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Research paper

The relationship between clinical insight and cognitive and affective empathy in schizophrenia

Mia Atoui[a,*], Fatima El Jamil[a], Joseph El Khoury[b], Mark Doumit[c], Nathalie Syriani, Munir Khani[b], Ziad Nahas[d]

[a] American University of Beirut, Department of Psychology, Beirut, Lebanon
[b] American University of Beirut Medical Center, Department of Psychiatry, Beirut, Lebanon
[c] American University of Beirut, Department of Medicine, Beirut, Lebanon
[d] University of Minnesota, Department of Psychiatry, MN, USA

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ABSTRACT

Background: Schizophrenia is often associated with poor clinical insight (unawareness of mental illness and its symptoms) and deficits in empathy, which are important for social functioning. Cognitive empathy has been linked to clinical insight while affective empathy and its role in insight and pathology have received mixed evidence.

Methods: Instruments assessing symptomatology (Positive and Negative Syndrome Scale; PANSS), clinical insight (Scales to assess awareness of mental disorders; SUMD), and cognitive and affective empathy were administered to 22 participants with first episode and chronic schizophrenia and 21 healthy controls. Self-report, parent-report, and performance based measures were used to assess cognitive and affective empathy (The interpersonal reactivity index; IRI/Reading the Mind in the Eyes Test/Faux Pas) to reduce bias and parse shared variance.

Results: Age of onset, gender, and symptomatology emerged as significant predictors of poor clinical insight. Additionally, the fantasy subscale of the IRI as reported by parents emerged as a positive predictor while the personal distress (parent report) subscale emerged as a negative predictor of awareness into mental illness. There were significant differences on performance-based measures of empathy between the control and schizophrenia groups.

Conclusion: Findings suggest that affective empathy is relatively intact across phases of illness whereas cognitive empathy abilities are compromised and could be targets for psychotherapy intervention.

1. Introduction

Clinical insight and empathy are two constructs that are closely related to deficits in self-awareness in schizophrenia; impacting emotional awareness, how the individual views oneself in relation to their illness, and in relation to others (Dimaggio et al., 2009). Clinical insight and cognitive and affective empathy have markedly significant predictive value in schizophrenia with larger implications on functioning capacities (Bhagyavathi et al., 2014; Didehbani et al., 2012; Pijnenborg et al., 2013; Pousa et al., 2008).

Poor clinical insight, which represents one of the core challenges of schizophrenia, is highly correlated with patients' functioning in social and daily life (Xavier F Amador and David, 2004) and is considered a predictor of long-term functioning (Chan et al., 2012; Lincoln et al., 2007). Clinical insight is described as: awareness of the illness and its symptoms, the need for treatment/medication, and understanding the psychosocial difficulties attributed to the illness (Amador et al., 1991; David, 1990). It has been theoretically associated with the negative symptomology of the illness, which reflect incapacities in experiencing emotion and "la belle indifference" which is commonly observed among patients with schizophrenia (Amador et al., 1994). Others have reported that clinical insight is negatively correlated with both severe, positive and negative symptoms (Amador and Strauss, 1993; Nakano et al., 2004). According to a meta-analysis by Mintz et al. (2003), positive, negative and especially disorganized symptoms have a significant yet small influence on clinical insight, with more severe symptoms indicating poorer levels. Furthermore, poor clinical insight has been associated with the neurocognitive profile of schizophrenia, especially the domains of executive functioning, working memory and attention (Pijnenborg et al., 2013), however, recent research has shown

* Corresponding author.
E-mail address: ma207@aub.edu.lb (M. Atoui).

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more robust associations between clinical insight and several domains of social cognition such as cognitive and affective empathy (Langdon and Ward, 2008; Lysaker et al., 2011).

The relationship between cognitive and affective empathy and clinical insight in schizophrenia has been rarely examined. The cognitive component of empathy entails the ability to assume another person's emotional perspective (perspective taking), which means understanding another person's feelings without necessarily being in the affective state of the other person (Walter, 2012). The term theory of mind (ToM) has been used by a number of researchers interchangeably with cognitive empathy in the schizophrenia literature (Baron-Cohen and Wheelright, 2004; Decety and Jackson, 2004; Shamay-Tsoory et al., 2007; Walter, 2012). Although the two concepts are essentially different, they both involve to a large extent cognitive perspective taking abilities, and ToM is seen as a needed prerequisite for cognitive empathy (Shamay-Tsoory, 2011). The term theory of mind (ToM) was originally formulated by Premack and Woodruff (1978) as the ability to make inferences about the mental states of other people, their needs and their intentions. The affective component of empathy refers more specifically to the recognition and sharing of emotional states and experiences (affective responsiveness) rather than thoughts and beliefs (Gallese et al., 2004) and is thought to be regulated by a basic emotional contagion system (Shamay-Tsoory, 2011). Higher empathic abilities among individuals with schizophrenia is suggested to be closely related to prosocial behavior, a higher tendency to agree with others, and an indication of better clinical insight (Bhagyavathi et al., 2014; Pijnenborg et al., 2013). The ability to share emotions with others, implies that an individual is able to distance himself from his own firmly held beliefs regarding oneself, and open to accept the perspective of another, regarding oneself. In order to adopt the emotional perspective of others and engage in empathic behavior, Lombardo and Baron-Cohen (2011) emphasize the importance of self-awareness. The literature has mostly investigated the relationship between the cognitive route to empathy or Theory of Mind (ToM) and clinical insight, with few studies addressing affective empathy (Bhagyavathi et al., 2014; Didehbani et al., 2012; Pijnenborg et al., 2013). In some studies, ToM has been positively associated with clinical insight, more so than symptomatology and other cognitive deficits (Bora et al., 2007; Langdon and Ward, 2008; Lysaker et al., 2011; Quee et al., 2011); while two studies have not found any relation between ToM and clinical insight (Drake and Lewis, 2003; Stewart et al., 2010). Bora et al. (2007) reported that ToM explained 22.5% to 29.9% of the variance in clinical insight scores. Pijnenborg et al. (2013), were one of the first to examine the affective component of empathy and found it to be more strongly associated with clinical insight than cognitive empathy. The results of this study showed that affective empathy explained 45% of the variance in clinical insight.

The research investigating the relationship between empathy and clinical insight continues to be constrained by inconsistent use and interpretation of the measures (e.g. contagion, cognitive empathy, affective empathy, ToM which is at times also divided into cognitive and affective components), and has neglected reporting important clinical variables. Moreover, cognitive and affective empathy and clinical insight in first episode versus chronic schizophrenia have not yet been investigated. We set out to investigate the association between cognitive and affective empathy on one hand, and clinical insight on the other, across first episode and chronic patients with schizophrenia.

2. Aims

The current study sought to investigate the relationship between cognitive and affective empathy and clinical insight. We predicted both cognitive and affective empathy to be associated with clinical insight. We hypothesized that affective empathy will account for significant variance in clinical insight (Pijnenborg et al., 2013), specifically on the measure of awareness of mental disorder dimension (SUMD1), independent of the shared variance with cognitive empathy, while controlling for gender, age of onset, and symptomatology. A second aim was to examine and confirm that differences exist between individuals with schizophrenia and healthy controls on the variables of cognitive and affective empathy, specifically poorer empathy among the schizophrenia group. A third exploratory aim was to examine the differences in clinical insight and empathy between first episode and chronic schizophrenia participants.

3. Materials and methods

3.1. Participants

A total of 43 participants; 22 individuals with a diagnosis of schizophrenia and 21 healthy control individuals took part in this study. All procedures and materials were approved by the Institutional Review Board responsible for Social and Behavioral Sciences research at the American University of Beirut, Lebanon and were submitted as part of a Master's Thesis for the first author.

The patient group had a mean age of 29.91 (sd = 11.19) and was comprised mostly of males (N = 17). All patients had received a diagnosis of schizophrenia as per DMS-5 criteria (American Psychiatric Association, 2013) by an experienced psychiatrist and a clinical psychologist. Patients were recruited through convenience sampling consisting of individuals presenting for outpatient visits at the outpatient department clinics as part of the Department of Psychiatry at the American University of Beirut Medical Center (AUBMC). Exclusion criteria for the patient group included: mental retardation, brain injury, neurological disorder, and/or substance abuse in the last 6 months. All patients were taking an antipsychotic medication at the time of the interview. Ninety one percent of the sample was living with their family (either one or both parents), only two participants were living on their own. The majority had received their diagnosis > 3 years prior (N = 13) and were classified as chronic patients. The rest (N = 9) were classified as First Episode Psychosis (FEP) having experienced their first psychotic episode within the past three years. Some studies have used a cut-off of more than two years to categorize patients with chronic schizophrenia (Green et al., 2012; Zanello et al., 2009), while others have used a cut-off of at least three years (Konstantakopoulos et al., 2014; Whitford et al., 2006). The larger margin was considered in this study. The control group had a mean age of 21.62 (sd = 2.39) with an age range between 18 and 27. Controls consisted mostly of females (N = 16), all of which were single and living with their parents. Controls were recruited through convenience and snowball sampling from the researcher's community (AUB and AUBMC) and the majority (85.75%) were university students with 82% enrolled/completed their bachelor's degree. One participant held a Master's degree, one was enrolled in a PhD program (1st year) and one was in 12th grade. Inclusion criteria for the control group were no current or previous diagnosis of schizophrenia or other psychiatric disorder, no family history of schizophrenia and no brain injury or neurological disorder.

3.2. Materials

3.2.1. Insight assessment

1. ***Scales to Assess Unawareness of Mental Disorders SUMD*** (Xavier Francisco Amador and Strauss, 1993).The SUMD is a commonly used semi-structured interview to assess past and present insight in schizophrenia and other mental disorders. The SUMD measures the following three dimensions: global awareness of illness (SUMD1), awareness of the effect of medication (SUMD2), and awareness of the social consequences of the illness (SUMD3) resulting in three different scores. Items are rated from 1 to 5; the lower scores indicating better insight. The SUMD was administered by one of the researchers who was blinded to participants' symptomatology.