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Obsessive compulsive symptoms are associated with better functioning independently of cognition in schizophrenia

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Abstract

Objectives: Although the relationship of obsessive–compulsive symptoms (OCSs) with both cognition and social functioning (SF) has already been the focus of research in schizophrenia, the moderation of the relationship of OCSs with SF by cognition has not been explored to date. We investigated the association of OCSs with SF and its interaction with cognition in schizophrenia.

Methods: We recruited 110 schizophrenia patients and assessed OCSs (Yale-Brown Scale), schizophrenia symptoms (Positive and Negative Syndrome Scale), SF (Strauss-Carpenter Scale) and cognition. 51 patients had one obsessive–compulsive symptom or more, whereas 59 patients had no obsessive compulsive-symptom, according to the Yale-Brown Scale. We mainly investigated: a) the predictive effect of OCSs on SF, controlling for cognition, illness duration and symptoms' severity and b) the moderating effect of cognition on the OCSs-SF relationship.

Results: The mean score of OCSs for patients having at least one symptom was 13.43 (SD = 8.32). Higher OCSs predicted increased SF (B = 0.98, t = 2.41, df = 88, p = 0.018). This relationship was driven by the association of compulsions with job functioning (B = 0.074, t = 2.029, df = 88, p = 0.046). Patients without OCSs demonstrated worse functioning compared with those having at least one obsessive–compulsive symptom (mean difference = 2.496, t = 3.732, df = 88, p < 0.001). We failed to find evidence that cognition moderates the effect of OCSs on SF.

Conclusion: There may be a beneficial effect of OCSs on SF in patients with schizophrenia which is independent of their cognitive performance.

1. Introduction

Schizophrenia is a chronic disorder which causes functional decline in the domains of social contacts [1] and employment [2]. Despite drug treatment, schizophrenia often leads to hospitalizations [3] and persistent symptoms [4]. Obsessive–compulsive symptoms (OCSs) including recurrent intrusive ideas, images or impulses (obsessions) and stereotyped, ritualistic behaviors (compulsions) are commonly diagnosed in patients with schizophrenia. OCSs in the course of schizophrenia have been reported as early as 1926, and repeatedly ever since [5–9]. Recent meta-analyses suggested that the commorbidity of schizophrenia with obsessive compulsive disorder (OCD) is approximately 12% while about 30% report any obsessions or compulsions [10–12]. Meta-regression analyses found that the large variability of prevalence rates between individual studies can mainly be explained by methodological differences (e.g., assessment instruments) and differences in sample characteristics such as illness state [12]. Notably, OCSs in schizophrenia have been associated with treatment with second-generation antipsychotics, in particular clozapine and olanzapine [13]. In addition, second-generation antipsychotics have been shown to have different effects on cognitive performance of patients with schizophrenia [14–16], although the implications of these effects on social functioning (SF) have not been yet investigated.

The relationship of OCSs with positive and negative symptoms in schizophrenia remains inconsistent [17]. Although most researchers report that schizophrenia patients who also suffer from OCSs display a higher severity of overall, positive

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and negative symptoms [18], certain findings suggest that OCSs relate to less negative [19,20] and positive symptoms [21]. Additionally, OCSs in the context of schizophrenia have been associated with neurocognitive deficits in the domains of visual memory, executive functioning and cognitive flexibility [22,23]. These deficits appear to be longitudinally stable [22]. However, a number of clinical findings have challenged the hypothesis that OCSs impair cognition in schizophrenia by suggesting either that OCSs are in fact linked to superior performance in visual memory [24] and executive function [25,26] or that OCSs are not significantly associated with cognitive performance [27–29]. Evidence from individuals with a high risk for psychosis (at risk mental state) suggests that those having OCSs have superior cognitive performance compared to those without OCSs [30]. The relationship of OCSs with SF should take into account important confounders such as positive, negative and general psychopathology symptoms of schizophrenia and cognition given that both symptoms [31,32] and cognitive deficits [33,34] have been associated with deficits in SF. However, the existing studies which have investigated the effect of OCSs on SF of schizophrenia patients have produced contradictory findings. Hunter and Lysaker argue that patients with schizophrenia with obsessions and compulsions tend to have overall poorer functional capacities [17]. Two studies including the pivotal paper of Fenton and McGlashan showed that OCSs are associated with poorer social and vocational function [6,35], but a third one failed to replicate this negative effect [36]. It is noteworthy that the above studies have not controlled for the known effects of illness duration [37] and cognition [33] on functional outcome.

The present cross-sectional study examines the relationship between OCSs and SF in patients with chronic schizophrenia, taking into account the role of overall symptoms, cognition and duration of illness. The study was designed in order to explore the contribution of cognition on the relationship between OCSs and SF and to stimulate future prospective research which could delineate the issue of causality among OCSs, cognition and social functioning in schizophrenia.

2. Methods

2.1. Study design and participants

110 patients were recruited at the Psychiatric Hospital of Attica, following referral by their treating psychiatrist during a period of one year from December 2013 to December 2014. All patients of this convenience sample were recruited from one Psychiatric Department of the hospital. The Psychiatric Hospital of Attica is the largest psychiatric hospital (and the largest public hospital) of the Greek National Health Service, comprises ten Psychiatric Departments, each of which includes one acute ward, boarding houses, hostels and supported apartments for patients suffering from mental disorders and is admitting patients two days per week (Wednesday and Friday). During these days, it is the only public hospital in the Attica region accepting admissions of psychiatric patients. These patients are inhabitants of a large catchment area incorporating Athens and its Prefecture with a population of around 3 million people. On the day of their admission, patients are randomly allocated to one of the ten hospital Departments. Due to this random procedure, each Department of the hospital is representative of the whole population of patients admitted into the hospital.

The inclusion criteria were: diagnosis of DSM-IV schizophrenia, age 18–65 years and treatment with stable dosage of all psychotropic medications for at least one month prior to assessment. Patients who had hearing or visual impairment, mental retardation, serious cardiovascular and neurological and current substance abuse disorder were excluded. The clinical diagnosis of schizophrenia was made by consensus of two experienced psychiatrists. The diagnosis was subsequently confirmed using the Operational Criteria symptom checklist by one blind rater [38]. All patients have provided written informed consent. The protocol of the study followed the Code of Ethics of the World Medical Association (Helsinki Declaration) and was approved by the ethics committee of the hospital.

2.2. Assessment of social functioning and symptoms

Two trained raters (psychiatry residents) assessed SF and symptoms with the relevant clinical rating scales. Specifically, SF was assessed with the Strauss-Carpenter Scale (S-CS) [39], OCSs were assessed with the Yale-Brown Obsessive Compulsive Scale (YBOCS) [40] and total (schizophrenia) symptoms with the Positive and Negative Syndrome Scale (PANSS) [41]. The S-CS evaluates four different areas of outcome dysfunction, specifically duration of hospitalization (item 1), social contacts (item 2), employment (item 3) and symptoms (item 4), each of which is rated from 0 to 4 (0: severe dysfunction, 4: adequate functioning). It was developed as a SF outcome scale based on a two-year follow-up of psychiatric (mainly schizophrenia) patients following psychiatric admission. This scale was created as a practical scale aimed at fostering rehabilitative and treatment programs. Information from the two-year follow-up assessment of patients was summarized to four critical items mentioned above. The YBOCS is a clinician-related 10 item scale, each item rated from 0 to 4 (0: no symptoms, 4: severe symptoms) with separate subtotals for severity of obsessions and compulsions (5 items each). The PANSS scale comprises 30 items (rated from 1 to 7, 1: no symptoms, 7: severe symptoms) and includes three subscales measuring positive (7 items), negative (7 items) and general psychopathology symptoms (16 items). It should be noted here, that the assessment of symptoms using PANSS differs from the symptom criterion of S-C. PANSS is a more detailed measure of symptoms and is based on the clinical examination and information pertaining to the present clinical examination extending to information gathered on the patient's behavior during the past week and is sensitive to change during a month period, whereas the symptom's criterion of S-C is a rough measure of symptoms which evaluates a period of the previous