

FREQUENCY OF OBSESSIVE-COMPULSIVE DISORDER IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Study Design: To find the frequency of obsessive-compulsive disorder amongst patients presenting in the Psychiatry OPD of a tertiary care hospital.

Methodology: This cross-sectional descriptive study was conducted at Department of Psychiatry, King Edward Medical University, Mayo Hospital, Lahore from February 1, 2024, to July 31, 2024. One hundred and twenty-four patients presenting to the Psychiatry outpatient department and meeting the eligibility criteria were enrolled. Consecutive sampling technique was employed to select the sample using non-probability sampling. Participants within the age group of 13 to 70 years were included in the study irrespective of their sex. Participants were assessed for obsessive-compulsive disorder according to the predefined DSM-5-based operational definition. The Yale-Brown Obsessive Compulsive Scale was subsequently administered by an experienced clinician to assess symptom severity, with a score of ≥ 8 considered clinically significant.

Results: Clinically significant obsessive-compulsive symptoms were defined according to the predefined Yale-Brown Obsessive Compulsive Scale cut-off score of ≥ 8 is the cut-off score for obsessive-compulsive disorder diagnosis, 35 out of 124 participants (28.2%) had obsessive-compulsive disorder. The extent of severity for those who had the disorder was distributed as follows: 8 out of 124 participants (6.5%) were classified as having mild, 13 (10.4%) moderate, 5 (4.0%) severe, and 9 (7.3%) extreme cases, whereas the rest of the participants (89 out of 124; 71.8%) had no clinical obsessive-compulsive disorder. No significant difference was found between the frequency of obsessive-compulsive disorder and gender, education, socioeconomic status, and duration of symptoms. However, marital status was an exception in which the rate of obsessive-compulsive disorder was more than twice as high in the unmarried group than in the married group ($p=0.015$).

Conclusion: The frequency of obsessive-compulsive disorder was slightly more than one-fourth of the total number of patients seen in the psychiatry outpatient unit. Marital status is the only socio-demographic variable that has been significantly related to obsessive-compulsive disorder, wherein most of the affected individuals were not married.

KEYWORDS: Frequency; Obsessive compulsive disorder; Tertiary care hospital

INTRODUCTION

The obsessive compulsive disorder (OCD) is a long-standing and frequently disabling psychiatric condition characterized by recurring, involuntary thoughts (obsessions) along with the repeating behaviours that the individual feels compelled to carry out to counteract the distress associated with these thoughts.¹ The condition which used to be considered as a clinical anomaly of minor importance is now recognized as affecting up to 2% to 3% of the global population over their lifetime¹, with a systematic evaluation of the disability associated with the disorder highlighting the considerable level of disability despite the relatively low prevalence rate.² There appears to be a bimodal distribution for onset of OCD, with two peaks occurring at early childhood or early adolescence, and the other at young adulthood.³

Despite such a high prevalence, OCD remains severely under-diagnosed in routine clinical practice. For example, it has been observed that patients often suffer for years before the onset of any treatment for various reasons, such as stigmatization, lack of awareness regarding the irrationality of their obsessions and compulsions, or simply unawareness of the fact that obsessive thoughts and compulsions are symptoms of a disease; in fact, a recently published systematic review on this issue emphasized this phenomenon of under-recognition of OCD symptoms due to misattribution of these symptoms to anxiety or another diagnosis.⁴ This was demonstrated in large databases of administrative claims – analysis of Medicaid claims in the United States has shown that many patients eventually diagnosed with OCD had been previously treated at mental health facilities for a considerable period of time but their true diagnosis had not been established.⁵ It is characteristic for OCD to occur together with other disorders, especially

anxiety and mood disorders, and a Swedish study of a large cohort of adoptees showed a moderate correlation between OCD and anxiety disorders across generations (parent-offspring correlation ≈ 0.19).⁶ Prevalence rates of OCD or OCD symptoms vary widely based on the demographic studied, the assessment tool employed, and the period of the data collection. A meta-analysis of health-care professionals screened during the COVID-19 pandemic found 29% of subjects in the meta-analysis to have OCD symptoms (with individual study ranges of 7% to 47%)⁷. Similar variations occur in the screening of medical students in recent times, including 30.3% of Iranian students⁸, 28% of Ethiopian students⁹, 46.4% of Saudi Arabian students¹⁰, and 43% of Iraqi students¹¹; but an undergraduate survey in a southern Indian tertiary care teaching unit with a Yale-Brown Obsessive Compulsive Scale questionnaire found only 14.4% of the students had probable OCD¹², while a further Indian tertiary care study found probable OCD in 29.1% of medical undergraduates.¹³ More relevant to the clinical context in this case, studies in hospitals and clinics in South Asia with the Yale-Brown Obsessive Compulsive Scale questionnaire – still considered the gold standard measure of OCD symptom severity administered clinically – have found significant symptom loads in OCD patient populations seeking psychiatric treatment: 45.3% of schizophrenic patients at a tertiary care centre in Sindh, Pakistan showed concurrent OCD symptoms¹⁴, and mental compulsions alone occurred in 53.75% of the Y-BOCS-assessed OCD sample in North Karnataka, India.¹⁵ Another study showed a prevalence rate of 4.1%.¹⁶ What is relatively rare, on the other hand, is the frequency information extracted from the psychiatry outpatient department of a tertiary care hospital. In this setting, the patient profile of OCD may be somewhat different from the ones in the community samples, student samples, or survey samples. Considering the chronic nature of the disorder and its tendency to remain underdiagnosed, along with the lack of local frequency information based on the YBOCS scale, the current study was conducted to establish the frequency of OCD at the psychiatry outpatient department of a tertiary care hospital.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted in the Department of Psychiatry KEMU, Mayo Hospital, Lahore from February 1, 2024, to July 31, 2024, after the approval from CPSP. A total of 124 patients presenting to the Psychiatry outpatient department and meeting the eligibility criteria were enrolled. Sample size of 124 patients of OCD was determined with 95% confidence level, 3.5% margin of error and expected frequency of OCD as 4.1%.¹⁶ Nonprobability sampling technique was applied and consecutive patients were selected. All those patients aged between 13 to 70 years irrespective of their gender were included in the study. Patients with organic syndrome, mental retardation, substance dependence, active psychotic state and did not provide written consent were excluded from the study. Written informed consent was taken from all the participants before inclusion into the study. Demographic and clinical variables such as age, gender, marital status, education, socio economic status, duration of symptoms were recorded. Participants were assessed for obsessive-compulsive disorder according to the predefined DSM-5-based operational definition. The validated Yale-Brown Obsessive Compulsive Scale (Y-BOCS) was then administered by an experienced clinician to assess the severity of obsessive-compulsive symptoms. A Y-BOCS score of ≥ 8 was considered clinically significant according to the predefined operational definition.

The data analysis was done using SPSS-26. For the quantitative variables, data were represented as mean and standard deviation while for the qualitative variables, they were represented as frequencies and percentages, such as gender, educational level, and presence of OCD with different categories of the disease. Data were grouped with respect to age, gender, educational level, marriage, socio-economic level and duration of the symptoms. Chi-square test was used to determine the association between obsessive-compulsive disorder and grouped variables.

RESULTS

All continuous variables failed to show normal distribution in Shapiro-Wilk tests, namely age ($W=0.940$), Y-BOCS scores ($W=0.767$), and duration of symptoms ($W=0.955$), all $p<0.001$ (Table 1). Therefore, median along with the interquartile range (IQR) is mentioned alongside the mean $\pm$ SD wherever necessary. The mean age of the participants was 39.75 ± 16.78 years (median 40, IQR 32), while the mean symptom duration was 4.31 ± 2.19 years (median 4, IQR 4). The mean Y-BOCS score obtained was 8.76 ± 10.23 (median 4, IQR 9), which shows that the scores obtained by the participants were mostly low. A total of 65 subjects (52.4%) were males, and 59 subjects (47.6%) were females (Table 2). Age of the participants had a mean value of 39.75 ± 16.78 years (median 40, IQR 32), while the mean symptom duration was 4.31 ± 2.19 years (median 4, IQR 4). Clinically significant obsessive-compulsive symptoms were defined according to the predefined Y-BOCS cut-off score of ≥ 8 , out of 124 individuals, 35 patients (28.2%) had clinically significant symptoms of OCD (Table 3). Severity of OCD among the affected patients varied greatly, and out of the total number of cases diagnosed with OCD, 8 patients (6.5%) had mild symptoms, 13 (10.4%) had moderate symptoms, 5 (4.0%) had severe symptoms, and 9 (7.3%) had extreme symptoms, while 89 individuals (71.8%) were below the clinical threshold (Table 4). The sample comprised a mean age of 39.75 ± 16.78 years (median 40, IQR 32) and a mean duration of symptoms of 4.31 ± 2.19 years (median 4, IQR 4). The distribution of OCD cases was not significantly different based on gender (26.2% for male participants and 30.5% for female participants; $\chi^2 = 0.289$, $df = 1$, $p = 0.591$), age group (40.9%, 31.5%, and 18.8% for the ≤ 20 -, 21–45-, and ≥ 46 -year groups, respectively; $\chi^2 = 4.157$, $df = 2$, $p = 0.125$), educational status (from 17.4% to 41.7% among categories; $\chi^2 = 5.082$, df

= 3, $p = 0.166$), socioeconomic status (27.3%–28.9%; $\chi^2 = 0.025$, $df = 2$, $p = 0.988$), and duration of symptoms (26.2% for ≤ 5 years. The exception in terms of marital status was that individuals who were unmarried significantly associated with OCD than married patients, with a ratio of over two times (37.3% versus 17.5%; $\chi^2 = 5.942$, $df = 1$, $p = 0.015$) [Table 5].

Table 1: Test of normality for continuous variables

Parameter	Shapiro–Wilk statistic (W)	Degrees of freedom (df)	Significance (p)
Age (years)	0.940	124	<0.001
Yale Brown Obsessive Compulsive Scale Score (Y-BOCS)	0.767	124	< 0.001
Duration of symptoms (years)	0.955	124	< 0.001

W = Shapiro–Wilk test statistic; p = probability value

Table 2: Demographic and clinical parameters of the patients

Parameter	Mean $\pm$ SD	Median(IQR)	n (%)
Age (years)	39.75 $\pm$ 16.78	40.00(32)	—
Duration of symptoms (years)	4.31 $\pm$ 2.19	4.00(4)	—
Yale Brown Obsessive Compulsive Scale Score (Y-BOCS)	8.76 $\pm$ 10.23	4.00(9)	—
Male	—	—	65 (52.4%)
Female	—	—	59 (47.6%)

Table 3: Frequency of obsessive-compulsive disorder

Obsessive-Compulsive Disorder	No.	%
Yes	35	28.2
No	89	71.8

Table 4: Categories of obsessive-compulsive disorder

Categories (Y-BOCS score)	No.	%
Subclinical symptoms (0-7)	89	71.8
Mild symptoms (8-15)	8	6.5
Moderate symptoms (16-23)	13	10.4
Severe symptoms (24-31)	5	4.0
Extreme symptoms (32-40)	9	7.3

Table 5: Association of obsessive-compulsive disorder (OCD) with socio-demographic and clinical variables

Variable	OCD Present (n=35)	OCD Absent (n=89)	Total	χ^2	df	<i>p</i> -value
Gender						
Male	17 (26.2%)	48 (73.8%)	65	0.289	1	0.591
Female	18 (30.5%)	41 (69.5%)	59			
Age group (years)						
≤ 20	9 (40.9%)	13 (59.1%)	22	4.157	2	0.125
21–45	17 (31.5%)	37 (68.55)	54			
46+	9 (18.8%)	39 (81.3%)	48			
Education status						
Illiterate	4 (17.4%)	19 (82.6%)	23	5.082	3	0.166
Primary	7 (22.6%)	24 (77.4%)	31			
Middle	15 (41.7%)	21 (58.3%)	36			
Matriculation or higher	9 (26.5%)	25 (73.5%)	34			
Marital status						
Married	10 (17.5%)	47 (82.5%)	57	5.942	1	0.015*
Unmarried	25 (37.3%)	42 (62.7%)	67			
Socioeconomic status						
Low (< 50,000)	13 (28.3%)	33 (71.7%)	46	0.025	2	0.988
Middle (50,000–100,000)	13 (28.9%)	32 (71.1%)	45			
High (> 100,000)	9 (27.3%)	24 (72.7%)	33			
Duration of symptoms (years)						
≤ 5	22 (26.2%)	62 (73.8%)	84	0.532	1	0.466

6+	13 (32.5%)	27 (67.5%)	40			
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*Statistically significant at $p \leq 0.05$

DISCUSSION

In the present study, 28.2% reached the threshold of Y-BOCS for clinically significant obsessive-compulsive disorder. Our value is in perfect agreement with a sizeable set of independent studies conducted recently and employing similar self-report or clinician-based screening criteria. The results of a systematic review and meta-analysis on the screening of healthcare workers in the context of the COVID-19 pandemic provided a pooled prevalence of 29% of obsessive-compulsive symptoms among all studies involved¹⁷, which is nearly equivalent to our own value, while a large-scale study of medical and health-science students from Ethiopia showed a probable-OCD prevalence of 28% with a 95% CI overlapping with our own value.¹⁸ A tertiary-care sample of Indian medical undergraduates also yielded a prevalence of probable OCD of 29.1%¹⁹, whereas Iranian medical undergraduates in the same pandemic era had a prevalence of 30.3%.²⁰

Similar convergent evidence can be seen elsewhere. In Saudi Arabia, among university students enrolled in the field of medicine, a survey conducted at Tabuk University in 2025 found the medical student subpopulation had the lowest frequency at 25.8%, in close agreement with our own²¹, while two independent studies of Saudi university students conducted at King Saud bin Abdulaziz University for Health Sciences and at Taibah University respectively found 35.3%²² and 26%²³. Similarly, a cross-sectional study of obsessive-compulsive symptoms in hospitalized schizophrenia patients in Tunisia, using the Y-BOCS instrument as we do here, found 36%²⁴. Collectively, these studies indicate that the prevalence of OCD among health professionals, medical students, and psychiatric inpatients across at least six countries is around the mid-thirties to high-twenties percent range, precisely where our figure for OPD falls. This convergence is a comforting piece of evidence that indicates our 28.2% prevalence reflects a true and reproducible order of magnitude, rather than simply an artifact of our population and context.

Furthermore, other studies on general populations - in contrast to clinical, student, or hospital populations have been found to give results that show the same level of agreement. In a systematic review and meta-analysis of 35 studies carried out during the time of the COVID-19 pandemic, the pooled prevalence of clinically significant obsessive-compulsive symptoms in general-population samples across the globe was estimated to be 22%, increasing to 26% specifically amongst those from Asia and reaching 36% for pregnant women.²⁵ Also, a general-population study of 3,486 individuals in Switzerland discovered that the presence of clinically significant obsessive-compulsive symptoms increased to 24% of the respondents during the pandemic, from just 13% retrospectively before the pandemic.²⁶ The same can be seen even in research not specifically about the pandemic period: in a Turkish hospital-based case-control study, 30.7% of non-pregnant adult women tested positive for obsessive-compulsive symptoms²⁷, while in another study from Saudi Arabia, 32.8% of adult patients who had survived the COVID-19 disease exhibited OCD symptom criteria using a validated questionnaire.²⁸ All these general population studies from Europe, Asia, and the Middle East show clinically significant obsessive-compulsive symptoms ranging around 30-35 percent, yet again surrounding our figure of 28.2%.

Our results differ more in terms of the composition of the OCD-positive subgroup rather than the number itself. The 100 OCD patients diagnosed previously at a teaching hospital in Punjab, India, were mostly married (65%) and educated to matriculation level and above (89%).²⁹ This differs from our study of the OCD-positive subgroup, which comprised an unmarried group of people, who were educated at a middle education level. The explanation for this difference in the results probably lies in the way the subjects have been selected for the two studies – those previously diagnosed with OCD in the clinic as opposed to the subjects in the current study, screened via outpatient services.

An extensive extended adoption study in Sweden showed a moderate family association across generations for OCD and anxiety disorders (parent-offspring correlation ≈ 0.19), which indicates genetic rather than socio-economic causality.³⁰ However, while socio-economic exposure might not matter in adulthood, the socio-economic status of an individual might play a role earlier in life, according to a cohort of over a million people in Denmark who showed that low socio-economic status during childhood marginally increased the risk of developing OCD, especially in females.³¹ Moreover, the mean score of 8.76 ± 10.23 for Y-BOCS, which includes 89 subjects below the clinical cut-off point, is, not surprisingly, significantly lower than the mean score of 28.72 ± 5.09 in a confirmed case of OCD in northern India.³² Clearly, there can be no mistake here; this is a difference that exists because of what happens when one averages severity among all those screened versus all those with confirmed diagnosis.

Limitations of the study: It was conducted at a single center and used a cross-sectional design, which limits how well the findings can be generalized and prevents any conclusions about cause and effect. The sample size may also have been too small to detect small associations.

CONCLUSION

Obsessive-compulsive disorder was diagnosed in just over a quarter of the patients who visited the psychiatry outpatient clinic of this tertiary care hospital, a proportion which corresponds with a number of previous studies using instruments for screening of the disorder conducted among health-care professionals, medical students, and psychiatric patients in multiple countries. Being unmarried was the only socio-demographic characteristic significantly associated with the prevalence of obsessive-compulsive disorder, whereas gender, age, level of education, socioeconomic status, and period of experiencing symptoms were not correlated with the presence of obsessive-compulsive disorder.

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