

# Obsessive-compulsive symptoms and schizophrenia spectrum disorders: the impact on clinical and psychopathological features. A descriptive study on acute inpatients

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## Summary

### Objectives

Obsessive-compulsive symptoms (OCS) have often been described in schizophrenia spectrum disorders, contributing to the overall complexity of the clinical presentation, over and above the canonical symptom dimensions. The main aim of this study is to investigate the prevalence of OCS and its relationship with contextual psychopathology in a sample of acute psychotic inpatients within the schizophrenia spectrum.

### Methods

76 subjects consecutively admitted with a diagnosis of schizophrenia spectrum disorder underwent a systematic psychopathological assessment including the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) and the Positive and Negative Syndrome Scale (PANSS). Descriptive and bivariate analyses were performed in order to identify clinical and psychopathological correlates of the schizo-obsessive subgroup, defined as a Y-BOCS score  $\geq 17$ .

### Results

44.7% of the participants revealed significant OCS. No significant differences were detected in terms of socio-demographic, diagnostic and treatment features. Subjects with clinically relevant OCS presented higher scores in the negative and general psychopathology subscales, as well as a higher PANSS total score (Tab. I).

### Conclusions

High levels of OCS are relatively frequent in inpatients with schizophrenia and identify a subgroup with higher symptomatological severity. Screening for OCS in newly admitted subjects with schizophrenia might facilitate the timely identification of a subgroup with more intensive need of care.

### Key words

Psychopathology • Obsessive compulsive • Schizophrenia spectrum • Psychotic disorders • Schizo-obsessive

## Introduction

The co-occurrence of schizophrenia and obsessive-compulsive symptoms (OCS) or obsessive-compulsive disorder (OCD) identifies a sub-population of psychotic patients for which the term *schizo-obsessive* was coined<sup>1-3</sup>.

The correlation of obsessions and psychotic symptoms was hypothesized since the foundation of the modern psychiatry, despite obsessive symptoms being initially considered a protective factor against psychosis. The possible transition from obsessions to delusional ideas or hallucinations at a certain stage of intensity during the course of illness was described by

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several authors such Bleuler and Binswanger, considering the obsessive-compulsive syndrome as a possible variant of schizophrenia<sup>4-6</sup>.

Although the two disorders represent different nosographic entities and OCS are not considered as primary features or clinical dimensions of schizophrenia<sup>7</sup>, the co-existence of these conditions has been found to be critically frequent<sup>2</sup>. Indeed, previous studies evaluated the prevalence of OCS among patients affected by schizophrenia between 30 and 59% while OCD was estimated to occur in a percentage rate between 8 and 23%<sup>3,8</sup>. Recent literature describes schizo-obsessive disorder as a construct underlying several areas of overlap between schizophrenia and OCD, with a rising interest towards its neurobiological correlates, possibly connected with dysfunctions in basal ganglia and frontal lobe<sup>9</sup>.

The association between these conditions can be considered as a continuum, where patients with primary diagnosis of OCD who develop psychotic features or schizophrenia at a later stage of the illness are included as well<sup>10-11</sup>. Furthermore, the schizo-obsessive framework has been more recently enlarged, with studies evaluating OCS also in subjects with a diagnosis of non-affective psychotic disorders, including schizotypy<sup>3,12,13</sup>. Noteworthy, the likelihood of being affected by OCD has been shown significantly higher not only for schizophrenic patients, but for patients leaning on the whole spectrum<sup>14</sup>. Moreover, the hypothesis that treatment with second generation antipsychotics, especially clozapine, may induce or exacerbate obsessive-compulsive features in patients affected by schizophrenia provides further elements of complexity to the relationship of the two conditions, also in consideration of the need to address targeted treatment strategies in schizophrenic patients presenting OCS<sup>15,16</sup>.

Recent studies investigated whether schizo-obsessive disorder identifies a population of patients with peculiar clinical and psychopathological features, without univocal results. Schizo-obsessive and schizophrenic patients seem to show no differences in the age at onset of psychotic symptoms, while OCS present an earlier onset in the schizo-obsessive group compared to patients diagnosed with OCD alone<sup>17,18</sup>. Patients with comorbidity of the two conditions seem to share a more significant social impairment, with lower level of education and higher rates of unemployment<sup>16</sup>. Similarly, OCS seem to show a significative impact on functioning in subjects affected by psychotic disorders other than schizophrenia<sup>3,12</sup>. However, other findings connect the presence of mild OCS with an improvement of social functioning in schizophrenia<sup>19,20</sup>.

Clinically relevant OCS appear to be connected with psychopathological features of schizophrenia spectrum disorders with highly variable findings about the most

represented symptomatologic dimensions<sup>11,12,21</sup>. On the other hand, some research failed to find any significant correlation between OCS and positive/negative symptoms, hypothesizing the independence of obsessions and compulsions from the core symptoms of schizophrenia<sup>18,20,22,23</sup>. In consideration of these conflicting results, how OCS interact with other clinical characteristics in schizophrenia spectrum disorders and their impact on the psychopathological presentation of the illness still represents a not fully addressed issue<sup>12</sup>.

As a consequence, the present study examines the prevalence of OCS in a population of inpatients with diagnosis of schizophrenia spectrum disorders and investigates sociodemographic, clinical and psychopathological features of schizo-obsessive patients in order to better characterize this diagnostic construct and its relationship with other symptomatological constellations in schizophrenia spectrum disorders.

## Materials and methods

This is an observational study assessing inpatients recruited at the Psychiatric Inpatient Unit in the General Hospital of Santa Maria della Misericordia in Perugia, Umbria, Italy, from January 2015 to December 2016. The sample consists of patients admitted to the unit both voluntarily or using compulsory treatment procedures after giving their writing consent, in full respect of ethical principles stated by the declaration of Helsinki. The research ethics committee of the Umbria region gave approval for the study. The whole sample consisted of 76 patients who fulfilled the inclusion criteria at their first admission during the study period.

Subjects aged 18-65, native Italian speakers, diagnosed with schizophrenia spectrum disorders according to DSM-IV-TR<sup>24,25</sup> were deemed eligible for the participation in the study. Patients with substance-induced psychosis or physical illnesses possibly affecting the psychopathological status were excluded.

Sociodemographic and clinical information was collected in specific paper records then entered into an electronic database. Symptom severity was rated by means of the Positive and Negative Syndrome Scale (PANSS)<sup>26</sup>. Patients were further tested with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS)<sup>27</sup>. The presence of OCS was considered clinically relevant when patients scored 17 or more at the Y-BOCS, according to an operational criterion defined in previous literature<sup>28</sup>.

Descriptive analysis and examination of the distributional properties of sociodemographic, clinical and living information variables were first carried out. Secondly, bivariate analyses were performed using chi-square tests for categorical variables and t-test for continuous variables. All analyses were performed

using the Statistical Package for Social Sciences (SPSS), 20.0 version for Windows Inc.

## Results

Final sample consisted of 76 patients. Among these, 44 (57.9%) were males whilst 32 (42.1%) were females, with a mean age of  $40.54 \pm 12.06$  years. The most common diagnoses according to the DSM-IV-TR<sup>25</sup> were Schizophrenia (29 patients, 38.2%) and Schizoaffective Disorder (25 patients, 32.9%).

In the present sample of patients affected by schizophrenia spectrum disorders, 34 (44.7%) patients presented clinically significant OCS, as defined by a Y-BOCS score  $\geq 17$ . As for symptoms severity, 10 patients (13.2%) presented severe OCS and 1 (1.3%) showed extreme OCS, respectively defined by a Y-BOCS score included between 24 and 31 or between 32 and 40.

Patients diagnosed with schizophrenia spectrum disorders showing OCS (SCHZ-OCS) did not differ significantly from patients without OCS (SCHZ-NOCS) in terms of socio-demographic characteristics such as gender, age, nationality, marital status, occupation, scholarship and living status.

No differences were found between SCHZ-OCS and SCHZ-NOCS groups for what concerns main psychiatric diagnosis according to DSM-IV-TR<sup>25</sup> and medical comorbidities. Substance misuse appeared to be more frequent among SCHZ-NOCS patients ( $p = 0.033$ ). As for treatment features, the prescription of long-acting injectable antipsychotics, both typical and atypical, did not significantly diverge between the two groups.

Significant differences in psychopathological characteristics as measured by the PANSS were detected in the present study. Particularly, patients with clinically significant OCS presented higher scores in the negative ( $p = 0.003$ ) and general psychopathology ( $p = 0.006$ ) subscales, as well as a higher PANSS total score ( $p = 0.007$ ) (Tab. I).

## Discussion and conclusions

In the present study, near a half of the sample presented clinically significant OCS at the evaluation. This finding is partly consistent with the literature, where the prevalence of OCS in schizophrenia spectrum disorders can vary up to 59%<sup>3,8,29</sup>. Lower percentages could also be due to the heterogeneity of the samples, mainly considering outpatients<sup>11,30</sup>, or to the evaluation of a co-morbid diagnosis of OCD and not the prevalence of OCS<sup>21</sup>.

Between the two groups in analysis no differences were found about socio-demographic characteristics. This is consistent with part of the literature<sup>17,30</sup> where the lack of consensus is probably due to the different recruitment methods. In a previous study, psychotic patients with

and without OCS did not differ from patients affected by OCD in absence of a schizophrenia spectrum disorder when compared on the basis of socio-demographic variables<sup>23</sup>.

In the present study no differences were noted for what concerns clinical characteristics. In line with this finding, previous research elucidated that comorbidity between schizophrenia spectrum disorders and OCD did not represent a distinct nosographic entity on clinical bases<sup>23</sup>. Results about substance misuse in the schizo-obsessive subgroup are not fully consistent with literature findings, hypothesizing that comorbid OCD could increase the risk for some psychiatric comorbidities<sup>3</sup>. Anyway, although substance use disorders and OCD could share a common phenomenology with compulsivity at the basis, epidemiological findings about the co-occurrence of the two conditions are heterogeneous<sup>31</sup> and our results in the schizo-obsessive subgroup should thus be replicated.

Comparison of the psychopathological characteristics turned out to be statistically significant in our bivariate model. Particularly, psychotic patients affected by OCS showed more negative symptoms. This confirms some previous literature findings reporting a higher prevalence of negative symptoms<sup>8,12,14,32,33</sup>, which are linked to a lower functioning and to the overall severity of the clinical presentation<sup>34</sup>. Similarly, general psychopathology symptoms were more represented in the schizo-obsessive sample. This could be consistent with the description of schizophrenia with OCS as a subtype presenting a major severity also in affective psychopathological domains, particularly anxiety and depression, which are included in this subscale of the PANSS<sup>30,35</sup>. The strong association as reported by negative and general psychopathology symptoms suggests a major complexity of schizophrenic patients presenting OCS, both in terms of clinical presentation and therapeutic strategies that should be addressed for this specific population. The higher PANSS total score confirms that the presence of OCS in schizophrenia spectrum disorder could significantly affect the overall severity of the clinical picture.

Data from the present study suggest that more pronounced OCS might define a pathomorphic expression of schizophrenia, with a negative impact on the clinical frame, on the quality of life and possibly on the whole outcome, although not representing a distinct syndrome in terms of socio-demographic and clinical characteristics<sup>20,23,30</sup>.

As for methodological limitations, at least the following should be considered. First, our sample was recruited from people admitted in an inpatient unit, possibly characterized by a relatively high severity of illness, so our results should be generalizable with some cau-

**TABLE I.** Socio-demographic and clinical characteristics in a population of psychotic inpatients ( $n = 76$ ) with (SCHZ-OCS) and without (SCHZ-NOCS) obsessive-compulsive symptoms.

|   | SCHZ-OCS<br>( $n = 34, 44.7\%$ ) | SCHZ-NOCS<br>( $n = 42, 55.3\%$ ) | $\chi^2$ | $p$   |
|---|----------------------------------|-----------------------------------|----------|-------|
| <b>Socio-demographic characteristics</b>                      |                                  |                                   |          |       |
|   | n, %                             | n, %                              |          |       |
| Female gender   | 12 (35.3)                        | 20 (47.6)                         | 0.720    | 0.396 |
| Italian nationality   | 33 (97.1)                        | 39 (92.9)                         | 0.089    | 0.765 |
| Single  | 33 (97.1)                        | 38 (90.5)                         | 0.470    | 0.493 |
| Scholarity > 13 years   | 14 (41.2)                        | 26 (61.9)                         | 2.460    | 0.117 |
| Employed  | 14 (41.2)                        | 21 (50)                           | 0.287    | 0.592 |
|   | Mean (*SD)                       | Mean (SD)                         | t        | p     |
| Age   | 40.03 (12.77)                    | 40.95 (11.59)                     | 0.330    | 0.742 |
| <b>Socio-environmental status</b>                             |                                  |                                   |          |       |
|   | n, %                             | n, %                              | $\chi^2$ | p     |
| Conjugal family   | 2 (5.9)                          | 2 (4.8)                           | 0.000    | 1.000 |
| Residential facility  | 5 (14.7)                         | 5 (11.9)                          | 0.000    | 0.986 |
| <b>Diagnostic features</b>                                    |                                  |                                   |          |       |
| Schizophrenia   | 15 (44.1)                        | 14 (33.3)                         | 0.525    | 0.469 |
| Delusional disorder   | 4 (11.8)                         | 6 (14.3)                          | 0.000    | 1.000 |
| Schizoaffective disorder                                      | 8 (23.5)                         | 17 (40.5)                         | 1.737    | 0.188 |
| Psychiatric comorbidity                                       | 6 (27.6)                         | 5 (11.9)                          | 0.144    | 0.704 |
| Alcohol use   | 16 (47.1)                        | 18 (42.9)                         | 0.018    | 0.893 |
| Substance use   | 4 (11.8)                         | 15 (35.7)                         | 4.542    | 0.033 |
| Medical comorbidity   | 3 (8.8)                          | 3 (7.1)                           | 0.000    | 1.000 |
|   | Mean (SD)                        | Mean (SD)                         | t        | p     |
| Age at onset  | 25.53 (9.59)                     | 25.41 (7.87)                      | -0.058   | 0.954 |
| <b>Therapeutic features</b>                                   |                                  |                                   |          |       |
|   | n, %                             | n, %                              | $\chi^2$ | p     |
| LAI <sup>†</sup>  | 18 (52.9)                        | 20 (47.6)                         | 0.053    | 0.818 |
| Atypical LAI  | 7 (38.9)                         | 11 (55)                           | 0.446    | 0.504 |
| <b>Psychopathological characteristics (PANSS<sup>‡</sup>)</b> |                                  |                                   |          |       |
|   | Mean (SD)                        | Mean (SD)                         | t        | p     |
| Positive scale  | 21.56 (6.53)                     | 21.26 (6.67)                      | -0.195   | 0.846 |
| Negative scale  | 22 (6.27)                        | 17.57 (6.33)                      | -3.045   | 0.003 |
| General psychopathology scale                                 | 49.53 (10.13)                    | 43.10 (9.67)                      | -2.822   | 0.006 |
| PANSS <sup>‡</sup> total score                                | 93.09 (16.49)                    | 81.93 (18.05)                     | -2.785   | 0.007 |

Notes: \*SD: Standard deviation; <sup>†</sup>LAI: Long acting injectable antipsychotics; <sup>‡</sup>PANSS: Positive and Negative Syndrome Scale

tions. Second, part of the sample was on psychotropic medications at the recruitment which could have interfered with the level of gravity of some of the symptoms evaluated by the scales since several authors reported that the use of second-generation antipsychotics might worsen OCS<sup>3</sup>. Moreover, in consideration of the observational nature of our study the discussion of possible causal interactions remains speculative.

The high prevalence of OCS in the present sample of acute inpatients diagnosed with schizophrenia spectrum disorders suggests the need for evaluating the

presence of OCS as a distinct psychopathological domain in schizophrenic patients. The higher severity of the overall symptomatology, with particular relevance of negative and general psychopathology symptoms, could differentiate schizophrenia spectrum patients with OCS in a distinct subgroup, with the need of identifying targeted strategies in order improve quality of life and functioning of such patients.

### Conflict of interest

The Authors declare to have no conflict of interest.

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