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ORIGINAL ARTICLE:

Impostor Phenomenon in Undergraduate Medical Students in Islamabad: A Cross-sectional Study

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ABSTRACT

OBJECTIVE

To determine the frequency of Impostor Phenomenon (IP) among undergraduate Medical Students in Islamabad and assess the variations in this Phenomenon across different academic years, genders, and residential status.

STUDY DESIGN

This study employs a cross-sectional observational design.

PLACE & DURATION OF STUDY

The study was conducted in a medical college in Islamabad in 3-month duration.

METHOD

The study employed 230 MBBS students from the first to fifth year. Study variable was measured through Clance Imposter Phenomenon Scale. Data collection was done through online and in-person administration of questionnaires using convenience sampling.

RESULTS

Findings revealed a presence of IP across all academic years; first-year students scored highest on IP scale. Gender comparison showed females more prone to IP while day scholars scored higher than hostellers.

CONCLUSION

This study described the urgent need for increased awareness and targeted interventions to address the imposter phenomenon among medical students. Recognizing specific challenges related to academic years and gender allowed for tailored support mechanisms. While acknowledging study limitations, these findings advocate for broader, multi-institutional investigations.

KEYWORDS

Impostor Phenomenon, Health Personnel, Psychological Distress, Mental Health.

INTRODUCTION

With higher education becoming increasingly competitive and demanding in recent years, so has the incidence of anxiety and stress-related disorders among undergraduate-level pupils, especially in medical education. One of the most unrecognised among these is the “Impostor Phenomenon”. By definition, the impostor phenomenon (IP) describes a psychological experience of intellectual and professional fraudulence[1]. In other words, this is not a clinical condition, but rather an individual’s opinion that they

are relatively incompetent or unworthy in comparison to their peers and portray an embodiment of deception to those around them.

The Impostor Phenomenon has yet to be identified as a recognised psychiatric disorder in the American Psychiatric Association's Diagnostic and Statistical Manual 5th Edition (DSM-5) [2]. Despite this, it has been discussed in numerous medical research articles, blog posts, and media.

The two types of Impostors most psychologists describe are True and False Impostors. A "True Impostor" is one who deliberately deceives others using multiple false identities and tricks, while a "False Impostor" feels fraudulent despite being capable of external and objective evidence of their capabilities. This study is related to a False Impostor, usually called the impostor phenomenon or syndrome [3].

Such individuals may experience a lack of competency and self-confidence, fear of failure, anxiety and overachieving characteristics and refuse to accept their achievements and accolades as an attribute of their intelligence and perseverance [4]. However, despite exhibiting such traits, an individual undergoing such an experience frequently does not realise the cycle of self-destructive and harmful behaviours that they have established.

A study done in 2020 concluded that the incidence of the Impostor Phenomenon amongst well-performing medical students was 22.5-46.6%. Female students experienced impostor characteristics more so than their male colleagues, and a correlation between the gruelling demands of medical education and the presence of such features was established [5]. Furthermore, another study done in a public-sector medical college in Pakistan in 2018 revealed a significant prevalence in their students [6].

A study on first-year medical students of Thomas Jefferson University in Philadelphia, PA, published in February 2021, had an incidence of IP as high as 87% of its students before the onset of receiving medical education, and this percentage, along with the intensity of IP characteristics, was shown to increase by the end of the school year [7].

A total of 18 research papers relating to IP in practising and aspiring physicians before 2019 were analysed. It was concluded that on average, 22-60% of this class of individuals had a significant range of IP characteristics [8].

In September 2020, a literature review of sixteen articles related to the impostor phenomenon concluded that in general, 22.5-46.6% of medical students experienced the impostor phenomenon, out of which 41-52% were females and 23.7-48% were males [9].

A survey was conducted in the year 2019 among the first-year medical students at Saint Louis University, to determine the contributors of poor mental health in pre-clinical medical students. This data showed that out of 93% of 169 students participated, and those individuals who showed signs of maladaptive perfectionism were more likely to have feelings characteristic of the Impostor Syndrome ($p < 0.001$). Furthermore, students who presented with high levels of impostor syndrome also had associations with severe depression ($p < 0.001$) and moderate anxiety ($p = 0.001$). The study concluded that negative thoughts can lead to feelings characteristic of depression, anxiety and Impostor Syndrome [10].

A cohort study done on final-year nursing students across a total of four institutes in the UK, New Zealand and Australia showed that each cohort group had a significant number of students experiencing emotions relating to IP. The cohort group from the Australian university had a higher prevalence among the three countries [11].

A survey conducted in 2014, to assess the prevalence of Impostor Syndrome in American medical students and its association with burnout, concluded that out of 138 individuals that participated, 49.4% of the female, and 23.7% of the male participants had Impostor Syndrome. The study showed that the fourth year of medical school was notably associated with Impostor Syndrome (χ^2 (3) =10.5, p=0.015). The study also presented that Impostor Syndrome has a high association with feelings of burnout (χ^2 (2) =5.9, p=0.045) [12].

M.B.B.S. final year students in a private medical college in Lahore, Pakistan showed a prevalence of 47.5% IP amongst its students of which 53.5% were female and 38.9% were male [13]. Having established that the Impostor Phenomenon has proved to be alarmingly prevalent in the past, the following questions must be answered: Has there been an increase in the Impostor Phenomenon compared to past studies, specifically amongst medical students in Pakistan (Islamabad), and does medical education have a significant impact on the characteristics relating to it. Executing an up-to-date study will help acquire data regarding the impostor phenomenon and its association with medical students, which can subsequently be used to bring about awareness to prevent it from affecting capable individuals.

METHOD

Participants

The Strengthening the Report of the Observational Studies in Epidemiology (STOBE) guidelines were used throughout conducting this study [14]. This was a cross-sectional observational study conducted to determine the prevalence of the Impostor Phenomenon among undergraduate Medical Students of Islamabad.

This study was conducted at Shifa College of Medicine (SCM) including first to fifth year students of the M.B.B.S department. The sample size of 218, was calculated using the Rao soft Sample Size Calculator, with a confidence interval of 95%, and a margin of error of 5%, including a population size of 500 students at Shifa College of Medicine. Data regarding the population size of students was collected from the college's admission office. The inclusion criteria were students from first to final-year M.B.B.S of SCM inducted from 2018 to 2023. The exclusion criteria were the students with declared and clinically diagnosed anxiety and stress-related disorders. The data of 230 students was collected through secure online and physical questionnaires using a convenience sampling technique.

Instruments

The Clance IP Scale [15] was used to collect data. The questionnaire consisted of two sections (i) the demographic details of participants which are kept confidential (ii) 20 items to determine to assess the prevalence and severity of IP. The English version of the questionnaire was used to collect data.

Procedure

Data were collected from participants after obtaining informed consent. The information of participants is kept confidential. The study was conducted after getting approval from the Institutional Review Board

& Ethics Committee (IRB & EC) of Shifa Tameer-e-Millat University (STMU); (Reference: IRB # 343-21). Collected data was then analysed using Statistical Package for the Social Sciences (SPSS) software version 27.0. Sample frequencies, mean, and percentages were calculated.

RESULTS

The study aimed to evaluate the Impostor Phenomenon (IP) within a sample of 230 undergraduate medical students in Islamabad. Table 1 illustrates the distribution of IP scores across different academic years.

Table 1

Impostor Phenomenon among Undergraduate Medical Students from Different Years of Study in Islamabad (n=230)

Year of Study	IP Score 41-60	IP Score 61-80	IP Score >80
1st Year	6	31	58
2nd Year	0	0	3
3rd Year	4	18	35
4th Year	1	6	38
5th Year	2	4	24

Within the cohort of first-year students, a total of six individuals, constituting 2.60% of the sample, achieved scores ranging from 41 to 60 on the IP scale. Additionally, 31 students, accounting for 13.47% attained scores between 61 and 80. Notably, a substantial proportion of 58 students, representing 25.21% of the group, obtained scores >80. In the second very small percentage of students participated. In the third year, a total of four students, accounting for 1.73% of the sample, obtained scores ranging from 41 to 60. 18 students, representing 7.82% of the sample, achieved scores between 61 and 80. Furthermore, 35 students, constituting 15.21% of the sample, reported scores >80. Likewise, within the fourth year, a notable proportion of 38 students, representing 16.52% of the group, achieved scores >80. Across the cohort of 5th-year students, 24 individuals (10.43%) demonstrated scores >80. Hence, it is apparent that the total count of students who achieved an IP score beyond 80 was more than those who obtained a lower IP score. Additionally, it has been verified that the Impostor Phenomenon (IP) exhibited at a higher rate among students in the first year.

The analysis of the Impostor Phenomenon was extended to include a gender-based comparison. Table 2 provided a summary of the distribution of IP scores among undergraduate medical students categorised by gender.

Table 2
Impostor Phenomenon among Male and Female Undergraduate Medical Students in Islamabad (n=230)

Year of Study	IP Score 41-60	IP Score 61-80	IP Score >80
Female	7	25	108
Male	6	34	50

There exists a disparity in the occurrence of the Impostor Phenomenon among male and female students. Within the female student population, 25 female students (representing 10.86%) achieved scores between 61 and 80 while a substantial segment of 108 female students (46.95%) reported scores beyond 80. Within the cohort of male students, it was seen that 34 students, accounting for 14.78% achieved scores between 61 and 80. Additionally, it was found that 50 male students, representing 21.73% of the total, attained scores >80. Hence, it is apparent that the IP was higher among female students as compared to male students.

The study also examined the Impostor Phenomenon in relation to students' residential status, distinguishing between day scholars and hostelites.

Table 3
Impostor Phenomenon among Hostelite and Day Scholar Undergraduate Medical Students in Islamabad (n=230)

Year of Study	IP Score 41-60	IP Score 61-80	IP Score >80
Day scholars	10	42	113
Hostelites	3	17	45

Among the day scholars, 10 individuals (4.34%) reported IP scores ranging from 41 to 60. A larger subset of 42 students (18.26%) obtained scores between 61 and 80, while a significant segment of 113 students (49.13%) achieved scores over 80. Among the population of students residing in hostels, 17 students (7.39%) had scores falling within the range of 61 to 80. The majority of hostelite students, comprising 45 individuals (19.56%), reported scores exceeding 80. Overall, IP is more observed in day scholar students than hostelites.

DISCUSSION

This study was able to assess the Impostor Phenomenon (IP) in the medical students of a private medical college in Islamabad, Pakistan, and its association to gender, student accommodation and the year of study, during the 5-year study program. The results interpreted through the Clance IP Scale indicated that out of a cohort of 230 individuals across all 5 years of medical school, all individuals showed some degree of Impostor Phenomenon, with the greatest number falling into the category of very severe IP characteristics (Clance IP Score >80). Consistent with earlier studies, there is a high prevalence of IP in medical students and individuals working in healthcare [5-7,12,13].

The gender-based comparison showed more Impostor Phenomenon (IP) among female students compared to their male peers. Although some earlier literature also established a significantly higher

incidence of Impostor Phenomenon (IP) in females [5,6,12], some studies suggest that both genders are at an equal risk of developing IP [5,6].

This study suggests that there is an alarming presence of Impostor Phenomenon (IP) among the students in the first year of medical school. Another research done in 2018, in a private medical college, presented results showing higher levels of IP in students in the third year of medical school, suggesting an association between a greater incidence of IP during the initial years of medical school [6].

CONCLUSION

This cross-sectional study conducted at Shifa College of Medicine provides compelling evidence of a pervasive Impostor Phenomenon (IP) among undergraduate medical students in Islamabad. The findings, derived from a robust sample size, reveal a noteworthy presence of IP across all academic years, with a particularly heightened incidence among first-year students. Gender disparities are evident, demonstrating a higher IP among female students than their male counterparts. Additionally, residential status influences IP, with day scholars exhibiting a higher susceptibility.

The study highlights the need for increased awareness and specific interventions to reduce the psychological impact of the Impostor Phenomenon (IP) on medical students. Applying preventive measures and support based on this research can improve the mental well-being of medical students. Further research is necessary to deepen our understanding of the Impostor Phenomenon in medical education.

Limitations

As the Impostor Phenomenon (IP) relates to an individual's true opinion of themselves, some participants might be reluctant to answer questions truthfully or might even opt to not participate in the study at all. This study was limited to one medical institution in Islamabad. Populations from government medical colleges are not included. The population from allied health sciences were not included in the study excluding the data of that population. Despite acknowledging study limitations, such as potential participant bias and a single-institution focus, these findings suggest the importance of broader, multi-institutional investigations.

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