Insight in stable schizophrenia: Relations with psychopathology and cognition

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Abstract

Objective: This study evaluated the relationship among insight, sociodemographic and clinical variables, symptoms and cognitive functions in a population of outpatients with stable schizophrenia, in order to identify possible contributing factors to awareness.
Method: Two-hundred and seventy-six consecutive outpatients with stable schizophrenia were enrolled in a cross-sectional study. All subjects were assessed by psychiatric scales and interview, and a wide neuropsychological battery. A factor analysis was performed to identify cognitive factors and multiple regression analyses were executed to test the contribution of variables considered to insight.
Results: Our results showed that positive and negative symptoms, executive functions, verbal memory-learning were contributors of awareness of mental illness; positive and negative symptoms explained variability in awareness of the need for treatment; positive symptoms and executive functions contributed to awareness of the social consequences of disorder.
Conclusions: These results suggested that insight was partially influenced by positive and negative symptoms and by cognitive functions. A complex system of overlapping variables may underlie impaired insight, contributing to a different extent to specific dimensions of poor insight in patients with stable schizophrenia.

1. Introduction

Lack of insight or awareness of illness is a hallmark feature of schizophrenia and has become an increasingly important area of investigation [1]. Eighty to 85% of the patients show either partial or no insight of the disorder [2–5]. Poor insight has a strong impact on clinical outcome [6,7], treatment compliance [7–11], number of hospitalizations [12,13], social and interpersonal functioning [14,15], and vocational rehabilitation [16].

The identification of demographic and clinical factors associated with lack of insight has proved complicated. Some authors found evidence that age of onset of the disorder [17], female gender [18,19] and lower educational level [19–21] were associated with poor insight, yet others didn't find evidence for an association [6,13,22–24].

Regarding psychopathology, largely inconsistent results have been produced by various studies which analysed lack of insight in patients with schizophrenia and its relationship with the severity of symptoms. Unawareness of illness has been associated with greater levels of positive [20,25,26] and negative symptoms [20,25–28], especially in the early stages of illness [29], although inverse or no direct relationships have also been reported [13,30]. Similarly, studies examining the associations between impaired insight and depression are controversial, with some investigators finding no significant relationships [6], while more recent research has found a positive relationship between the degree of insight and depressive symptoms [31–34]. For instance, weak to modest relationships have been reported between insight and anxiety [34–36].

In recent years much of the research has focused on understanding the relationship between neurocognitive impairment and insight [20]. There is evidence regarding widespread neurocognitive dysfunction in patients with stable schizophrenia, particularly in the areas of attention, memory, and executive functions [37]. While some of the

studies reported a significant association between impaired insight and executive functioning [5,24,38–43], memory [20,29,33,44] or attention [16], other studies did not find these associations [22,26,42,45–47]. Such inconsistencies may be due to methodological differences, such as use of different and non-standardized insight and/or cognitive measures, and failure to assess or control for global cognitive status, and diagnostic and psychopathological variability within the study subjects [48].

In order to focus our attention on insight, we analysed a sample of outpatients with stable schizophrenia with the following aims:

1. To investigate the relationships among insight, socio-demographic and clinical variables, symptoms and cognitive functions.
2. To analyse which variables were contributing factors to three different dimensions of insight: patient's awareness of the disorder, awareness of need for treatment and awareness of the social consequences of disorder.

2. Methods

2.1. Participants

The study has been conducted at the Department of Neuroscience, Psychiatric Section, Out-patients Clinics and the Department of Mental Health ASL1 Molinette-Turin, Italy. In the period between July 2008 and March 2010 we recruited two-hundred and seventy-six consecutive schizophrenic outpatients. Patients were initially evaluated by a clinician–psychiatrist, and if they met DSM-IV-TR [49] diagnostic criteria for schizophrenia, they were seen subsequently by our research team.

Subjects were excluded if they had a current disorder other than schizophrenia on Axis I of the DSM-IV-TR, a current or past codiagnosis of autistic disorder or another pervasive developmental disorder, a history of severe head injury (coma $\geq$48 h), or a diagnosis of a psychiatric disorder due to a general medical condition. At the time of study entry, patients had been clinically stable for at least 6 months as judged by treating psychiatrist, i.e. during this period all patients had to be treated as outpatients, treatment regimen had not been modified, and there was no essential change in symptomatology. In addition to medical records, patients were considered to be in stable phase as assessed from reports from patients themselves, and observations of the psychiatric staff, personnel in the psychiatric community and relatives.

Patients were evaluated using a semi-structured interview to assess demographic and clinical features. Data were collected to determine age, gender, years of education, length of illness, number of hospitalizations and antipsychotic treatment.

The diagnosis of schizophrenia was confirmed by two expert clinicians (C.M., P.R.) using the Structured Clinical Interview for DSM-IV disorders (SCID) [50]. Administration of the SCID required 2 h for each subject. The patients were screened for the presence of exclusionary comorbid Axis I diagnoses. The two psychiatrists were aware of previous diagnosis and they could also review the previous clinical charts, available for all the patients.

All the patients were receiving antipsychotic medication at the time of assessment. The study was carried out in accordance with the Declaration of Helsinki 1964 (as revised in Seoul 2008) and Good Clinical Practice. The protocol was approved by a Local Research Ethics Committee and written informed consent was obtained from all subjects after a complete description of the study.

2.2. Psychiatric assessment

Current levels of psychopathological symptoms were assessed using the Positive and Negative Syndrome Scale, PANSS [51], a rater-administered 30-item scale for measuring positive symptoms (PANSS P), negative symptoms (PANSS N), and general psychopathology (PANSS G).

We used the Scale for the Assessment of Unawareness of Mental Disorder, SUMD, to assess insight [52]. For the purposes of this study we used the three central items of the SUMD: a) awareness of mental illness (SUMD 1), b) awareness of the need for treatment (SUMD 2), and c) awareness of the social consequences of disorder (SUMD 3). All the scores are located in a Likert-type scale from 1 (good insight) to 5 (no insight). Each of these domains is rated on a 6-point rating: 0 (not applicable), 1 (aware), 3 (somewhat aware/unaware), and 5 (severely unaware). An average score is then calculated for each one of them. A score $\geq$3 was significant for a poor individual level of insight.

Clinical assessment was carried out in two sessions, the first for the administration of SCID and the second for the administration and scoring of other clinical scales. The two mentioned sessions were conducted within 1 week.

All assessments (SCID and psychopathological rating scales) were performed by experienced psychiatrists (C.M., M.S., C.M., P.R.). In an attempt to reduce inter-rater variability, all raters were trained to administer the psychometric tools according to common standards. Also they participated in a pilot study in order to reach consensus ratings that were obtained using psychometric scales. The procedure for this pilot study involved the authors completing independent ratings of interviews that were conducted with 15 patients. This procedure was followed by a discussion about each patient in order to reach consensus ratings. In this study, the agreement (within 1 point) between the raters varied from 79% to 93% of the time for all items on the PANSS; 93% of the time for SUMD total score. Efforts were made to maintain inter-rater reliability across the entire study period, including careful calibration and standardization procedures and regular, in-depth review of a sample of interviews with the lead author.