

## SOCIODEMOGRAPHIC PROFILE OF SCHIZOPHRENIA WITH AND WITHOUT OBSESSIVE COMPULSIVE SYMPTOMS

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### ABSTRACT

#### BACKGROUND

Schizophrenia is a complex neurobehavioural disorder affecting about 1% of the general population. Schizophrenia is characterised by disordered cognition including a "gain of function" in psychotic symptoms and "loss of function" in specific cognitive functions such as working and declarative memory, but without the progressive dementia that characterises classical neurodegenerative disorder.

The primary aim of the study was to compare the profile of patients diagnosed with schizophrenia with and without obsessive compulsive symptoms.

#### MATERIALS AND METHODS

This was a cross-sectional study. Consecutive patients in the age group of 18-59 years diagnosed to have schizophrenia with at least 2 years of duration of illness consulting in outpatient department of psychiatry and inpatients admitted in psychiatry ward at a tertiary care centre at northern Kerala were included. Clinical status of the patient was assessed using Structured Clinical Interview for *DSM - IV - TR* (SCID I), the Positive and Negative Symptom Scale (PANSS) and Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) severity and symptom checklist. YBOCS  $\geq 16$  was labelled as OCD. Sociodemographic profile of the patients will be collected using specially designed pro forma. Data analysis was done using software "R" (Chi-square and t test).

#### RESULTS

A total of 73 participants formed the study sample. The schizophrenia with OCS were better educated were more likely to come from a semi-urban background had alcohol dependence and longer duration of untreated illness than the group with schizophrenia alone. Though, there was increased frequency of paranoid subtype in the study sample, schizophrenia patients with OCD/OCS had majority of undifferentiated subtype. There is no difference in gender, family type, marital status, occupation, religion or socioeconomic status.

#### CONCLUSION

Schizophrenia patients with OCS/OCD and without OCS/OCD have comparable clinical profile with few exceptions. There is a scope for analysis of sociodemographic data of schizophrenia with OCS/OCD. Finally, the evidence to consider schizo-obsessive as a distinct diagnostic entity is inconclusive and warrants further studies.

#### KEYWORDS

Schizophrenia, Obsessive Compulsive Symptoms, Northern Kerala.

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#### BACKGROUND

Schizophrenia is a complex neurobehavioural disorder affecting about 1% of the general population.<sup>1</sup> Schizophrenia is characterised by disordered cognition including a "gain of function" in psychotic symptoms and "loss of function" in specific cognitive functions such as working and declarative memory, but without the

progressive dementia that characterises classical neurodegenerative disorder.<sup>2</sup>

Associated Psychiatric Syndromes (APS) maybe common in chronic schizophrenia. 48.6% had one or more APS, 27% had major depression, 29.7% met criteria for OCD (obsessive compulsive disorder) and 10.8% met criteria for panic disorder.<sup>3</sup> Obsessive compulsive symptoms frequently occur in a substantial proportion of patients with schizophrenia.<sup>4</sup> The lifetime prevalence of OCD in general Indian population is 0.6% in epidemiological study.<sup>5</sup> The term schizo-obsessive has been proposed to delineate the subgroup of schizophrenia patients who present with obsessive compulsive symptoms/disorder. However, whether this co-occurrence is more than just comorbidity and represents a distinct subgroup remains controversial.<sup>4</sup>

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Obsessions are thoughts, which come to consciousness in spite of and contrary to the will of the patient; he/she is unable to suppress it though recognising them as abnormal and not characteristics of the self. Compulsive thoughts or rituals are stereotyped behaviors that are repeated again and again. They are not inherently enjoyable, nor do they result in the completion of inherently useful tasks.<sup>6</sup>

**MATERIALS AND METHODS**

This cross-sectional study was done at Psychiatry Department in a tertiary care centre, Kannur, Kerala, with approval from institutional ethical committee. It was done in a continuous period of 1 year from 2016 March to 2017 February. A convenient sample of 73 cases diagnosed with schizophrenia by consultant psychiatrist in Pariyaram Medical College was selected after meeting inclusion and exclusion criteria and getting informed consent.

Clinical status of the patient was assessed using sociodemographic datasheet, structured clinical interview for *DSM - IV - TR* (SCID I), the Positive and Negative Symptom Scale (PANSS) and Yale-Brown Obsessive-Compulsive Symptom Scale (Y-BOCS) and Yale-Brown Obsessive Compulsive Severity Scale. Y-BOCS  $\geq 16$  was labelled as OCD.

**Assessment Tools and Instruments**

**Sociodemographic Data Sheet-** This datasheet was prepared by the investigator for collecting and recording information regarding patient’s name, age, gender, educational status, occupation, socioeconomic status, marital status, contact address, telephone number and type of family. It also included patient’s illness details like age of onset of schizophrenia, duration of illness, duration of untreated illness, alcohol dependence and family history of psychosis.

**Structured Clinical Interview for *DSM-IV-TR* (SCID I)-**

The SCID is a structured clinical interview based on the *DSM-IV* diagnostic criteria. SCID is designed to be administered by experienced clinicians. Validity data are limited as the SCID is often used as gold standard to evaluate other instruments,<sup>7</sup> diagnostic modules in SCID 1. It consists of modules for Axis I psychiatric disorders including psychotic, affective, anxiety, somatoform, substance-related and eating disorders. The criteria for schizophrenia is in module B.

**Positive and Negative Symptom Scale (PANSS; Kay, Fiszbein and Opler 1987)**

PANSS developed in late 1980s. It includes 30 items on three subscales- seven items covering positive symptoms (example hallucinations and delusions), seven covering negative symptoms (example blunted affect) and 16 covering general psychopathology (example guilt or uncooperativeness). Each item is scored on a 7-point scale ranging from 1 (absent) to 7 (extreme). The ratings can be completed in 30 to 40 minutes.

**Yale-Brown Obsessive Compulsive Symptom Scale (Y-BOCS)**

To study the type of obsessions and compulsions in obsessive compulsive disorder. Principal symptoms are marked with “p”.

**Y-BOCS Severity Scale**

A 10-item clinician-administered scale developed in late 1980s to measure severity of symptoms in OCD. Each scored on a four-point scale from 0 (no symptoms) to 4 (extreme). The sum of first five items assess severity of obsessions and last five for compulsions. The rating can be completed in 15 minutes.

- 0-7 - Subclinical.
- 8-15 - Mild.
- 16-23 - Moderate.
- 24-31 - Severe.
- 32-40 - Extreme.

**Statistical Analysis-** Data were analysed using computer software, 'R'. Data are expressed in its frequency and percentage as well as mean and standard deviation. To elucidate the associations and comparisons between different parameters, Chi-square ( $\chi^2$ ) test was used as nonparametric test to find out associations between OCD/OCS and non-OCD group. For all statistical evaluations, a two-tailed probability of value,  $<0.05$  was considered significant.

**RESULTS**

The mean age of our study participants was  $37.77 \pm 10.29$ . Majority of study participants had plus two education (43.8%) and almost equal gender population. Most were unemployed (45.2%) belonged to Hindu religion (89%) and were unmarried (64.4%). Majority belonged to nuclear family (72.6%) and hailed from low socioeconomic status (83.6%) with a semi-urban background (89%).

	Frequency	Percentage
<b>Gender</b>		
Female	36	49.3
Male	37	50.7
<b>Education</b>		
Primary	9	12.3
High school	17	23.3
Plus two/PDC	32	43.8
Graduate	15	20.5
<b>Occupation</b>		
Unemployed	33	45.2
Unskilled	13	17.8
Semi-skilled	1	1.4
Skilled	1	1.4
Housewife	21	28.8
Student	4	5.5
<b>Religion</b>		
Hindu	65	89
Muslim	4	5.5
Christian	4	5.5

<b>Marital Status</b>		
Single	47	64.4
Married	25	34.2
Separated	1	1.4
<b>Family Type</b>		
Nuclear	53	72.6
Joint	20	27.4
<b>Background</b>		
Rural	8	11
Semi-urban	65	89
<b>Socioeconomic Status</b>		
Low	61	83.6
Middle	12	16.4
<b>Table 1. Sociodemographic Profile of the Study Population (n=73)</b>		

**Comparison of Sociodemographic Variables-** While comparing sociodemographic variables, the mean age of schizophrenia population with OCS/OCD ( $37.92 \pm 10.46$ ) and without OCS/OCD ( $37.63 \pm 10.12$ ) was comparable using t-test. Among the 25 subjects with OCS/OCD, 12 were females (48%) and 13 males (52%). There was no much gender difference. In schizophrenia with OCD group 12 of 25 were graduates (48%), which was statistically significant and better compared to non-OCS/OCD group where majority (47.9%) had plus two education ( $p < 0.001$ ). Majority were unemployed in both groups. Majority were Hindus in both groups and all (100%) of schizophrenia with OCS/OCD were coming from semi-urban background, which was statistically significant compared to non-OCS/OCD group ( $p < 0.05$ ). Majority were from low socioeconomic status family and no significant difference in both groups.

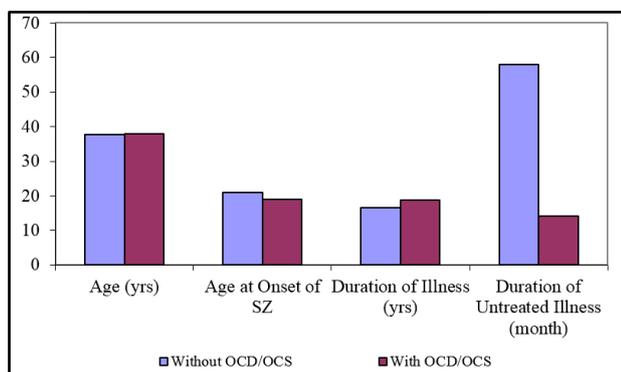
Parameters	Group	Schizophrenia		Total	Chi-Square (P Value)
		Without OCD/OCS	With OCD/OCS		
Gender	Female	24	12	36	0.026 (0.871)
		50%	48%	49.30%	
	Male	24	13	37	
		50%	52%	50.70%	
Education	Primary	6	3	9	20.554 (0.000)
		12.50%	12%	12.30%	
	High school	16	1	17	
		33.30%	4%	23.30%	
	Plus two/PDC	23	9	32	
		47.90%	36%	43.80%	
Graduate	3	12	15		
	6.30%	48%	20.50%		
Occupation	Unemployed	20	13	33	5.771 (0.329)
		41.70%	52%	45.20%	
	Unskilled labour	10	3	13	
		20.80%	12%	17.80%	
	Semi-skilled labour		1	1	
			4%	1.40%	
	Skilled labour	1		1	
		2.10%		1.40%	
Housewife	13	8	21		
	27.10%	32%	28.80%		
Student	4		4		
	8.30%		5.50%		
Marital Status	Single	33	14	47	1.992 (0.369)
		68.80%	56%	64.40%	
	Married	14	11	25	
		29.20%	44%	34.20%	
Separate	1		1		
	2.10%		1.40%		
Family Type	Nuclear	34	19	53	0.221 (0.639)
		70.80%	76%	72.60%	
	Joint	14	6	20	
		29.20%	24%	27.40%	
Locality	Rural	8		8	4.679 (0.031)
		16.70%		11%	
	Semi-urban	40	25	65	
		83.30%	100%	89%	
Socioeconomic status	Low	41	20	61	0.351 (0.553)
		85.40%	80%	83.60%	
	Middle	7	5	12	
		14.60%	20%	16.40%	
<b>Table 2. Comparison of Sociodemographic Variables</b>					

**Comparison of Clinical Variables**

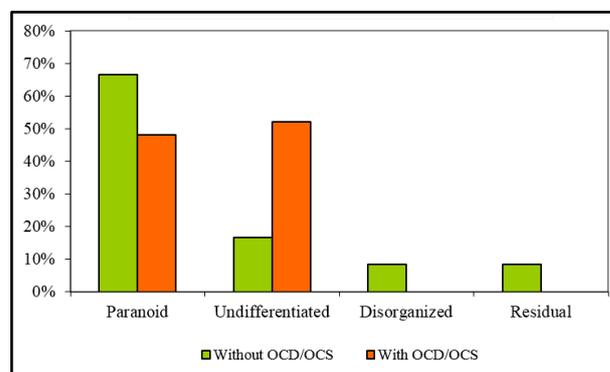
Schizophrenia with OCS/OCD had lesser age of onset of schizophrenia compared to non-OCS/OCD group, but was not statistically significant. No significant difference in duration of illness in both groups. Duration of untreated illness in months was more in group with OCS/OCD (57.90 ± 17.17 months), which was statistically significant (p<0.05).

Parameters	Group	Mean	±SD	t value	P value	P value
Age (years)	Without OCD/OCS	37.63	10.12	-0.117	>0.05	0.907
	With OCD/OCS	37.92	10.46			
Age at onset of SZ	Without OCD/OCS	21.08	4.72	1.939	>0.05	0.056
	With OCD/OCS	19.08	2.87			
Duration of illness (years)	Without OCD/OCS	16.54	9.27	-0.881	>0.05	0.381
	With OCD/OCS	18.84	12.75			
Duration of untreated illness (months)	Without OCD/OCS	57.90	17.17	2.024	<0.05	0.047
	With OCD/OCS	14.12	15.82			

**Table 3. Comparison of Clinical Variables**



**Figure 1. Comparison of Clinical Variables**



**Figure 2. Association between OCD/OCS and Subtype of Schizophrenia**

**Association between OCD/OCS and Subtype of Schizophrenia**

There was increased frequency of paranoid subtype (60.30%) in the study sample, but schizophrenia patients with OCD/OCS had majority of undifferentiated subtype (52%) and was statistically significant (p <0.001).

Subtypes of Schizophrenia	Schizophrenia		Total
	Without OCD/OCS	With OCD/OCS	
Paranoid	32 66.70%	12 48%	44 60.30%
Undifferentiated	8 16.70%	13 52%	21 28.80%
Disorganised	4 8.30%	0	4 5.50%
Residual	4 8.30%	0	4 5.50%
<b>Total</b>	<b>48</b>	<b>25</b>	<b>73</b>

Chi-square- 12.251; P <0.001

**Table 4. Association between OCD/OCS and Subtype of Schizophrenia**

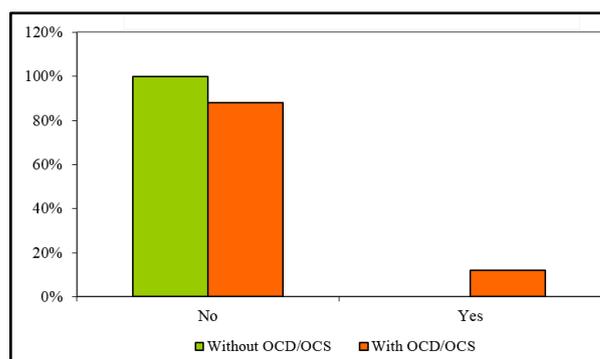
**Association between OCD/OCS and Alcohol Dependence**

Alcohol dependence was present in group (12%) with OCS/OCD, whereas no alcohol dependence in group without OCD/OCS, which was statistically significant (p<0.05).

Alcohol Dependence	Schizophrenia		Total
	Without OCD/OCS	With OCD/OCS	
No	48 100%	22 88%	70 95.90%
Yes	0	3 12%	3 4.10%
<b>Total</b>	<b>48</b>	<b>25</b>	<b>73</b>

Chi-square- 6.007; P <0.05

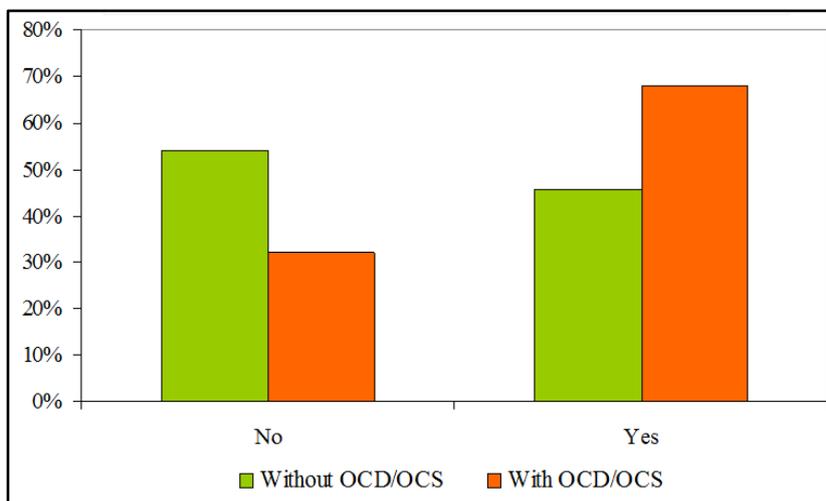
**Table 5. Association between OCD/OCS and Alcohol Dependence**



**Figure 3. Association between OCD/OCS and Alcohol Dependence**

**Association between OCD/OCS and Family History**

Family history of psychosis was more in those with OCS/OCD, but was not statistically significant.



**Figure 4. Association between OCD/OCS and Family History**

Family History of Psychosis	Schizophrenia		Total
	Without OCD/OCS	With OCD/OCS	
No	26	8	34
	54.20%	32%	46.60%
Yes	22	17	39
	45.80%	68%	53.40%
<b>Total</b>	<b>48</b>	<b>25</b>	<b>73</b>

Chi-square- 3.246; P >0.05

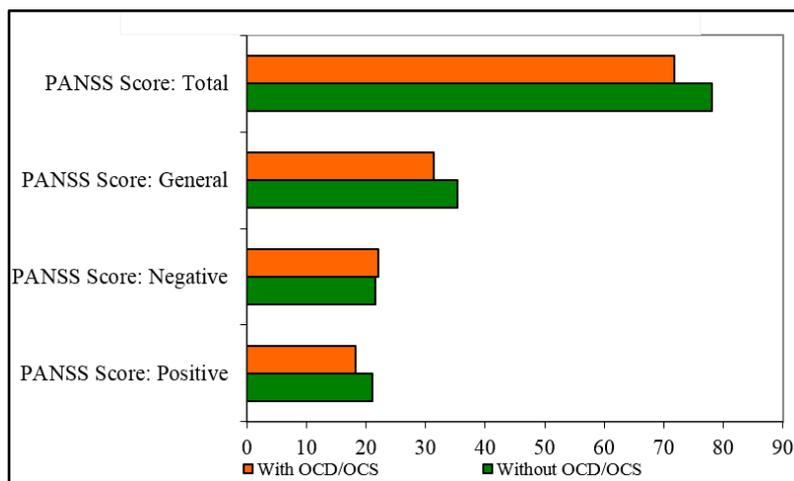
**Table 6. Association between OCD/OCS and Family History**

**Association between OCD/OCS and Rating Scales**

PANSS positive, general subscale and total score were lower in those with OCS/OCD, but was not statistically significant.

Parameters	Group	Mean	+SD	t value	P value	P value
PANSS score- Positive	Without OCD/OCS	21.10	7.71	1.741	>0.05	0.086
	With OCD/OCS	18.32	2.85			
PANSS score- Negative	Without OCD/OCS	21.52	9.18	-0.281	>0.05	0.779
	With OCD/OCS	22.12	7.49			
PANSS score- General	Without OCD/OCS	35.40	12.29	1.481	>0.05	0.143
	With OCD/OCS	31.36	8.08			
PANSS score- Total	Without OCD/OCS	78.02	23.15	1.217	>0.05	0.228
	With OCD/OCS	71.81	14.89			

**Table 7. Association between OCD/OCS and Rating Scales**



**Figure 5. Association between OCD/OCS and Rating Scales**

## DISCUSSION

We aimed to compare sociodemographic characteristics of schizophrenia patients with and without OCS/OCD.

### Comparison of Sociodemographic Profiles-

While comparing the profile of schizophrenia patients with and without OCS, the positive findings were-

1. The schizophrenia with OCD/OCS were better educated as a whole than group with schizophrenia alone and were more likely to come from a semi-urban background.
2. Though there was increased frequency of paranoid subtype in the study sample, schizophrenia patients with OCD/OCS had majority of undifferentiated subtype.
3. The duration of untreated illness was more in schizophrenia with OCD/OCS.
4. Alcohol dependence was present only in schizophrenia with OCD/OCS patients.

### Impact of OCD on Schizophrenia

In our study, schizophrenia with OCD and without OCD groups were comparable in terms of age, gender, family type, marital status, occupation, religion or socioeconomic status. There was preponderance of men in both groups in studies by Tibbo et al, 2000,<sup>7</sup> and Rajkumar et al, 2008.<sup>8</sup>

The mean age of the groups are  $37.92 \pm 10.46$  and  $37.63 \pm 10.12$  years, respectively, which is comparable to the studies by Lysaker et al, 2002, ( $39.1 \pm 10.2$  and  $40.8 \pm 9.7$  years);<sup>9</sup> Tibbo et al, 2000, ( $37.7 \pm 9.0$  and  $35.9 \pm 7.2$ );<sup>7</sup> Kruger et al, 2000, ( $35.4 \pm 8.3$  years for whole sample);<sup>10</sup> and Berman et al, 1995, ( $39.6 \pm 8.3$  and  $42.8 \pm 12.4$  years).<sup>11</sup>

The schizophrenia with OCD/OCS were better educated as a whole than group with schizophrenia alone and were coming from a semi-urban background. In a study by Rajkumar et al, 2008, the schizophrenia with OCD group had better education and were from urban background, whereas in the study by Devi et al, 2014, the majority had urban residence.

There was no difference in terms of age at onset and duration of illness consistent with studies by Rajkumar et al, 2008,<sup>8</sup> and Kazhungil et al, 2017.<sup>12</sup> The findings are not in line with the majority previous studies where schizophrenia with OCD/OCS patients have earlier age at onset and younger age at assessment.<sup>4,13,14,11,15</sup> In our study, duration of untreated illness was more in schizophrenia with OCD/OCS. The groups did not differ in duration of untreated illness in studies by Rajkumar et al, 2008, and Devi et al, 2014. This suggests that OCD does not exert a deleterious effect on schizophrenia in terms of earlier onset, which might predict a more malignant course. More the delay in treatment, more is the likelihood of comorbidities in schizophrenia.

Though, there was increased frequency of paranoid subtype in the study sample, schizophrenia patients with OCD/OCS had majority of undifferentiated subtype.

This would imply that OCD may have an influential effect on the types of symptoms seen in schizophrenia. In a study by Rajkumar et al, 2008, majority of schizophrenia patients with OCD had the paranoid subtype and they were also more

likely to have Schneiderian first-rank symptoms.<sup>8</sup> In a study by Devi et al, 2014, there was no much difference between the groups in view of subtype of schizophrenia.<sup>4</sup> Recently, much work has focused on the neurobiological correlates of willed action and thought possession concepts, which are relevant to OCD as well as FRS. Though the anatomical structures implicated in these studies are distinct from those involved in OCD, they may be closely related.<sup>15</sup>

In our study, there is no overall difference in terms of positive, negative or general psychopathology scores could be found. This suggests that presence of OCD is not associated with increased severity of any schizophrenic dimensions. The findings were similar to study by Rajkumar et al, 2008. Earlier studies on the effects of OCD on schizophrenia symptom dimensions have suggested varying results with some authors finding no effect (Berman et al, 1998),<sup>11</sup> and other findings more positive (Lysaker et al, 2000),<sup>9</sup> lesser positive (Poyurovsky et al, 2003),<sup>13</sup> or lesser negative (Tibbo et al, 2000),<sup>7</sup> symptoms or more motor symptoms (Kruger et al, 2002; Ohta et al, 2003),<sup>10,16</sup> or depressive symptoms (Lysaker et al, 2000).<sup>17</sup> In the study by Rajkumar et al, 2008(8), there was no difference in terms of positive, negative or motor symptoms, but found that OCD tend to exacerbate dysphoria, guilt and anxiety similar to the view of Lysaker et al, 2000.<sup>17</sup> There was finding of higher guilt and anxiety in this population by Kruger et al, 2002. In a study by Devi et al, 2014, schizophrenia with OCD had lower positive symptoms, lower conceptual disorganisation and better abstract thinking compared to schizophrenia patients without OCD. However, two groups did not differ significantly with respect to PANSS negative and general psychopathology scores.<sup>4</sup> In a recent Indian study by Kazhungil et al, 2017, the mean total score, positive symptom score and general psychopathology score on PANSS was significantly lower in schizophrenia patients with OCD.<sup>12</sup> From a neurobiological point of view, negative symptoms of schizophrenia are associated with different cortical regions than those shown to be involved in OCD (Cavallaro et al, 2003) suggesting that two may share an inverse relationship. Schizophrenia and OCD share similar cortical subcortical pathways; in particular a frontal-striatal-thalamic-cortical circuit has been implicated in both illness with specific patterns of prefrontal impairment.<sup>16</sup>

The comorbidity of alcohol dependence is more in schizophrenia with OCD group. There was greater comorbidity of alcohol dependence, personality disorders, anxiety disorders in studies by Devi et al, 2014,<sup>4</sup> and Rajkumar et al, 2008.<sup>8</sup> There was no difference in terms of family history of psychosis similar to Devi et al, 2014, and Rajkumar et al, 2008.<sup>8</sup>

## CONCLUSION

Schizophrenia patients with OCS/OCD and without OCS/OCD have comparable clinical profile with few exceptions. There is a scope for analysis of sociodemographic data of schizophrenia with OCS/OCD. Finally, the evidence to consider schizo-obsessive as a distinct diagnostic entity is inconclusive and warrants further studies.

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