

Original Research Article

The descriptive study of imposter syndrome in medical students of Nishtar medical university, Multan

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ABSTRACT

Background: Imposter syndrome (IS) is characterized by chronic self-doubt and a fear of being exposed as an intellectual fraud despite evident competence and success. Individuals experiencing this phenomenon often feel they are not as capable as others perceive them to be. In medical education, IS can significantly impact students' learning experiences and mental well-being. This study aims to assess the prevalence and severity of IS among medical students to inform curriculum improvements and support strategies.

Methods: A cross-sectional psycho-social analysis was conducted at Nishtar Medical College, Multan, between September and October 2024. After obtaining informed consent, medical students were selected through a random sampling technique. The Clance imposter phenomenon scale (CIPS) was used to assess the incidence and severity of IS. Data were entered and analysed using SPSS v.20.

Results: A total of 174 medical students participated, with a 100% response rate. The majority were male (53.4%). Based on CIPS scoring, the severity of IS was categorized as mild (6.3%), moderate (47.1%), severe (39.1%), and very severe (7.5%). The highest prevalence of severe IS was observed among fourth-year students.

Conclusions: IS is prevalent among medical students, with a significant proportion experiencing severe symptoms, particularly in their fourth year. The findings suggest that both male and female students are equally susceptible. Given its association with mental health challenges, interventions to support affected students should be considered in medical education.

Keywords: Self-Doubt, Imposter syndrome, Mental health, Psychological stress, Social anxiety, Undergraduate medical students

INTRODUCTION

Imposter syndrome (IS) makes individuals doubt their abilities, feeling like frauds despite achievements. Medical students are susceptible due to high pressure, comparing themselves to peers, fearing failure, and doubting their belonging.

Impostor syndrome (also called imposter phenomenon or fraud syndrome) is a psychological pattern which make people doubt their accomplishments and they have a persistent, often internalized fear of being exposed as a

"fraud".¹ The term was first used by two clinical psychologists, Pauline Clance and Dr. Suzanne Imes.¹⁻⁵ The impostor syndrome is studied as a reaction to certain stimuli and events that starts the cycle of self-doubt. It is not recognized as a mental disorder. Nevertheless, it has been the topic of research for many psychologists. Though conventionally believed to be a personality trait, impostor syndrome has more recently been studied as a reaction to certain situations. Under this interpretation, it is a response experienced by many different people to situations that prompt such feelings.⁶ According to a study, 3 out of 10 medical students suffer from IS; having

some level of depression, anxiety, stress, being a woman, and/or attending the fourth academic year were predisposing factors for their development.⁵ This further leads to anxiety, self-doubt, and burnout.

Recent studies have shown that IS is prevalent, affecting approximately 70% of people globally at some point. It spans different demographics and professions, making individuals doubt their abilities and fear being exposed as frauds, despite their achievements.

Low self-esteem and positive IS are prevalent among medical students, especially in the first few years and particularly in female students.¹ According to a study in Bangladesh, A total of 500 students participated with approximately 47% and 53% of students studying at public and private medical colleges, respectively. Around 32% of medical students were exposed to IS (47% of public and 53% of private medical college students).² According to another study, the overall prevalence of the impostor phenomenon ranged from 22.5% to 46.6%.⁴ This phenomenon can have a profound impact on mental well-being and career development.

In Pakistan, IS is gaining attention, especially among students and professionals. Although precise prevalence data is limited, studies indicate a substantial occurrence, mainly in academic and corporate settings. High expectations, cultural norms, and competitive pressures contribute to feelings of self-doubt and inadequacy, influencing mental health and productivity.

We chose to focus on IS because it affects many individuals but is rarely discussed. Addressing this phenomenon is crucial for enhancing medical education and student well-being. The objective of this study is to assess the prevalence and severity of IS among male and female medical students in a Pakistani medical college. The findings aim to inform curriculum development and support mechanisms to help students overcome self-doubt and improve their confidence in their abilities.

METHODS

Study design and setting

A cross-sectional, psycho-social analysis of medical students was conducted from September 2024 to October 2024 at Nishtar Medical University, Multan. It was a questionnaire-based study to investigate the frequency of Severe Form of IS among medical students. All the participating students were given a thorough briefing about the research, the method of study and how to fill the questionnaire and informed consent was taken from them. Those who did not give consent were excluded from the study. Ethical issues were addressed according to institutional review boards. Sample size was calculated using WHO calculator with 95% confidence interval and 7% margin of error.

An online questioner-based study was done on 174 medical students chosen on basis of random sampling to test the prevalence and severity of IS using CIPS. Out of these students 93 were males and 81 were females. 27 students were from first year, 26 were from second year, 28 were from third year, 77 were from fourth year and 16 were from final year MBBS. Students were sent a link to google forms to obtain information about age, sex, socioeconomic status and academic year of education. The subject was asked if he has ever been diagnosed by a professional of any psychiatric illness like anxiety, depression and schizophrenia as they affect the degree of severity and pattern of IS.

Exclusion criteria

Students with known chronic medical illnesses or those who were taking drugs that cause any psychiatric illness were excluded from the study.

Procedure and statistical analysis

CIPS was used to access the severity of IS. It is a 20-item questioner with each item consisting of 5 parameters showing severity from none to very severe levels (1-5). The twenty component scores are then added to yield a global CIPS score in the range of 20 to 100; the higher the score is, the worse the IS. All symptoms of IS were evaluated on basis of these parameters. The data collected was entered and analyzed on SPSS v.20.

RESULTS

One hundred seventy four students were selected for the study and were asked to return the completed 20 items questionnaire. All of them returned the questionnaires with no missing or invalid information, so the response rate was 100%. Out of 174 students, 93 (53.44%) were males and 81 (46.55%) were females. Majority of the respondents were from middle socioeconomic status. We received maximum responses from the age groups of 21-23 years (67.2%) and 18-20 (23.6%).

According to Clance Imposter Phenomenon Scoring, out of the total 174 students the severity of IS is as follows: mild, 11 (6.32%), moderate, 82 (47.1%), severe, 68 (39.1%) and very severe, 13 (7.5%) (Figure 1).

Among 11 students suffering from mild IS, 04 (36.36%) are males while 7 (63.63%) are female. Among 82 students suffering from moderate IS, 48 (58.53%) are males while 34 (41.46%) are female. Among 68 students suffering from severe IS, 35 (51.47%) are males while 33 (48.53%) are females. Likewise, among 13 students suffering from very severe IS, 06 (46.15%) are males while 07 (53.85%) are females (Figure 2).

Class-wise responses of IS is as follows: Among 27 (100%) first year medical students, 1 (3.70%) is suffering from mild, 12 (44.44%) from moderate, 14 (51.85%) from

severe while no one is suffering from very severe IS. Among 26 (100%) second year medical students, 2 (7.69%) are suffering from mild, 17 (65.38%) from moderate, 5 (19.23%) from severe while 2 (7.69%) are suffering from very severe IS. Among 28 (100%) third year medical students, 1 (3.57%) is suffering from mild, 16 (57.14%) from moderate, 11 (39.28%) from severe while no one is suffering from very severe IS.

Among 77 (100%) fourth year medical students, 7 (9.09%) are suffering from mild, 28 (36.36%) from moderate, 31 (40.25%) from severe while 11 (14.28%) are suffering from very severe IS. Likewise, among 16 (100%) Final year medical students, no one is suffering from mild, 9 (56.25%) from moderate, 7 (43.75%) from severe while no one is suffering from very severe IS (Table 1).

Table 1: Class-wise distribution based on severity of IS.

Year	Total students	Mild	Moderate	Severe	Very severe
First year	27 (100%)	1 (3.70%)	12 (44.44%)	14 (51.85%)	0 (0%)
Second year	26 (100%)	2 (7.69%)	17 (65.38%)	5 (19.23%)	2 (7.69%)
Third year	28 (100%)	1 (3.57%)	16 (57.14%)	11 (39.38%)	0 (0%)
Fourth year	77 (100%)	7 (9.09%)	28 (36.36%)	31 (40.25%)	11 (14.28)
Final year	16 (100%)	0 (0%)	9 (56.29%)	7 (43.75%)	0 (0%)
Total	174 (100%)	11 (6.32%)	82 (47.13%)	68 (39.08%)	13 (7.47%)

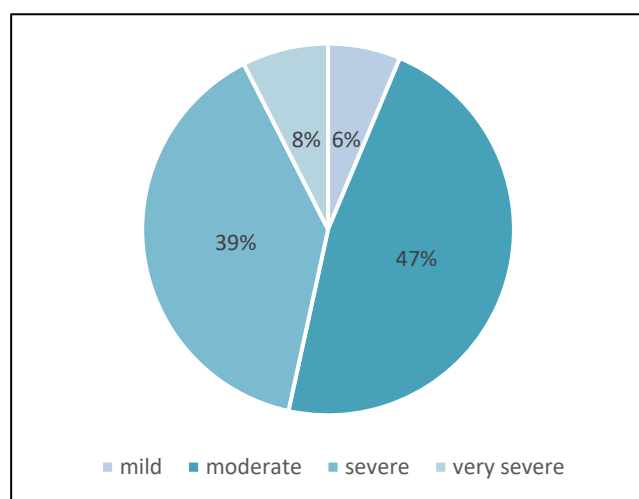


Figure 1: Severity of IS among students.

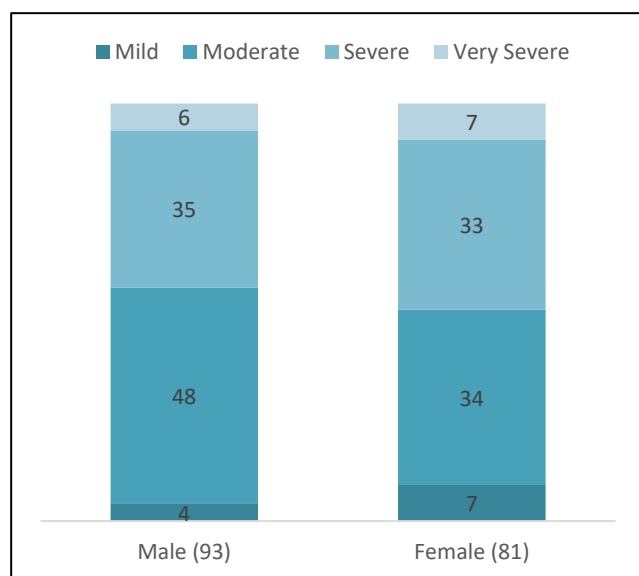


Figure 2: Gender-wise severity of IS in students.

DISCUSSION

This study provides a complete analysis of impostor syndrome among the students of Nishtar Medical University; it reveals important insights into its impact and prevalence in this population. This research indicates that a significant proportion of students experience moderate to severe symptoms of IS at various levels. This aligns with the previous studies focusing on IS among high achievers, especially in competitive academic environments such as medical schools.⁷

There is a balanced distribution of IS symptoms among male and female students. Although previous studies have suggested that IS affects high-achieving females primarily, our findings challenge this notion, proposing that male students also experience high levels of IS.⁸ However, female students show more severe symptoms, especially in very severe groups. This means that even if both are affected, women may face unique challenges that heighten their feelings of self-doubt and inadequacy.⁹ In the sociocultural context of Pakistan, female enrollment in medical schools is high, resulting in these differences, suggesting the requirement of strategic support that addresses specific concerns of female health professionals.

There is an interesting pattern of distribution among classes. The students in the fourth- and second-years' experience moderate to severe IS symptoms as compared to early and later peers. Maybe the transition of clinical training and increasing academic pressure, which is associated with upper-year studies, leads students to feel incompetent.² The absence of severity of symptoms of IS in first- and final-year students suggests that the stress of medical education leads to feelings of impostor syndrome at other stages, but these feelings are less pronounced at the beginning and end of their studies. The new curriculum of medical studies may provide a buffer against self-doubt for the students in the first year. In

contrast, final-year students develop a stronger sense of competency and adaptability to challenges because of their past experiences.¹⁰

It is impossible to overstate the mental effects of impostor syndrome. Students are more likely to entertain tension and melancholy and are overwhelmed by the emotions of dishonesty.¹ This could affect their academic performance and normal well-being negatively. How is IS related to perfectionism? Despite knowing professional improvement, they pursue inconceivable achievements, which lead them to burnout and an absence of self-love.¹¹⁻¹⁶

Limitations

The data collection for this research was conducted randomly, without any specific order or grouping criteria. Consequently, most respondents belonged to the middle socioeconomic status, making it impossible to draw comparisons between socioeconomic status and the prevalence of IS.

CONCLUSION

Moderate and severe forms of impostor phenomenon exist in a significant percentage of medical students having equal prevalence among both genders. More than 50% of all the respondents from each year have moderate form of IS except fourth years. Severe form of impostor syndrome is observed to be more prevalent in Fourth year. A thorough assessment of medical education models is needed, particularly given the rising occurrence of the impostor phenomenon among students.

In addition, male mental health should be taken into account while developing preventive measures considering the increasing incidences of Imposter in males in comparison to older research when IS was considered to be a predominantly female only problem.

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