

# Study of obsessive-compulsive disorder comorbidity in patients with schizophrenia

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## Abstract

**Background:** There is growing evidence that patients with comorbid obsessive-compulsive disorder (OCD) and schizophrenia (recently termed “schizo-obsessive”) may represent a special category of the schizophrenia population. In present study, we aimed to study obsessive-compulsive disorder comorbidity in patients with schizophrenia. **Material and Methods:** Present study was a cross-sectional and observational study conducted among stable outpatients, diagnosed with schizophrenia based on Diagnostic and Statistical Manual for Mental Disorder, Fifth Edition (DSM-V), were on the same antipsychotic treatment for at least six months. We screened Obsessive compulsive symptoms (OCS) with Yale Brown Obsessive Compulsive Scale (YBOCS) Symptoms Checklist. Total YBOCS score was used to assess the severity of OCS. **Results:** In present study among 80 schizophrenia patients, OCD was diagnosed in 19 patients (prevalence – 23.75 %). General characteristics such as mean age (in years), gender (female/male), marital status (single/separated/married), education level, Duration of schizophrenia and Number of hospitalizations were comparable among patients with or without OCDs and difference was not significant statistically ( $p > 0.05$ ). Statistically significant ( $p = 0.025$ ) earlier onset of schizophrenia was noted among patients with OCDs ( $22.72 \pm 6.27$  years) as compared to patients without OCDs ( $26.21 \pm 5.85$  years). Among OCD patients, majority had mixed obsessional thoughts and acts (52.63%), followed by predominantly obsessional thoughts and ruminations (21.05%), predominantly compulsive acts (15.79%). Among OCD patients, YBOCS Obsessions score was  $11.52 \pm 6.81$ , YBOCS Compulsions score was  $11.01 \pm 7.01$  and YBOCS Total score was  $22.87 \pm 6.63$ . Antidepressant prescription, Suicidality, PANSS score (Positive, Negative, General and Total) was higher in patients with OCDs as compared to patients without OCDs and difference was statistically significant. **Conclusion:** Schizophrenia with OCS remains prevalent in many parts of the world. Gross oversight of this comorbid will result in severe depressive symptoms and higher suicidality.

**Keywords:** Schizophrenia, OCDs, psychopathological comorbidity, suicidality.

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## INTRODUCTION

There is growing evidence that patients with comorbid obsessive-compulsive disorder (OCD) and schizophrenia (recently termed “schizo-obsessive”) may represent a

special category of the schizophrenia population.<sup>1</sup> Literature supports that 64.5% of patients with schizophrenia perceived stigma and alienation were found to be the most common aspects of internalised stigma with 49.2% of reporting.<sup>2</sup> A nationwide study from India revealed that patients with severe mental disorders experience high levels of self-stigma.<sup>3</sup> There is growing evidence that patients with comorbid OCD and schizophrenia (recently termed “schizo-obsessive”; appear to have distinct patterns of psychopathology, course of illness, psychiatric comorbidity, neurocognitive deficits, and treatment response, compared to their schizophrenic counterparts, suggesting the existence of a separate subgroup on the schizophrenia spectrum.<sup>4</sup> Concurrent presence of OCD and schizophrenia was approximately 10% and OCS rate in patients with schizophrenia was

determined higher in previous studies.<sup>5,6</sup> Distinct type of obsessions and compulsions in clinical manifestation may basically highlight the same symptom dimension.<sup>7</sup> In present study, we aimed to study obsessive-compulsive disorder comorbidity in patients with schizophrenia.

**MATERIAL AND METHODS**

Present study was a cross-sectional and observational study conducted at Department of Psychiatry, Prakash Institute of Medical Sciences and Research, Islampur, INDIA. Study duration was of 12 months (between January 2020 to December 2020). Study permission was taken from institutional ethical committee. Study was explained to patients and relatives, a written permission was obtained for participation in present study.

**Inclusion criteria:** Stable outpatients, diagnosed with schizophrenia based on Diagnostic and Statistical Manual for Mental Disorder, Fifth Edition (DSM-V), were on the same antipsychotic treatment for at least six months.

**Exclusion criteria:** Patients with active psychotic symptoms, intellectual disability and dementia. Patients refused to participate

All participants were thoroughly briefed on the study protocol and their informed consent obtained. Participants’ socio-demographic data (age, gender, ethnic group, marital status, education level, religion, employment status, family mental history, duration of illness and type of medication) was noted from the case records as well as from direct interview. We screened Obsessive compulsive symptoms (OCS) with Yale Brown Obsessive Compulsive Scale

(YBOCS) Symptoms Checklist. Total YBOCS score was used to assess the severity of OCS. Clinically significant OCS was defined as total YBOCS score of  $\geq 8$ . Severity of schizophrenia symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS) with the help of the Structure Clinical Interview version (SCI-PANSS). The higher the score, the more severe the psychopathologies. PANSS has 3 main sub-scales, namely positive, negative and general psychopathology. Overall, total PANSS score reflected the severity of schizophrenia. Data was analysed using SPSS version 20 (IBM, Chicago, USA). The quantitative data were expressed as mean and standard deviation. The qualitative data were presented as frequencies and percentages. Pearson's Chi-square test was used to compare data. p value less than 0.05 was considered significant.

**RESULTS**

In present study among 80 schizophrenia patients, OCD was diagnosed in 19 patients (prevalence – 23.75 %). General characteristics such as mean age (in years), gender (female/male), marital status (single/separated/married), education level, Duration of schizophrenia and Number of hospitalizations were comparable among patients with or without OCDs and difference was not significant statistically ( $p > 0.05$ ). Statistically significant ( $p = 0.025$ ) earlier onset of schizophrenia was noted among patients with OCDs ( $22.72 \pm 6.27$  years) as compared to patients without OCDs ( $26.21 \pm 5.85$  years).

**Table 1:** Sociodemographic and clinical characteristics

| Characteristics            | Patients with OCD (n=19) | Patients without OCD (n= 61) | P-value |
|----------------------------|--------------------------|------------------------------|---------|
| Mean Age (in years)        | 38.62 ± 12.88            | 39.95 ± 11.17                | 0.89    |
| Gender                     |                          |                              | 0.92    |
| Female                     | 8 (42.11%)               | 21 (34.43%)                  |         |
| Male                       | 11 (57.89%)              | 40 (65.57%)                  |         |
| Marital status             |                          |                              | 0.72    |
| Single or separated        | 13 (68.42%)              | 39 (63.93%)                  |         |
| Married                    | 6 (31.58%)               | 22 (36.07%)                  |         |
| Education level            |                          |                              | 0.69    |
| Primary school or lower    | 3 (15.79%)               | 8 (13.11%)                   |         |
| Middle school              | 7 (36.84%)               | 18 (29.51%)                  |         |
| High school                | 4 (21.05%)               | 28 (45.90%)                  |         |
| University                 | 5 (26.32%)               | 7 (11.48%)                   |         |
| Onset age Of schizophrenia | 22.72 ± 6.27             | 26.21 ± 5.85                 | 0.025   |
| Duration of schizophrenia  | 14.82 ± 11.72            | 15.19 ± 8.32                 | 0.71    |
| Number of hospitalizations | 4.01 ± 1.00              | 3.45 ± 2.12                  | 0.23    |

Among OCD patients, majority had mixed obsessional thoughts and acts (52.63%), followed by predominantly obsessional thoughts and ruminations (21.05%), predominantly compulsive acts (15.79%), other obsessive-compulsive disorders (5.26%) and obsessive-compulsive disorder, un-specified (5.26%).

**Table 2: Obsessive compulsive disorder**

| Obsessive compulsive disorder                      | No. of patients (n=19) | Percentage |
|--|------------------------|------------|
| Mixed obsessional thoughts and acts                | 10                     | 52.63%     |
| Predominantly obsessional thoughts and ruminations | 4                      | 21.05%     |
| Predominantly compulsive acts                      | 3                      | 15.79%     |
| Other obsessive-compulsive disorders               | 1                      | 5.26%      |
| Obsessive-compulsive disorder, un-specified        | 1                      | 5.26%      |

Among OCD patients, YBOCS Obsessions score was  $11.52 \pm 6.81$ , YBOCS Compulsions score was  $11.01 \pm 7.01$  and YBOCS Total score was  $22.87 \pm 6.63$ .

**Table 3: YBOCS score**

| YBOCS score             | Score (Mean $\pm$ SD) |
|-------------------------|-----------------------|
| YBOCS Obsessions score  | $11.52 \pm 6.81$      |
| YBOCS Compulsions score | $11.01 \pm 7.01$      |
| YBOCS Total score       | $22.87 \pm 6.63$      |

Antidepressant prescription, Suicidality, PANSS score (Positive, Negative, General and Total) was higher in patients with OCDs as compared to patients without OCDs and difference was statistically significant.

**Table 4: Schizophrenia symptoms and PANSS**

| Schizophrenia symptoms and PANSS | Patients with OCD (n=19) | Patients without OCD (n= 61) | P-value |
|----------------------------------|--------------------------|------------------------------|---------|
| More than 5 admissions           | 13                       | 38                           | 0.75    |
| Antidepressant prescription      | 8                        | 7                            | < 0.001 |
| Suicidality                      | 10                       | 21                           | < 0.001 |
| PANSS Positive                   | 142.54                   | 110.34                       | < 0.001 |
| PANSS Negative                   | 128.75                   | 111.12                       | < 0.001 |
| PANSS General                    | 127.98                   | 109.67                       | < 0.001 |
| PANSS Total                      | 131.78                   | 110.56                       | < 0.001 |

## DISCUSSION

OCD is characterized by the presence of obsessions and/or compulsions. Obsessions are repetitive and persistent thoughts, images, impulses or urges that are intrusive and unwanted, and are commonly associated with anxiety. Compulsions are repetitive behaviours or mental acts that the individual feels driven to perform in response to an obsession according to rigid rules, or to achieve a sense of ‘completeness’.<sup>8</sup> OC-schizophrenia might be a sub-type of schizophrenia, which doesn’t have more severe psychotic symptoms, but more severe depression and anxiety, which are related to greater disability.<sup>9</sup> Up to 25% of schizophrenia patients suffer from OCS and about 12% fulfil the diagnostic criteria of obsessive-compulsive disorder (OCD). This is accompanied by marked subjective burden of disease, high levels of anxiety, depression and suicidality, increased neurocognitive impairment, less favourable levels of social and vocational functioning, and greater service utilization. Comorbid patients can be assigned to heterogeneous subgroups. It is assumed that second generation antipsychotics (SGAs), most importantly clozapine, might aggravate or even induce second-onset OCS.<sup>10</sup> Almost 30% of the patients with schizophrenia display OCS, and three main contexts

of emergence are identified: prodromal symptoms of schizophrenia, co-occurrence of OCS and schizophrenia and antipsychotics-induced OCS.<sup>11</sup> Previous studies done by Porto *et al.*<sup>12</sup> Thara, R *et al.*,<sup>13</sup> and Eisen *et al.*<sup>14</sup> who noted the prevalence of OCD in Schizophrenia to be ranging from 25-26.7%. Similar findings were noted in present study. Kokurcan A<sup>15</sup> noted the OCD prevalence was 17% (n=50) in the whole group while 10% (n=24/250) of the patients without OCD had 8-15 points at YBOCS. One-way ANOVA test revealed that the patients with OCD showed more severe positive, negative, and depressive symptoms, and also had lower functionality compared to those without OCD (p<0.05). The most severe OCS dimension was unacceptable obsessional thoughts in the patients with OCD and OCS. The severity of unacceptable obsessional thoughts was positively correlated with the depressive symptom severity, and negatively correlated with onset age of OCD and insight level in Pearson correlation analysis. Similar findings were noted in present study. Seng, Ng *et al.*,<sup>16</sup> studied 220 schizophrenia patients, underwent assessment by Structure Clinical Interview version, Yale Brown Obsessive Compulsive Scale, Calgary Depression Scale for Schizophrenia, Columbia Suicide Severity Rating Scale and World Health

Organization Quality of Life – Brief Version (WHOQOL-BREF). Significantly higher number of schizophrenia patients with OCS were taking Clozapine ( $p = 0.023$ ) and antidepressants ( $p = 0.013$ ). Schizophrenia patients with OCS showed more severe positive ( $p < 0.001$ ) and general symptoms ( $p < 0.001$ ) of schizophrenia, higher depressive symptoms ( $p = 0.013$ ), higher suicidality ( $p < 0.001$ ), more hospitalization ( $p = 0.044$ ), poorer physical ( $p = 0.034$ ) and psychological ( $p = 0.032$ ) domain in WHOQOLBREF. Rajkumar *et al.*<sup>17</sup> studied the clinical profile of schizophrenic patients with and without comorbid OCD. Schizo-obsessive patients had higher rates of paranoid symptoms and first-rank symptoms of schizophrenia. They had lower anergia, higher depression scores, more comorbid personality disorders, and disability. Significant correlations were observed between OCD severity scores and schizophrenia symptom dimension scores. Authors concluded that “schizo-obsessive” schizophrenia may be a distinct subtype with unique clinical characteristics. In a recent study, Kokurcan A,<sup>18</sup> studied 50 schizophrenia patients with an existing OCD comorbidity and 200 schizophrenia patients who did not have an OCD diagnosis for a lifetime. The participants were administered Brief Psychiatric Rating Scale (BPRS), Clinical Global Impressions Severity Scale (CGI-S), Scale for the Assessment of Positive and Negative Symptoms (SAPS/SANS), Calgary Depression Scale for Schizophrenia (CDSS), Yale–Brown Obsessive Compulsive Scale, and Global Assessment of Functioning Scale. Patients with OCD comorbidity had higher BPRS, SANS, and CGI-S scores compared to patients without OCD. In addition, patients with OCD showed worse functional impairment; however, sociodemographic variables, SAPS, CDSS, and insight scores did not show a significant difference depending on the presence of OCD. They also noted higher negative and depressive symptoms in patients with preexisting OCD compared to those manifesting OCD during the course of schizophrenia. As expected, the usage of clozapine in schizophrenia was associated with high OCS, a finding consistent with previous studies.<sup>19</sup> It was postulated that high propensity of anti-serotonergic properties in clozapine could lead to or exacerbate serotonin deficiency, which subsequently trigger the onset of OCS and yield a full threshold OCD.<sup>20,21</sup> There is limited systematic data on the treatment of OCD in schizophrenia and bipolar disorder. When OCD presents in the context of schizophrenia, management may include treatment with atypical antipsychotics with limited serotonergic properties, changing the antipsychotic, reduction in the dose of the antipsychotic, addition of cognitive-behavior therapy (CBT), or a specific serotonin reuptake inhibitor (SSRI). When OCD is comorbid with bipolar disorder, mood stabilization is the priority. CBT

may be preferred over SSRIs to treat OCD/OCS that persist in between the mood episodes because SSRIs may induce a switch or worsen the course of bipolar disorder.<sup>22</sup> Schizophrenia patients with OCS are associated with more severe psychopathology and depressive symptoms which subsequently suffered poorer physical and psychological health. Hence, recognition of OCS in schizophrenia and early initiation of effective treatment may be able to reduce the burden for people with chronic mental illness.

## CONCLUSION

Schizophrenia with OCDs remains prevalent in many parts of the world. The awareness of this non-schizophrenia psychopathological comorbid among practicing clinicians is crucial as this is a different entity of psychiatric disorder needing special attention and treatment approach. Gross oversight of this comorbid will result in severe depressive symptoms and higher suicidality.

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