

# Demography and Symptoms Severity of Obsessive Compulsive Disorder in Khyber Pakhtunkhwa Pakistan

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## ABSTRACT

Obsessive Compulsive Disorder (OCD) is one of the most unnoticed and undiagnosed psychiatric disorder. The symptoms of OCD tend to wax and wane over the course of time along with the progression of the disease. The chronic OCD symptoms lead to the pervasive impairments which affect many different domains of daily life. Many of the OCD patients often go unnoticed and do not seek professional help during the course of their illness. The following study was designed to assess the intensity of the symptoms and the demographic characteristics of OCD.

**Place and Duration:** It was a multi-centers study conducted at Bashir Psychiatric Hospital, Khattak Medical Center Peshawar, Psychiatric Unit Lady Reading Hospital Peshawar, Bacha Khan Medical College / Mardan Medical Complex Mardan and Psychiatry department of Saidu Group of Teaching Hospitals Swat. Duration of study was one year from June 2019 to June 2020.

**Methods:** It was an observational study conducted in different psychiatry hospital departments of Khyber Pakhtunkhwa, Pakistan. A total of 200 patients who fulfilled the inclusion criteria were selected. Once we had the permission from the patients, they were asked to fill a questionnaire. According to the Y-BOCS severity scale and axis I diagnoses (DSM-IV), patient's responses were evaluated.

**Results:** Our findings demonstrated the average age of the patients was found to be 26.6 (SD±9.9) years. The adult respondents had severe OCD symptoms. Males had the greater tendency of developing anxiety disorders after suffering from OCD while females show the symptoms of major depressive disorders following OCD. Females acquire diabetes, and other disorders more easily than males after suffering from OCD.

**Conclusion:** This study will be helpful in determining the demographic status, the disease prevalence and the gender specific incidence rate in Khyber Pakhtunkhwa, Pakistan along with the intensity of the symptoms and the comorbidity profile of OCD.

**Key Words:** Obsessive Compulsive Disorder, psychiatric disorder, Y-BOCS and DSM-IV.

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## INTRODUCTION

The Obsessive-compulsive disorder (OCD) is a chronic, long-lasting and weakening mental health condition which has affected around 3% of the population across the world<sup>1-2</sup>. According to the epidemiological surveys conducted in different countries, it has been reported that the current prevalence rate of OCD is 1% while the lifetime prevalence rate ranges from 2% to 3%.<sup>3-4</sup> The disease is more prevalent among the juvenile boys than girls of the same age group while among grown-ups, both genders have the equal likelihood of acquiring the disease<sup>5</sup>. Upon the assessment of the pediatric sample, it was found that teenage boys (around 70%) were more affected while an equal gender distribution or a slight inclination towards females was found when adult samples for OCD were analyzed<sup>6-7</sup>. A bimodal distribution was observed when gender and age were studied together regarding the onset of the disease. The average mean age was about 20 years, in which the mean age for males was 19 years and for females it was 22 years. Around two-third patients start exhibiting symptoms of OCD at around the age of 25 years<sup>8</sup>.

Most of the time the disorders like Attention Deficit Hyperactivity Disorder (ADHD), tic and anxiety also

accompany Obsessive-Compulsive Symptoms (OCS) during the early age among the affected male population<sup>9</sup>. Around two-third patients of OCD out of the affected population have to go through at least one major episode of depression during their entire life. According to the reported studies, episodes of traumatic life events lead to the sudden occurrence of OCD in females, while males display an insidious onset of a comparatively severe and chronic disease. As reported in one study conducted in Pakistan, the people suffering from OCD clean and wash repeatedly because of compulsion and having multiple thoughts of contamination and doubt as a consequence of obsession<sup>10</sup>. According to the CY-BOCS, around 53.3% patients had severe OCD, patients having extreme OCD were 36.7%, while 6.7% respondents were suffering from the moderate OCD, and only 3.3% sufferers displayed mild OCD symptoms. Among adolescents 48.7% patients suffered from extreme OCD, and around 71.4% children suffer from severe OCD<sup>11</sup>.

In order to analyze the intensity of OCD symptoms and demography of this disease in Khyber Pakhtunkhwa, Pakistan, this study was designed as there are very few studies which have been conducted on such a large scale. It is believed that at the end of this study, we will be able to

have some baseline information regarding the co-morbidity, symptom severity and demography of OCD patients which will assist in designing further studies in this field. It will also be helpful to health care professionals in designing specific treatment plans.

**MATERIALS AND METHODS**

This observational study was held in the Psychiatric outpatient department of Bashir Psychiatric Hospital, Khattak Medical Center Peshawar, Psychiatric Unit Lady Reading Hospital Peshawar, Bacha Khan Medical College / Mardan Medical Complex Mardan and Psychiatry department of Saidu Group of Teaching Hospitals Swat. Duration of the study was one year from June 2019 to June 2020. Around 200 patients who were positive for having OCD which was identified rendering to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision, (DSM-IV-TR) criteria were selected for this analysis. 6 subjects were excluded because of having active manic episode, mental retardation, acute substance withdrawal, active psychotic disorder, and organic brain syndrome. All the included patients signed the informed consent form, and the procedure and purpose of the study was explained to them clearly. Different sociodemographic questions were asked from the patients in a semi-structure interview with Axis I diagnoses (DSM-IV) and YBOCS severity scale. The patient filled a predetermined questionnaire. On the basis of DSM-IV-TR, a professional psychiatrist evaluated the results of these patients. Post graduate trained residents conducted the direct interviews of these patients and analyzed all the collected data. A senior professional specialist who had expertise in analyzing the OCD subjects also confirmed the DSM-IV-TR diagnosis of OCD by inspecting all the presented data. Intensity of the disease was determined by using the Bangla version of Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) for adult patients. SPSS version 21.0 was then used for the analysis of the recorded data.

**RESULTS**

According to the results, the average patients age was 27.2 (SD±8.7) years. Maximum number of the individuals, around 39% of them belonged to the age group of 21-30 years. Among 200 subjects which were under study, 138 (69%) were male while 62 (31%) were females. Most of the patients (around 63%) were unmarried, 12 patients (6%) out of 200 were illiterate, 59 (29.5%) had studied up to the secondary level, while remaining of them (around 19.5%) were graduates or post graduates. Around 72.5% patients belonged to the urban area. Half of the patients were students and 20 (10%) females were housewives. IT was observed that around 56% patients had inherited the psychiatric disorders from their families (Table 1).

Rendering to the Y-BOCS symptoms severity scale, 64% patients displayed severe to moderate OCD symptoms, while 18.5% respondents displayed psychiatric co-morbidity. It was observed that the male patients developed co-morbid anxiety disorders which includes agoraphobia, generalized anxiety disorder, panic disorder, and social phobia as compared to females who showed a greater tendency of developing disorders related to

depression (Table 2), and around 37 (18.5%) patients had signs of physical co-morbidity.

The demographic variables and its distribution among the respondents are given in Table-I

Demographic variables	Frequency	Percentage
<b>Age (in years)</b>		
Less than 10	4	2%
10-20	69	34.5%
21-30	78	39%
31-40	21	10.5%
41-50	18	9%
51-60	6	3%
>60	4	2%
<b>Gender</b>		
Male	138	69%
Female	62	31%
<b>Marital Status</b>		
Unmarried	126	63%
Married	68	34%
Divorced	3	1.5%
Separated	3	1.5%
<b>Education Level</b>		
Illiterate	12	6%
Primary level	28	14%
Secondary level	59	29.5%
Higher secondary level	62	31%
Graduate and above	39	19.5%
<b>Place of Living</b>		
Urban	145	72.5%
Rural	55	27.5%
<b>Positive psychiatric disorders family history</b>		
Yes	112	56%
No	88	44%
<b>Occupation</b>		
Jobless	15	7.5%
Student	108	54%
Housewife	20	10%
Business persons	06	3%
On present Job	28	14%
Others	23	11.5%
Total	200	100

The psychiatric co-morbidities Distribution according to sex are given in Table-II (n=37)

Psychiatric co-morbidity	Participants	
	Male (n=23)	Female (n=14)
Panic disorder	4.34%	7.14%
Social phobia	17.39%	21.42%
Agoraphobia	8.69%	7.14%
Generalized anxiety disorder	26.08%	0.00%
Depressive disorder	13.04%	35.71%
Personality disorder	8.69%	14.28%
Psychotic disorder	17.39%	14.28%
Others	4.34%	0.00%

Females with OCD were also positive for diabetes, hypertension, skin disorders, and hypothyroidism (Table 3).

Physical co-morbidity	Participants	
	Male (n=21)	Female (n=26)
Hypothyroidism	9.52%	19.23%
Diabetes mellitus	19.04%	23.07%
Hypertension	28.57%	15.38%
Skin diseases	4.76%	19.23%
Bronchial asthma	14.28%	3.84%
Others	23.80%	19.23%

## DISCUSSION

The average age of the studied subjects was found to be 27.2 (SD±8.7) years. Out of all the patients, the most common age group was 21-30 years of age (39%) which meant that most sufferers of OCD belonged to young age. It was comparable to the other published data. In one report, the average age of the subjects under study was 28.89 years (SD=±8.02) While according to another report which was conducted in Pakistan, average of the participants was 29.07 (SD±6.11) years in which around 60.9% patients belonged to the age range of 20-29 years<sup>11-12</sup>. Another study conducted in Nepal during the year of 2017 showed that 50% patients were married, and 40% came from the urban area while majority of them were also students. Only 2% of them were illiterate whereas the majority of the test patients were better educated<sup>13-14</sup>. There was a contradiction in our study as compared to the others because we found that around 63% patients were unmarried and 72.5% came from the urban area. On the other hand, regarding the occupation we found a similarity between two studies as the students were in the majority in both the studies. We also found that only 6% respondents were illiterate, and the majority was of graduates. This study clearly demonstrated that OCD is more prevalent in literate urban people, which is also an indication of good hygiene and awareness in the respondents<sup>14-15</sup>. It was found that 56% sufferers had someone in the family suffering from any mental disorder, which corresponded to a study performed in Pakistan 2016, where around 45% patients had immediate relatives suffering from neurological disorders<sup>16</sup>. As reported in the study of Cherian et al., 2016, the family history of OCD and the family history of any psychiatric illness was comparable among the genders<sup>17</sup>.

The obtained results support the hypothesis that genetics and a biological basis for OCD has the higher concordance rate in first degree family members. It was observed that the females had more diabetes, hypertensive, and skin disorders, and hypothyroidism than males but male patients had developed more symptoms of bronchial asthma. Male patients also displayed the symptoms of co-morbid anxiety disorders (like agoraphobia, generalized anxiety disorder, panic disorder and social phobia) and on the other hand, female patients have more depressive and personality co-morbid disorders<sup>18-19</sup>. This finding is supported by the study of F Bogetto in 1999, where they clearly showed that the history of anxiety disorders followed the onset of OCD while the occurrence of hypomanic episodes after the onset of OCD happens more significantly in males, whereas females display a clear history of eating disorders<sup>20</sup>. It has been reported in many studies that most of the women with OCD exhibit symptoms of the major depressive disorder. Another Italian study supported the idea of men with OCD displaying the signs and symptoms of social phobia, hypomanic, and tic disorders. These results were found to be consistent and supported our results. In the presented study, 64% patients had severe to moderate YBOCS score which was similar to the findings of the study conducted in Nepal where it was found that around two third of the test subjects had YBOCS score of severe range<sup>20-21</sup>. We also noted that in some patients; YBOCS severity scores in the

following study was the present score of the patients rather than their worst-ever score, which was indeed a reflection of the therapy effects. Although, the study was later on generalized by the including the patients which had lower levels of severity<sup>22</sup>. One of the drawbacks of this study is the likelihood of the responder bias as time of the onset of the disease was decided retrospectively. Another drawback included the fact that the present findings may not be applied to the patients suffering from OCD who are not under treatment (community samples), also it is still unclear that do these findings are applied to other countries and cultures and how much generalize these results are.

## CONCLUSION

OCD is a very common, unnoticed mental disorder which is often ignored and most of the time goes undiagnosed due to which only a small proportion of the patients across the world receive specific treatment for the disease. OCD has always been considered a hidden problem, very few people acknowledge it as a disorder, and receives treatment for it. The sufferers usually consider their compulsive rituals and obsessive thoughts as utterly ridiculous and completely unacceptable socially, and try to hide their symptoms as much as possible. Due to which the information and knowledge regarding the disease is very scarce not only in Pakistani context, but throughout the world. It is the dire need of time that studies should be conducted to understand the occurrence, incidence and prevalence of this disorder for its timely prevention. Well representative and well conducted epidemiological studies, involving large samples are required to play a very crucial role to shed light on the very complex, serious and undiagnosed psychiatric disorder. A lot of informative campaigning is required to make the early diagnosis and by timely treatment of this disorder can be made possible which will eventually lead to the symptomatic treatment and a better prognosis.

## REFERENCES

1. Shahzad MN, Suleman M, Ahmed MA, Riaz A, Fatima K. Identifying the Symptom Severity in Obsessive-Compulsive Disorder for Classification and Prediction: An Artificial Neural Network Approach. *Behavioural Neurology*. 2020 Jun 22;2020.
2. Domingues-Castro MS, Torresan RC, Shavitt RG, Fontenelle LF, Ferrão YA, Rosário MC, Torres AR. Bipolar disorder comorbidity in patients with obsessive-compulsive disorder: Prevalence and predictors. *Journal of affective disorders*. 2019 Sep 1;256:324-30.
3. Shahkaram H, Lotfinia S, Bakhshani NM, Ghiasi Z. The Severity of Obsessive-Compulsive Disorder in Different Episodes of Bipolar Disorder. *Zahedan Journal of Research in Medical Sciences*. 2020 Oct 12;22(4).
4. Sha Z, Edmiston EK, Versace A, Fournier JC, Graur S, Greenberg T, Santos JP, Chase HW, Stiffler RS, Bonar L, Hudak R. Functional disruption of cerebello-thalamo-cortical networks in obsessive-compulsive disorder. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. 2020 Apr 1;5(4):438-47.
5. ul ain Khan Q, Younus S, Hasan H, Khan MZ. Association of bipolar I disorder with obsessive compulsive disorder: A clinical study from Pakistan. *Neurology, Psychiatry and Brain Research*. 2019 Sep 1;33:89-92.
6. Seitz-Holland J, Cetin-Karayumak S, Wojcik JD, Lyall A, Levitt J, Shenton ME, Pasternak O, Westin CF, Baxi M, Kelly

- S, Meshulam-Gately R. Elucidating the relationship between white matter structure, demographic, and clinical variables in schizophrenia—a multicenter harmonized diffusion tensor imaging study. *Molecular psychiatry*. 2021 Jan 22:1-4.
7. Vellozo AP, Fontenelle LF, Torresan RC, Shavitt RG, Ferrão YA, Rosário MC, Miguel EC, Torres AR. Symmetry Dimension in Obsessive–Compulsive Disorder: Prevalence, Severity and Clinical Correlates. *Journal of Clinical Medicine*. 2021 Jan;10(2):274.
  8. Gao K, Su M, Sweet J, Calabrese JR. Correlation between depression/anxiety symptom severity and quality of life in patients with major depressive disorder or bipolar disorder. *Journal of affective disorders*. 2019 Feb 1;244:9-15.
  9. Westwell-Roper C, Williams KA, Samuels J, Bienvenu OJ, Cullen B, Goes FS, Grados MA, Geller D, Greenberg BD, Knowles JA, Krasnow J. Immune-related comorbidities in childhood-onset obsessive compulsive disorder: lifetime prevalence in the Obsessive Compulsive Disorder Collaborative Genetics Association Study. *Journal of child and adolescent psychopharmacology*. 2019 Oct 1;29(8):615-24.
  10. Zheng Y, Xiao L, Xie Y, Wang H, Wang G. Prevalence and Characteristics of Obsessive-Compulsive Disorder Among Urban Residents in Wuhan During the Stage of Regular Control of Coronavirus Disease-19 Epidemic. *Frontiers in psychiatry*. 2020 Dec 16;11:1435.
  11. Ferentinos P, Preti A, Veroniki AA, Pitsalidis KG, Theofilidis AT, Antoniou A, Fountoulakis KN. Comorbidity of obsessive-compulsive disorder in bipolar spectrum disorders: systematic review and meta-analysis of its prevalence. *Journal of affective disorders*. 2020 Feb 15;263:193-208.
  12. Salazar de Pablo G, Guinart D, Cornblatt BA, Auther AM, Carrión RE, Carbon M, Jiménez-Fernández S, Vernal DL, Walitza S, Gerstenberg M, Saba R. Demographic and clinical characteristics, including subsyndromal symptoms across bipolar-spectrum disorders in adolescents. *Journal of child and adolescent psychopharmacology*. 2020 May 1;30(4):222-34.
  13. Di Salvo G, Pessina E, Aragno E, Martini A, Albert U, Maina G, Rosso G. Impact of comorbid obsessive-compulsive disorder on suicidality in patients with bipolar disorder. *Psychiatry research*. 2020 Aug 1;290:113088.
  14. Sharma LP, Reddy YJ. Obsessive–compulsive disorder comorbid with schizophrenia and bipolar disorder. *Indian journal of psychiatry*. 2019 Jan;61(Suppl 1):S140.
  15. Almeida VF, Bezerra-Filho S, Studart-Bottó P, Léda-Rego G, Silva IT, Kapczinski F, Miranda-Scippa Â. History of suicide attempts in patients with bipolar disorder type I: socio-demographic and clinical factors, quality of life and functioning. *Nordic journal of psychiatry*. 2020 Nov 21:1-8.
  16. Kudinova AY, MacPherson HA, Musella K, Schettini E, Gilbert AC, Jenkins GA, Clark LA, Dickstein DP. Maladaptive personality traits and the course of suicidal ideation in young adults with bipolar disorder: Cross-sectional and prospective approaches. *Suicide and Life-Threatening Behavior*. 2020 Aug 31.
  17. Uddin S, MD Aminul I, Arafat SM. Socio Demography and Primary Psychiatric Morbidities Among Patients at Outpatient Psychiatry Department of a Tertiary Care Hospital in Bangladesh. *Romanian Journal of Psychological Studies (RJPS)*. 2019 Feb 17.
  18. Weintraub MJ, Schneck CD, Walshaw PD, Chang KD, Singh MK, Axelson DA, Birmaher B, Miklowitz DJ. Characteristics of youth at high risk for bipolar disorder compared to youth with bipolar I or II disorder. *Journal of psychiatric research*. 2020 Apr 1;123:48-53.
  19. Sehlo MG, Youssef UM, El-Gohari HM. Prevalence and risk factors of suicidal ideations among patients with obsessive-compulsive disorder in Egypt. *Middle East Current Psychiatry*. 2021 Dec;28(1):1-6.
  20. Li K, Zhang H, Yang Y, Zhu J, Wang B, Shi Y, Li X, Meng Z, Lv L, Zhang H. Abnormal functional network of the thalamic subregions in adult patients with obsessive-compulsive disorder. *Behavioural brain research*. 2019 Oct 3;371:111982.
  21. Silveira VP, Frydman I, Fontenelle LF, Mattos P, de Oliveira-Souza R, Moll J, Hoexter MQ, Miguel EC, McLaughlin NC, Shephard E, Batistuzzo MC. Exploring response inhibition and error monitoring in obsessive-compulsive disorder. *Journal of psychiatric research*. 2020 Jul 1;126:26-33.
  22. Berghöfer A, Martin L, Hense S, Weinmann S, Roll S. Quality of life in patients with severe mental illness: a cross-sectional survey in an integrated outpatient health care model. *Quality of Life Research*. 2020 Mar 13:1-5.