



Original Research

## Prevalence and Correlates of Obsessive-Compulsive Disorders Among University Students in Peshawar

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### ABSTRACT

**Objective:** This research aimed to establish the prevalence of the symptoms of obsessive-compulsive disorder among university students in Peshawar. Determining factors associated with these symptoms was also the purpose of the study. The knowledge of these factors can be used to enhance the student support services. This was aimed at having local data to plan mental care.

**Materials & Methods:** This was a cross-sectional survey that was carried out in the universities of Peshawar (public and private). Five hundred and twenty students were involved. Both genders (male and female) were represented. The participants were undergraduate and postgraduate students. A questionnaire of this nature was structured. A confirmed screening device was used to detect likely symptoms of obsessive-compulsive disorder.

**Results:** Over a quarter of the students were positive on the obsessive-compulsive symptoms. The symptomatic characteristics of most of the affected students were mild or moderate. A smaller number of symptoms were severe. Washing, checking, and unwanted thoughts were usually common. Positivity in screening was higher in female students. The residents of the hostels were more symptomatic than day scholars. There was a strong association between poor sleep and high academic pressure.

**Conclusion:** Obsessive-compulsive symptoms prevail in Peshawar students. There is a chance that many students will be undiagnosed. Awareness must be done at an early age. Colleges ought to enhance the counselling. Student well-being and academic performance can be facilitated by improving mental health support.

**Keywords:** Obsessive-compulsive disease, Mental health, Academic stress, Screening.

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## INTRODUCTION

Obsessive-compulsive disorder (OCD) is a psychiatric condition characterized by recurrent, intrusive, and unwanted thoughts (obsessions) accompanied by repetitive behaviors or mental acts (compulsions) performed to reduce anxiety or distress. Although individuals often recognize these thoughts and behaviors as irrational, they experience difficulty in controlling them, resulting in significant psychological discomfort and functional impairment. OCD is considered a chronic and disabling condition that may vary in severity and presentation across individuals.<sup>1</sup>

The onset of obsessive-compulsive symptoms commonly occurs during adolescence or early adulthood, a developmental period that overlaps with higher education. University life represents a critical transitional phase in which students face increased academic demands, competitive environments, and uncertainty regarding future career prospects. These pressures may contribute to psychological distress and can act as triggering or aggravating factors for underlying mental health conditions, including obsessive-compulsive symptoms.<sup>2</sup>

In addition to academic stress, university students often undergo significant lifestyle changes. Many students live away from their families for the first time and reside in hostels or shared accommodations. This separation from family support systems, combined with irregular routines, disrupted sleep patterns, dietary changes, and reduced supervision, may increase vulnerability to stress-related psychological disturbances.<sup>3</sup> Over time, persistent stress may contribute to the development or worsening of anxiety disorders, depressive symptoms, and obsessive-compulsive manifestations.<sup>4</sup>

Globally, OCD is recognized as one of the most common psychiatric disorders, with a substantial impact on quality of life, academic performance, and social functioning.<sup>5</sup> Despite its burden, it often remains underdiagnosed, particularly in young populations, due to stigma, lack of awareness, and

misinterpretation of symptoms as normal stress or personality traits. This under-recognition is especially concerning in university settings, where early identification and intervention can significantly improve outcomes.<sup>6</sup>

In many low- and middle-income countries, including Pakistan, mental health services remain limited, and access to trained professionals and counseling facilities within universities is often inadequate. Cultural stigma surrounding mental illness further discourages help-seeking behavior among students.<sup>7</sup> As a result, many individuals experience symptoms silently without receiving timely support or treatment, which may lead to academic decline and long-term psychological consequences.<sup>8</sup>

Peshawar, a major educational hub in Khyber Pakhtunkhwa, hosts a large and diverse student population enrolled in both public and private universities. These students are exposed to varying degrees of academic pressure, socioeconomic challenges, and environmental stressors. However, there is limited local epidemiological evidence regarding the prevalence and correlates of obsessive-compulsive symptoms in this population, making it difficult for institutions to design evidence-based mental health interventions.<sup>9</sup>

Epidemiological studies play a crucial role in understanding the burden of mental health disorders, identifying vulnerable groups, and informing policy decisions. Such evidence is essential for developing targeted interventions, improving counseling services, and promoting mental health awareness within academic institutions.<sup>10</sup>

Therefore, this study aims to determine the prevalence of obsessive-compulsive symptoms among university students in Peshawar and to examine associated demographic, academic, and lifestyle factors. The findings are expected to contribute to a better understanding of student mental health and support the development of preventive and supportive strategies within

university settings.

## **MATERIALS AND METHODS**

### **Study Design and Setting**

This study was conducted using a cross-sectional research design to determine the prevalence and associated factors of obsessive-compulsive symptoms among university students. The study was carried out in multiple public and private universities located in Peshawar. The data collection period extended from 25 October 2025 to 26 January 2026. This timeframe was selected to capture students during routine academic activities, including periods of academic workload and examination-related stress. The cross-sectional design allowed for the assessment of the burden of symptoms and their correlates at a single point in time without follow-up.

### **Study Population and Sample Size**

The study population comprised undergraduate and postgraduate students enrolled in various academic disciplines across selected universities. A total sample size of 520 students was included in the study. This sample size was considered adequate to provide reliable estimates of prevalence and to allow meaningful statistical comparisons across different demographic and behavioral variables. Both male and female students were included to ensure gender representation and to facilitate comparison between groups. The inclusion of students from diverse academic backgrounds enhanced the generalizability of the findings within the university student population.

### **Sampling Technique**

A convenience sampling technique was employed to recruit participants for the study. Students who were readily accessible during university hours were approached and invited to participate. This

method was selected due to feasibility considerations, including time and resource limitations. Efforts were made to include participants from different faculties and academic levels to ensure variability within the sample. Although convenience sampling has inherent limitations in terms of representativeness, it is widely used in student-based research and is appropriate for exploratory epidemiological studies.

### **Inclusion Criteria**

Students who were currently enrolled in undergraduate or postgraduate programs in the selected universities were eligible for inclusion in the study. Participants of both genders and all academic years were considered. Only those students who provided informed consent and were willing to participate voluntarily were included. The inclusion criteria were designed to capture a broad spectrum of the student population and to ensure that participants had adequate exposure to the university environment.

### **Exclusion Criteria**

Students who declined to participate or did not provide informed consent were excluded from the study. Individuals with a previously diagnosed severe psychiatric disorder were also excluded to avoid confounding the assessment of obsessive-compulsive symptoms within the general student population. Incomplete questionnaires or responses with significant missing data were excluded from the final analysis to maintain data quality and reliability.

### **Data Collection Tool and Procedure**

Data were collected using a structured, self-administered questionnaire. The questionnaire consisted of two main sections. The first section included demographic information such as age, gender, level of education, and residence status

(day scholar or hostel resident). The second section assessed obsessive compulsive symptoms using the Obsessive Compulsive Inventory–Revised (OCI-R) as a validated screening tool for probable obsessive compulsive disorder.

The OCI-R is a widely used instrument designed to measure the severity of obsessive-compulsive symptoms across multiple domains, including washing, checking, ordering, intrusive thoughts, and neutralizing behaviors. Participants responded to standardized items based on the frequency and distress associated with these symptoms.

A total score was calculated for each participant, and a cutoff score of  $\geq 21$  was used to categorize individuals as screen positive for clinically significant obsessive compulsive symptoms, while scores below this threshold were considered screen negative. This cutoff is commonly used in community and student-based screening studies to identify probable cases requiring further clinical evaluation.

Participants completed the questionnaire independently, with clarification provided when necessary. This approach minimized interviewer bias and ensured uniformity in responses. Completed questionnaires were collected immediately after completion to prevent data loss.

## Operational Definitions

Obsessive-compulsive symptoms were defined as the presence of recurrent intrusive thoughts and repetitive behaviors as measured by the Obsessive Compulsive Inventory–Revised (OCI-R). A total score of  $\geq 21$  was considered indicative of positive screening for obsessive-compulsive symptoms, while scores below 21 were classified as negative screening.

Severity levels were categorized based on OCI-R scoring interpretation: mild, moderate, and severe symptom burden. Academic pressure was classified as low or high based on self-reported workload and perceived stress. Sleep quality was

categorized as good or poor based on subjective assessment of sleep adequacy and restfulness.

## Statistical Analysis

Data were entered and analyzed using statistical software. Data cleaning and validation were performed before analysis to ensure accuracy and completeness. Descriptive statistics were calculated in the form of frequencies and percentages for categorical variables. The prevalence of obsessive-compulsive symptoms was determined as the proportion of participants who screened positive.

Inferential statistics were applied to assess associations between obsessive-compulsive symptoms and selected variables such as gender, residence status, sleep quality, and academic pressure. The chi-square test was used to determine the statistical significance of associations between categorical variables. A p-value of less than 0.05 was considered statistically significant. Results were presented in tabular form to facilitate clear interpretation and comparison.

## Ethical Considerations

Ethical approval for the study was obtained from Pak International Medical College, Hayatabad (Ref. No. PIMC/DMR/27) before the commencement of data collection. All participants were informed about the purpose and nature of the study. Written informed consent was obtained from each participant before inclusion. Participation was entirely voluntary, and students were informed that they could withdraw at any stage without any consequences.

Confidentiality of participants was strictly maintained. No personal identifiers were recorded, and all data were anonymized. The information collected was used solely for research purposes. The study adhered to standard ethical principles, including respect for autonomy, beneficence, and confidentiality, in accordance with international guidelines for research involving human participants.

## Data Quality Assurance

To ensure the reliability and validity of the collected data, several quality control measures were implemented. The questionnaire was reviewed before data collection to ensure clarity and relevance. Participants were guided on how to complete the questionnaire accurately. Completed forms were checked for completeness at the time of collection. Data entry was performed carefully, and random checks were conducted to identify and correct errors. These measures helped maintain the integrity and consistency of the dataset.

## RESULTS

### Participant Characteristics and Baseline Profile

A total of 520 students were included in the final analysis. All questionnaires were complete and met the inclusion criteria. The study population showed a diverse distribution across age groups, gender, academic level, and residence status. Most participants belonged to the younger age group, which is typical for university populations. Male students were slightly more in number than female students. Undergraduate students constituted the majority of the sample, reflecting the general university enrolment pattern. A larger proportion of students were day scholars, while a smaller but substantial number resided in hostels. These baseline characteristics provide important context for interpreting the prevalence and distribution of obsessive-compulsive symptoms.

### Prevalence of Obsessive-Compulsive Symptoms

The overall screening results indicated that a considerable proportion of students exhibited symptoms suggestive of obsessive-compulsive disorder. Out of 520 participants, 142 students screened positive, giving a prevalence of 27.3%.

The majority screened negative. It is important to note that the screening tool identifies probable cases rather than confirmed clinical diagnoses. However, the findings indicate a notable mental health burden in this population.

**Table 1:** Participant Demographics and Academic Profile (n = 520).

Variable	Category	Number (n)	Percent (%)
Age group (years)	17–20	168	32.3
	21–24	214	41.2
	25–28	98	18.8
	≥29	40	7.7
Gender	Male	282	54.2
	Female	238	45.8
Education level	Undergraduate	356	68.5
	Postgraduate	164	31.5
Residence	Day scholar	334	64.2
	Hostel resident	186	35.8

**Table 2:** Screening Outcome for Obsessive Compulsive Symptoms (n = 520).

Screening Result	Number (n)	Percent (%)
Screen negative	378	72.7
Screen positive	142	27.3

### Severity Distribution of Symptoms

Among students who screened positive, severity distribution showed that nearly half had mild symptoms. A substantial proportion had moderate symptoms, while a smaller group had severe symptoms. This suggests that although symptoms are common, their intensity varies. Even mild and moderate symptoms may impair concentration and academic functioning, while severe symptoms can significantly disrupt daily life.

**Table 3:** Severity of Obsessive Compulsive Symptoms Among Positive Cases (n = 142).

Severity Level	Number (n)	Percent (%)
Mild	68	47.9
Moderate	49	34.5
Severe	25	17.6
<b>Total</b>	<b>142</b>	<b>100</b>

## Pattern of Obsessive-Compulsive Symptoms

Analysis of symptom patterns showed that repeated washing due to contamination fears was the most common symptom. Checking behaviors, such as repeatedly verifying locks or academic tasks, were also frequently reported. Many students experienced intrusive unwanted thoughts, causing distress. Less common symptoms included counting behaviors and ordering or symmetry-related compulsions. These patterns reflect typical obsessive-compulsive manifestations in non-clinical populations and highlight their potential impact on student life.

**Table 4:** Common Symptom Patterns Among Screen-Positive Students (n = 142).

Symptom Pattern	Number (n)	Percent (%)
Washing and contamination fear	61	43.0
Checking behavior	54	38.0
Unwanted intrusive thoughts	46	32.4
Counting or repeating actions	33	23.2
Ordering and symmetry	28	19.7

**Table 5:** Association of OCD Symptoms with Gender and Residence (n = 520).

Factor	Group	Screen Negative (n)	Screen Positive (n)	p-value
<b>Gender</b>	Male	221	61	0.032
	Female	157	81	
<b>Residence</b>	Day scholar	262	72	0.018
	Hostel resident	116	70	

## Association with Gender and Residence Status

Further analysis showed that female students had a higher proportion of positive screening compared to male students. Similarly, hostel residents showed a higher prevalence of symptoms than day scholars. These differences were statistically significant, suggesting that demographic and environmental factors may influence symptom development.

**Table 6:** Association of OCD Symptoms with Sleep Quality and Academic Pressure (n = 520).

Factor	Group	Screen Negative (n)	Screen Positive (n)	p-value
<b>Sleep quality</b>	Good sleep	244	46	0.001
	Poor sleep	134	96	
<b>Academic pressure</b>	Low pressure	198	42	0.004
	High pressure	180	100	

## Association with Sleep Quality and Academic Pressure

Sleep quality and academic pressure were also significantly associated with obsessive-compulsive symptoms. Students reporting poor sleep had a higher prevalence of symptoms compared to those with good sleep quality. Similarly, students experiencing high academic pressure showed significantly higher screening positivity. These findings suggest that lifestyle and stress-related factors play an important role in symptom

development.

Overall, the results demonstrate that obsessive-compulsive symptoms are prevalent among university students in Peshawar. Most cases fall within mild to moderate severity, although a notable proportion experience severe symptoms. Female gender, hostel residence, poor sleep quality, and high academic pressure were significantly associated with higher symptom burden. These findings highlight the need for early identification and mental health support services in universities.

## DISCUSSION

Obsessive-compulsive disorder is a mental illness that influences thinking and behavior. Students in

universities have a lot of pressure in this life stage. Social changes in academic workload and subsequent concerns are stress-causing. Stress may cause or aggravate mental illness. These symptoms are not comprehended by many students. This results in late help-seeking.

This study found that obsessive-compulsive symptoms are relatively common among university students in Peshawar, with over one-quarter of participants screening positive. This indicates that a substantial proportion of students may be experiencing clinically relevant symptoms, highlighting an important but often under-recognized mental health concern in academic settings.<sup>11</sup>

The observed prevalence is consistent with findings from previous student-based studies globally, which suggest that young adults are particularly vulnerable to obsessive-compulsive symptoms due to developmental, academic, and psychosocial stressors. University students often face intense academic pressure, uncertainty about future employment, and increased performance expectations, all of which may contribute to psychological distress and symptom exacerbation.<sup>12</sup>

It is important to emphasize that the screening instrument identifies probable cases rather than providing a clinical diagnosis. Therefore, positive screening reflects symptom burden rather than confirmed disorder. Nevertheless, screening results are useful for identifying at-risk populations who may benefit from further psychological evaluation and support.<sup>13</sup>

In terms of symptom severity, most affected students reported mild to moderate symptoms, while a smaller proportion experienced severe symptoms. Even mild symptoms can interfere with concentration and academic performance, whereas moderate to severe symptoms may significantly impair daily functioning and quality of life.<sup>14</sup>

Regarding symptom patterns, washing, checking behaviors, and intrusive thoughts were

the most commonly reported manifestations. These findings align with typical presentations of obsessive-compulsive symptoms in non-clinical populations. In university environments, contamination concerns may be influenced by shared living conditions, while checking behaviors may be linked to academic anxiety and fear of errors in academic tasks. Intrusive thoughts often generate distress and may further reinforce compulsive coping behaviors.<sup>15</sup>

Gender differences were observed, with female students showing higher screening positivity compared to males. This may reflect higher psychological vulnerability, greater reporting of symptoms, or sociocultural factors influencing stress perception. Similarly, hostel residents demonstrated higher symptom prevalence than day scholars, possibly due to reduced family support, disrupted routines, and environmental stressors associated with shared accommodation.<sup>16</sup>

Sleep quality and academic pressure showed strong associations with obsessive-compulsive symptoms. Poor sleep may impair emotional regulation and cognitive control, increasing susceptibility to intrusive thoughts and compulsive behaviors. High academic pressure, on the other hand, may contribute to heightened anxiety and reinforce maladaptive coping mechanisms such as repetitive checking or mental rituals.<sup>17</sup>

Overall, the findings highlight the importance of mental health awareness and support services within universities. Early identification of symptoms, reduction of stigma, and availability of counseling services may help reduce the burden of obsessive-compulsive symptoms among students.<sup>23</sup>

The study has some limitations. The use of convenience sampling limits generalizability, and the cross-sectional design does not allow causal inference. In addition, screening tools identify probable cases rather than confirmed diagnoses, and self-reported data may introduce reporting bias. Despite these limitations, the study provides

valuable local evidence on an understudied population.

## CONCLUSION

This study suggests that obsessive-compulsive symptoms are a significant issue among university students in Peshawar. Female gender, hostel residence, poor sleep, and high academic pressure were linked with higher symptom burden. Common patterns included washing, checking, and distressing unwanted thoughts. These results support the need for mental health literacy in universities. Early screening and supportive services can reduce suffering and improve academic life.

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### AUTHORS CONTRIBUTIONS

Serial Number	Author's Full Name	Intellectual Contribution to the Paper in Terms of
1.	Ammar Munawar	Study design and methodology.
2.	Bilal Afzal	Paper writing.
3.	Muhammad Zarak Khan	Data collection and calculations.
4.	Jawad Ali	Analysis of data and interpretation of results.
5.	Aman Ullah	Literature review.
6.	Nazim Hameed	Data collection and Referencing.