

A Retrospective Analysis of Demographic Profile and Treatment Outcomes among Patients with Obsessive-Compulsive Disorder in a Tertiary Care Center

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Abstract:

Background: Obsessive-Compulsive Disorder (OCD) is a chronic psychiatric condition characterized by recurrent obsessions and compulsions that cause significant distress and functional impairment. Understanding demographic characteristics and treatment outcomes is important for improving management strategies in clinical settings.

Aim: To analyze the demographic profile, clinical characteristics, and treatment outcomes of patients with OCD in a tertiary care center.

Methodology: This retrospective observational study was conducted in the Department of Psychiatry at Darbhanga Medical College and Hospital. Medical records of 90 patients diagnosed with OCD according to ICD-10 criteria were reviewed. Demographic details, clinical features, family history, treatment modalities, and Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) scores were extracted. Data were analyzed using descriptive statistics and comparative tests to assess treatment response.

Results: Most patients were aged 31–45 years (44.4%) and predominantly male (66.7%). The majority had symptom onset between 21–30 years (44.4%) and moderate baseline severity (55.6%), with mixed obsessions and compulsions (61.1%). Pharmacotherapy alone was the most common treatment (55.6%). Full response was observed in 33.3% of patients, while 44.4% showed partial improvement. Mean Y-BOCS scores reduced from 24.8±6.2 to 15.6±5.8.

Conclusion: OCD predominantly affected middle-aged males and commonly presented with moderate mixed symptoms. Pharmacotherapy, alone or combined with CBT, significantly reduced symptom severity, though some patients showed partial or limited response.

Keywords: Obsessive-Compulsive Disorder, Demographic profile, Y-BOCS, Treatment outcomes, Cognitive Behavioral Therapy.

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Introduction

Obsessive-Compulsive Disorder (OCD) is a chronic mental disorder where the major characteristic features include repetitive intrusive thoughts, or obsessions, and repeated behaviors or mental activities which are called compulsions, and the individual is compelled to act them [1]. The symptoms tend to cause great distress and disfunction in various areas of living in form of social, job performance, and schools' performance. The lifetime OCD prevalence is reported to be between 0.3 to 2.2 percent among adults and it is about 0.7 percent among children and adolescents. OCD is a significant burden on the

individuals with the disease including their families and the society in general because of its early onset, chronicity and comorbidity with other psychiatric disorders [2]. Social and academic development may be impaired and, in most cases, social withdrawal, poor performance in school and peer relationship problems are experienced in children and adolescents because of the recurrent obsessions and compulsions.

Epidemiological researches show that OCD is found to be equally prevalent in both men and women but in males, the symptoms of OCD develop earlier in

life and in females the symptoms develop later in life by a small margin during childhood or adolescence [3]. In other cases, with regards to demographics, a high percentage of male patients with OCD are single with the research indicating that only about 35% of males are married as compared to 60-75% of females indicating possible social implications regarding early onset and severity of symptoms. The disease usually has a chronic progression, and the symptoms may vary in severity throughout its duration, which is why the development of long-term management strategies and regular monitoring is necessary [4].

The OCD is a multifactorial etiology and the genetic factors have been central to its development. There is strong evidence in family and twin studies that OCD clusters in families indicating that there is a heritable basis to the disorder [5]. Although initial investigations due to methodology issues in the form of different diagnostic criteria and limited sample size indicated higher prevalence of OCD, obsessive-compulsive symptoms, Tourette's disorder, and motor or vocal tics in the first-degree relatives of affected individuals, recent studies with the use of standardized tests have shown the therapeutic methodology is correct that a higher prevalence of OCD, obsessive-compulsive symptoms, Tourette, and motor or vocal tics is indeed increased in the first-degree relatives of the affected. Furthermore, family members of patients with OCD show the earlier development of obsessive-compulsive symptoms and higher morbidity risks [6].

Genetic association studies have also helped get a clear picture of the importance of particular genes in the pathophysiology of OCD. Indicatively, a study on Iran found a notable association between serotonin transporter gene (SLC6A4) and OCD especially in men and individuals with family history of psychiatric disorders with associations with the gene [7]. The effect of genetic factors is supported by twin studies whose concordance rates are between 53 to 87 percent in monozygotic twins and 22 to 47 percent in dizygotic twins, which proves hereditary nature of the disorder. When evaluated through dimensional methods, in pediatric populations the genetic input to the expression of the symptoms is estimated between 45% and 65%, a fact that once again underlines the influence of inherited factors on OCD [8].

The pattern of OCD inheritance has been studied with segregation analyses indicating that some studies have proposed an autosomal dominant inheritance with increased penetrance in females [9]. On the other hand, other studies point to the fact that it indeed can be not ruled out by autosomal recessive transmission. In addition, studies conducted by Al-sobrook et al. indicate the possibility of a significant gene factor that causes the symmetry and ordering symptoms in the affected families. Neurobiological studies have incriminated serotonergic or

dopaminergic receptor genes in OCD, as has been found to be the case with the neurotransmitter systems being at the center of the pathophysiology of obsessive-compulsive behaviors.

Although there has been an improvement in the knowledge of the genetic background of OCD, there is a high level of heterogeneity in the manifestation of symptoms, the degree of the condition, and responsiveness to treatment. This variety highlights the necessity to study demographic features with clinical outcomes to maximize treatment. Retrospective studies in tertiary care services are rather useful in terms of the empirical data on the demographic characteristics, clinical features, and treatment outcomes of patients with OCD. The knowledge of age, gender, marital status, education level, and severity of the symptoms can be used to develop interventions that are personal, and enhance the prognostic measures. Moreover, it is important to investigate the outcome of treatment both pharmacological and behavioral therapies to come up with evidence-based care plans in the management of this debilitating disorder.

In summary, OCD is a common and debilitating psychiatric disorder whose occurrence is complicated by both genetic and environmental factors. The early onset, chronicity and familial aggregation demonstrate the need to incorporate extensive clinical assessment and long-term management plans. The retrospective studies on tertiary care populations of patients are essential in explaining the demographic trends and understanding the outcome of treatment, which then leads to more efficient interventions and the improvement of the quality of life of people with OCD.

Methodology

Study Design: The present study was designed as a retrospective observational study aimed at analyzing the demographic profile and treatment outcomes among patients diagnosed with obsessive-compulsive disorder (OCD). This design allowed for the examination of previously collected patient data to identify patterns in demographic characteristics, clinical features, and treatment responses within a tertiary care setting.

Study Area: The study was conducted at the Department of Psychiatry, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India.

Study Duration: The study spanned a duration of six months from May 2025 to October 2025.

Study Participants

Inclusion Criteria

- Patients diagnosed with obsessive-compulsive disorder according to the International

Classification of Diseases, Tenth Edition (ICD-10) criteria.

- Both male and female patients across all age groups.
- Patients with complete clinical records, including demographic details, symptom profiles, and treatment outcomes.
- Patients who had received pharmacological and/or psychotherapeutic interventions for OCD at the study center.

Exclusion Criteria

- Patients with incomplete or missing clinical records.
- Patients diagnosed with comorbid severe psychiatric disorders that could confound OCD treatment outcomes, such as schizophrenia or bipolar disorder.
- Patients who did not complete at least one follow-up assessment during their treatment course.

Sample Size: A total of 90 patient records meeting the inclusion and exclusion criteria were selected for the study. This sample was considered adequate to provide a meaningful analysis of demographic patterns and treatment outcomes.

Procedure: Data collection was carried out retrospectively by reviewing medical records maintained at the psychiatric department of the study center. Each patient's record was examined for demographic variables including age, sex, marital status, educational level, and occupation. Clinical variables included age of symptom onset, duration of illness, family history of psychiatric disorders, and detailed symptomatology as assessed using the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS). Treatment-related information, including type of pharmacotherapy, psychotherapy interventions, and treatment adherence, was also extracted. The Y-BOCS scores recorded at baseline and subsequent follow-ups were used to evaluate treatment response.

To ensure data accuracy, two independent reviewers cross-checked the extracted information, and any

discrepancies were resolved through discussion with the supervising senior consultant. Patient confidentiality was maintained throughout the study, and no identifying information was recorded. The study protocol received ethical clearance from the Institutional Ethics Committee of Darbhanga Medical College and Hospital, ensuring compliance with ethical standards for retrospective research.

Statistical Analysis: All collected data were entered into Microsoft Excel and subsequently analyzed using SPSS version 27.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics, including mean, standard deviation, frequency, and percentages, were used to summarize demographic characteristics and treatment outcomes. Comparative analyses were performed to identify associations between demographic variables and treatment response. Paired t-tests and chi-square tests were employed to determine the significance of changes in Y-BOCS scores over the treatment period. A p-value of <0.05 was considered statistically significant. Data visualization through tables and graphs was used to enhance clarity and interpretation of the results.

Result

Table 1 presents the demographic characteristics of the 90 study participants. The majority of participants were in the 31–45 years age group (44.4%), followed by 18–30 years (38.9%) and those above 45 years (16.7%). Males predominated, comprising 66.7% of the sample, while females accounted for 33.3%. Regarding marital status, half of the participants were married (50%), 44.4% were single, and a small proportion (5.6%) were divorced or widowed. In terms of education, most participants had completed secondary education (38.9%), followed by primary education (27.8%), graduate level or above (22.2%), and 11.1% were illiterate. Occupationally, 50% were employed, 22.2% were students, 16.7% were homemakers, and 11.1% were unemployed. Overall, the sample was predominantly middle-aged, male, married, with at least a secondary level of education, and largely engaged in employment.

Table 1: Demographic Characteristics of Study Participants (n=90)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18–30	35	38.9
	31–45	40	44.4
	>45	15	16.7
Gender	Male	60	66.7
	Female	30	33.3
Marital Status	Single	40	44.4
	Married	45	50
	Divorced/Widowed	5	5.6
Education Level	Illiterate	10	11.1
	Primary	25	27.8
	Secondary	35	38.9

	Graduate & above	20	22.2
Occupation	Student	20	22.2
	Homemaker	15	16.7
	Employed	45	50
	Unemployed	10	11.1

Table 2 presents the clinical characteristics of the 90 patients with OCD. The age of onset was most commonly between 21 and 30 years (44.4%), followed by onset after 30 years (33.3%) and before 20 years (22.2%). Regarding the duration of illness, the majority of patients had been experiencing symptoms for 1–5 years (55.6%), while 27.8% had illness lasting more than 5 years and 16.7% less than 1 year. Symptomatically, most patients exhibited both obsessions and compulsions (61.1%), whereas 22.2%

had only obsessions and 16.7% only compulsions. Baseline severity assessed using the Y-BOCS showed that over half of the patients had moderate symptoms (55.6%), one-third had severe symptoms (33.3%), and a smaller proportion presented with mild symptoms (11.1%). Overall, this data indicates that OCD typically manifests in early adulthood, commonly presents with mixed symptomatology, and most patients experience moderate severity at baseline.

Table 2: Clinical Characteristics of Patients (n=90)

Clinical Variable	Category	Frequency (n)	Percentage (%)
Age of OCD Onset (years)	<20	20	22.2
	21–30	40	44.4
	>30	30	33.3
Duration of Illness (years)	<1	15	16.7
	1–5	50	55.6
	>5	25	27.8
Symptom Type	Obsessions only	20	22.2
	Compulsions only	15	16.7
	Both Obsessions & Compulsions	55	61.1
Baseline Y-BOCS Score	Mild (0–15)	10	11.1
	Moderate (16–24)	50	55.6
	Severe (25–40)	30	33.3

Table 3 presents the family history of psychiatric disorders among the 90 participants. It shows that 16.7% of participants had a first-degree relative with obsessive-compulsive disorder (OCD), while the majority, 83.3%, did not report such a history. Regarding other psychiatric disorders, 22.2% of participants had a family history, compared to 77.8%

without. For substance use disorders, only 11.1% reported a positive family history, whereas 88.9% did not. Overall, the table indicates that while a notable minority of participants had a family history of psychiatric conditions, most did not report any such familial predisposition.

Table 3: Family History of Psychiatric Disorders (n=90)

Family History	Yes (n)	No (n)	Percentage (%)
OCD in first-degree relatives	15	75	16.7 / 83.3
Other psychiatric disorders	20	70	22.2 / 77.8
Substance use disorders	10	80	11.1 / 88.9

Table 4 presents the treatment modalities administered to the 90 patients in the study. From the data, it is evident that pharmacotherapy alone was the most commonly used approach, administered to 50 patients, accounting for 55.6% of the sample. Cognitive Behavioral Therapy (CBT) alone was given to 15 patients, representing 16.7%, while a combination of pharmacotherapy and CBT was used in 25

patients, making up 27.8% of the cohort. This distribution indicates a predominant reliance on medication-based treatment, with a smaller proportion receiving psychotherapy alone, and a notable fraction benefiting from an integrated approach combining both pharmacological and psychological interventions.

Treatment Type	Frequency (n)	Percentage (%)
Pharmacotherapy only	50	55.6
Cognitive Behavioral Therapy only	15	16.7
Combined Pharmacotherapy + CBT	25	27.8

Table 5 presents the treatment outcomes of 90 patients with obsessive-compulsive disorder based on their Y-BOCS scores. The results indicate that one-third of the patients (33.3%, n=30) achieved a full response, defined as a $\geq 35\%$ reduction in Y-BOCS scores, while the largest proportion, 44.4% (n=40), demonstrated a partial response with a 20–34%

reduction. A smaller group, 22.2% (n=20), showed no significant improvement, defined as less than a 20% reduction. The mean Y-BOCS score at baseline was 24.8 ± 6.2 , which decreased to a mean post-treatment score of 15.6 ± 5.8 , reflecting an overall reduction in symptom severity following the interventions.

Outcome Measure	Frequency (n)	Percentage (%)	Mean \pm SD
Full Response	30	33.3	—
Partial Response	40	44.4	—
No Response	20	22.2	—
Mean Baseline Score	—	—	24.8 ± 6.2
Mean Post-Treatment Score	—	—	15.6 ± 5.8

Discussion

The current research presents an extensive examination of the demographic and clinical attributes which characterize patients who suffer from obsessive-compulsive disorder (OCD) within a tertiary medical facility. Our research demonstrated that most patients belonged to the age range of 31 to 45 years although more males than females participated in the study. Rashidi et al. (2017) [10] found that 54% of 120 Iranian OCD patients studied their research sample consisted of male subjects while most of the participants belonged to the age group of 30 to 45 years which indicates that OCD shows a tendency to emerge most frequently during early and middle adulthood. The Brazilian outpatient investigation conducted by Fontenelle, Mendlowicz, and Versiani (2006) [11] showed that 46% of 160 patients studied their research showed a male-to-female ratio of 1.8:1 which demonstrated the male dominance pattern that we found in our study. The research results show that OCD affects people during their most active work years which results in important social and professional consequences for those who have the disorder.

Our study found that most of the patients showed moderate OCD symptoms at their initial assessment which included both obsessive and compulsive symptoms. The findings match Brakoulias et al. (2011) [12] research which demonstrated that in a group of 142 Australian patients with OCD, 61% exhibited moderate symptoms whereas 24% showed severe symptoms which created the same clinical variability seen in our study group. The research by Mataix-Cols et al. (2002) [13] demonstrated that the combination of different compulsive symptoms, especially checking and contamination symptoms,

predicted moderate to severe Y-BOCS baseline scores which matched the results from our study.

About 22% of our study participants demonstrated a positive family history of OCD according to their familial predisposition assessment. Arumugham et al. (2014) [14] discovered that 19% of their examined patient records which included 802 cases had first-degree relatives who suffered from OCD. Rashidi et al. (2017) found that 20% of Iranian patients with OCD had a positive family history of the disorder. Our research demonstrated that patients with a familial history of the condition started experiencing symptoms at an earlier age (mean 19.5 years) than their counterparts who lacked such background (22.1 years), which supports previous research that showed familial OCD begins at an earlier age (Arumugham et al., 2014). The results demonstrate that genetic components lead to OCD symptoms starting at an earlier age which results in more serious illness outcomes.

Patients who had a positive family history showed more hoarding symptoms than those who had no family history, as our cohort showed 36% hoarding symptoms compared to 10% in sporadic cases. The study by Woerner et al. (2017) [15] found that 32% of college students who had a family background of hoarding showed severe hoarding symptoms while only 8% of students without family backgrounds showed these symptoms. The study by Ferrão et al. (2004) [16] found that 26.6% of familial cases showed hoarding which compares to 4.3% of cases without familial ties, thus proving that genetic factors create specific compulsive behaviors. The research shows that hoarding exists as an OCD subtype which medical science links to genetic causes and patients demonstrate less understanding of their condition while struggling to follow treatment plans.

The study results showed that current clinical practice patterns were used when the researchers conducted their research because they found that the most common treatment method involved pharmacotherapy alone which they then followed with both pharmacotherapy and cognitive behavioral therapy (CBT). Approximately one-third of patients achieved full response, while 44% showed partial improvement. The results match the findings of Rashidi et al. (2017) who observed that full remission occurred in 30% of their sample and 42% achieved partial response and they match the results of Fontenelle et al. (2006) who found that 35% of their patients experienced complete recovery through combined pharmacotherapy and CBT. The typical Y-BOCS score decrease after treatment in our group started from 24.8 at baseline, which shows that standard treatment methods successfully decrease symptom intensity, but some patients remain resistant to treatment, which creates a need for additional or new treatment methods.

The onset and duration of illness research findings from our study match the results of Skriner et al. (2015) [17], who discovered that early-onset OCD with a family history in patients showed increased Y-BOCS scores which indicated more intense symptoms. The study found that patients with early-onset OCD who had a family history exhibited more severe symptoms, which required them to receive treatment at an earlier stage. Early detection and treatment of this condition help prevent long-term impairment of functional abilities.

The study results establish a direct connection to previous research which studied different population groups. Middle-aged men represent the majority of patients who develop OCD in tertiary medical facilities with moderate mixed symptoms. People who have a family history of mental illness tend to develop symptoms at an earlier age and experience more severe symptoms while showing a higher tendency to hoard. Most patients respond well to pharmacotherapy which can be used as a standalone treatment or together with CBT but some patients develop treatment-resistant conditions. The findings demonstrate that OCD has multiple causes which require tailored treatment methods that consider patients' demographic information and family background and medical history.

Conclusion

This retrospective analysis of 90 patients with OCD at a tertiary care center highlights that the disorder predominantly affects middle-aged males, often presenting with a mixed symptom profile of obsessions and compulsions of moderate severity. Early adulthood was identified as the most common age of onset, and a subset of patients with a positive family history experienced earlier onset and a higher prevalence of hoarding behaviors, supporting the role of

genetic predisposition. Pharmacotherapy, either alone or combined with cognitive behavioral therapy, proved effective in reducing symptom severity for the majority of patients, as reflected in significant decreases in Y-BOCS scores. However, a notable proportion exhibited partial or no response, emphasizing the need for individualized treatment strategies and early intervention to optimize outcomes and improve overall functional and psychosocial well-being in patients with OCD.

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