated with certain PANSS symptoms only in the SZ− group. Perception of social rank, which was reduced in SZ+, displayed a trend level correlation with the positive symptoms in SZ−. Overall, the results suggest that SZ+ and SZ− may have different clinical profiles that could be important to consider when tailoring treatments for these patients.

1. Introduction

Social anxiety disorder (SAD) is the most common comorbid anxiety disorder among persons with schizophrenia, with a mean prevalence rate of 14.9% reported in a recent meta-analysis (Achim et al., 2011). Patients with schizophrenia display similar characteristics as patients with SAD, including anxiety, social avoidance/isolation, and suspiciousness/persecution; however, such behaviors are often inherent characteristics of the disorder (i.e. related to hallucinations, delusions, etc.). This can be distinguished from characteristics of SAD, as according to the DSM-IV, the main diagnostic criteria for SAD is an important fear or anxiety of social situations in which individuals may be exposed to scrutiny of others (American Psychiatric Association, 2000). Core features of SAD include a fear of judgment, a strong desire to project a positive impression of oneself to others, and significant anxiety regarding the ability to do so (Clark and Wells, 1995). In patients with SAD, this leads to avoidance of social situations, but differs from avoidance typically experienced in schizophrenia because a fear of judgment of others rests at the foundation. Despite these differences, increasing evidence suggests that a specific subgroup of patients do in fact meet the diagnostic criteria for both schizophrenia and SAD. This comorbid subgroup (SZ+) tends to have worse outcomes than patients with schizophrenia without social anxiety disorder (SZ−); this includes greater impairment of social functioning (Pallanti et al., 2004; Voges and Addington, 2005; Romm et al., 2012) and even heightened risk for suicide (Pallanti et al., 2004). Conversely, recent data from Achim et al. (2013) has found that individuals with SZ+ show *less* encompassing deficits in social cognition than patients with only SZ−, suggesting that the presentation of SAD may not necessarily mean greater overall impairment. Taken together, these results highlight the importance of further understanding the clinical profiles of SZ+ and SZ−.

The expression of social anxiety in schizophrenia has been examined by many previous studies (for a review, see Michail, 2013). While several studies have reported a relation with levels of positive symptoms in patients with schizophrenia and social anxiety (Penn et al., 1994; Lysaker and Hammersley, 2006; Lysaker and Salyers, 2007; Mazeh et al., 2009), others have failed to find such a relation (Pallanti et al., 2004; Voges and Addington, 2005; Birchwood et al., 2006; Michail and Birchwood, 2009; Romm et al., 2012). Additionally, an association between social anxiety in schizophrenia and negative symptoms has been reported by some (Penn et al.,

* Corresponding author. Tel.: +1 418 663 5741; fax: +1 418 663 9540.
E-mail address: amelie.achim@fmed.ulaval.ca (A.M. Achim).

http://dx.doi.org/10.1016/j.psychres.2015.02.017
0165-1781/

1994; Mazeh et al., 2009), but not all studies (Birchwood et al., 2006). One potential factor underlying these varying results is that these studies use different methods for determining the presence of social anxiety, with some researchers utilizing social anxiety symptom ratings and others employing full or partial diagnostic criteria for SAD (Achim et al., 2011). Typically the studies looking at SAD symptom ratings did not distinguish anxiety symptoms arising from sources related to schizophrenia (e.g. paranoid delusions) from those arising from fear of judgment of others, as in SAD. Additionally, previous studies have tended to classify all psychotic symptoms into only three categories of positive, negative, and general psychopathology, which may not be the best factor structure for schizophrenia symptoms (Lehoux et al., 2009) and cannot account for underlying differences in specific symptoms. It may be that SZ+ and SZ− display different patterns of symptom severity that are canceled out by such a broad categorization, calling for a more careful examination of the symptom profile of these patients.

In creating a model of the clinical presentations of these two patient groups, another critical aspect to examine is the perception of the self, as SAD is characterized by both negative self-perceptions and low self-esteem (Stopa and Clark, 1993; Clark and Wells, 1995; Smith et al., 2006; Taylor et al., 2013). In individuals with SAD, social anxiety negatively correlates with self-esteem (Clark and Wells, 1995), but this relationship is mediated by patients' perceptions regarding how they are viewed by others (Clark and Wells, 1995). Persons with SAD tend to analyze their worth based upon how they rank in comparison with others (i.e. social rank) (Gilbert, 2000; Trower et al., 1998), resulting in a view of the self which is highly linked to the views of others. For individuals with schizophrenia and SAD, this relationship is further complicated by feelings of shame, social rejection, and entrapment associated with the stigma of schizophrenia (Birchwood et al., 2006; Michail and Birchwood, 2013). These individuals not only have lower self-esteem (Gumley et al., 2004; Karatzias et al., 2007) but also have a lower perception of their social rank, as compared to those with schizophrenia without social anxiety (Birchwood et al., 2006; Michail and Birchwood, 2013). Furthermore, a study by Barrowclough et al. (2003) found that negative self-perceptions were associated with positive symptoms in schizophrenia and suggested that negative self-concept was involved in both the development and maintenance of positive symptoms. If symptomatology differs in the SZ+ and SZ− groups, then it may be that negative self-perceptions are differentially related to symptomatology in SZ+ and SZ−. Yet, the relation of perception of social rank and symptomatology in schizophrenia in these populations has yet to be examined.

The first objective of this study was to further examine the symptom profiles and the perception of social rank in people with a diagnosis of SZ+ in comparison to SZ−. Specifically, our primary goal was to pinpoint differences in symptom severity between SZ+ and SZ− groups using a five-factor model which breaks down symptoms into Positive, Negative, Cognitive/Disorganization, Depression/Anxiety, and Excitement/Hostility components. We also aimed to examine group differences in social anxiety (via a well-recognized symptom scale) and social rank in SZ+ and SZ− and to explore the relationship between symptom severity and social anxiety as well as social rank separately in SZ+ and SZ− patients. While testing differences in social anxiety ratings may seem tautological, we previously observed that high ratings on the LSAS are sometimes observed in paranoid patients, which could also potentially lead to high ratings in SZ− patients (Achim et al., 2013).

Due to their comorbid anxiety, we nonetheless expected that the SZ+ group compared to the SZ− would display more severe symptoms in the Depression/Anxiety symptom factor, more severe social anxiety ratings, and lower levels of perceived social rank than the SZ− group (the last of which would replicate previous findings of Birchwood et al., 2006; Michail and Birchwood, 2013). Furthermore, in the SZ− group, we hypothesized that social anxiety ratings would be related to the Depression/Anxiety factor and the Positive symptom factor from the PANSS, whereas the SZ+ would show social anxiety ratings related only to Depression/Anxiety symptoms of schizophrenia. Finally, we expected a differing pattern of association between social rank ratings and symptomatology, such that the SZ+ would show a greater association of social rank with symptoms. Exploring these relations in the two subgroups could further highlight the clinical factors linked to high levels of social anxiety and low perception of social rank in people with schizophrenia.

2. Methods

2.1. Diagnosis of SAD comorbidity and social anxiety ranking

Based upon recent meta-analytical data that anxiety is more commonly diagnosed when the Structured Clinical Interview for the DSM-IV (SCID) is supplemented with other assessments (Achim et al., 2011), participants were assessed with a comprehensive semi-structured interview based on the SCID but which also included questions from other instruments to provide a more detailed assessment of symptoms (Roy et al., 2011; Achim et al. 2013; Roy et al., in revision). Importantly, one of the scales added to the interview was the Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987), a 24-item measure assessing anxiety and avoidance in specific social situations (i.e. eating in a public place). For each of the social situations presented, participants' fear/anxiety and avoidance behavior were reported on scales from 0 to 3, with higher total LSAS ratings indicating more severe social anxiety and avoidance. This measure of anxiety has shown strong construct validity in both SAD and non-anxious controls (Fresco et al., 2001).

As social anxiety can stem from other sources in schizophrenia (i.e. positive psychotic symptoms), we utilized all available information to make a diagnosis of SAD in these patients. The tools for diagnosis thus included the LSAS, the SCID, a comprehensive evaluation of patients' symptoms, the patients' clinical files, and information from the clinical team. Only patients who met all of the DSM-IV criteria for current SAD and who displayed social anxiety stemming specifically from a fear of judgment of others were included in the group with comorbid SAD, while patients with no history of SAD were included the group without comorbid SAD. All interviews were conducted by a trained research assistant and reviewed by an experienced psychiatrist (MAR).

2.2. Assessment of symptoms and social rank

Schizophrenia symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1986). The PANSS assesses presentation of psychotic symptoms using 30-items. For each item, symptoms are scored on a scale from 1 to 7, with higher scores indicating more severe symptom presentation.

The PANSS was completed by the treating psychiatrist, another member of the clinical team or a trained research assistant, and all assessments were reviewed by one of the authors (MAR), a senior psychiatrist with an extensive experience with this measure. These ratings were based on all available sources of information, including clinical interviews, information from family, friends, and information from other treatment staff at the Clinique Notre-Dame-des-Victoires.

Social rank was measured via the Social Comparison Scale (SCS; Allan and Gilbert, 1995). The self-report scale asked participants to assess how they see themselves in comparison to others. The scale consisted of 11 desirable features (i.e. superior) and 11 undesirable opposites (i.e. inferior) separated by a 10-point scale; participants had to report where on the scale they ranked, with higher SCS scores indicating more positive view of their social rank in comparison to others. The SCS has shown good psychometric properties in persons with schizophrenia, with an internal reliability of 0.80 and a re-test reliability of 0.77 (Birchwood et al., 2000).

2.3. Data analysis

Patients were divided based on whether they met all the DSM-IV diagnostic criteria for current SAD; this resulted in two groups, SZ+ and SZ− for analysis. Three patients with a history of SAD but that no longer met the diagnostic criteria at the time of the assessment were excluded from this study.

For analysis of symptomatology, we utilized a five-factor model based upon a recent review by Lehoux et al. (2009) that examined results of studies employing various five-factor models and found that 26 psychotic symptoms from the PANSS could consistently be classified into five factors. The resulting model, including factors and their component symptoms, utilized in the present study is as follows: (1) Positive (delusions, hallucinatory behavior, grandiosity, suspiciousness/persecution, unusual thought content, lack of judgment/insight); (2) Negative (blunted affect, emotional withdrawal, poor rapport, passive/apathetic social withdrawal, lack of spontaneity, motor retardation, active social avoidance); (3) Cognitive/