

ORIGINAL ARTICLE

Imposter Phenomenon Among the Final Year (Part 1 and 2) Medical Students of a Private Medical College in the Union Territory of Puducherry: A Cross Sectional Study

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ABSTRACT

Introduction: “Imposter syndrome” or “Imposter Phenomenon” is not a mental disorder but is considered as a psychological pattern in which people doubt their accomplishments and is associated with certain poor psychological functioning like low self-esteem can be detrimental to medical students. **Objective:** To find out the prevalence of Imposter phenomenon as well as its association with self-esteem among the final year medical students. **Methods:** A cross sectional study was carried-out among 249 medical students of a private medical college in the U.T of Puducherry using Clance Imposter Phenomenon scale. **Results:** 58.2% and 41.8% of the participants were in Part-1 and part-2 of final year respectively. It was observed that every participant had some degree of Imposter phenomenon. Low self-esteem, was found among 12.85% of the study participants. In this study there was no association between the low self-esteem and Imposter Syndrome. **Conclusion:** It is very clear that the burden of Imposter syndrome is quite high among the medical students as the reasons are varied. Extensive research to elaborate these is the need of the hour, as this information helps in designing the preventive measures for the students who are the future of the nation and the foundation stones of progress.

KEYWORDS

Imposter Syndrome, Medical, Clance, Self-esteem

INTRODUCTION

“Impostor phenomenon” (also known as impostor syndrome, fraud syndrome, perceived fraudulence, impostor experience) is not a mental disorder but is considered as a psychological pattern in which people doubt their accomplishments and have a persistent, often internalized fear of being exposed as a

“fraud” (1). It was introduced in 1978 by two clinical psychologists, Pauline Rose Clance and Suzanna Imes in their study on the prevalence of Impostor phenomenon among high achieving professional women(2). People who suffer from Impostor syndrome cannot internalize their own achievements. Though in reality they may be competent enough,

talented, hardworking and deserve the success (which they have achieved), internally, they suffer from guilt that they do not deserve that success and they have got there by mere luck. They have a constant fear of being discovered as a “phony” or “fraud” (3). Studies have shown that the impostorism is associated with certain poor psychological functioning like low self-esteem, anxiety disorders and psychological distress (4).

There is a limited literature on the burden of Imposter syndrome and a study done by Michael Gottlieb et al found that the prevalence of Imposter syndrome ranged from 22% to 60% among the medical professionals (5). According to a scientific article presented by Adam Rosenstein during SIGCSE '20 conference, 57% of the study participants (Computer Science students) were found to exhibit frequent feelings of Imposter phenomenon (6).

The presence of the traits of Impostor syndrome can be detrimental among the medical students. Those suffering from Imposter syndrome are less likely to speak up or volunteer answers and information than their unaffected peers. These features can pose dire implications on learning process of a medical education. Students projecting high imposter traits often avoid challenges and decline various learning opportunities in fear of making mistakes and thereby expose their incompetence and this in turn leads to negative outcome as a whole in providing healthcare services (7).

There are very few studies done to know the burden and associated factors for Imposter syndrome among the medical students in the world and India is no exception. Probably this might be due to the fact that, since this condition will not exhibit immediate serious ill effects either on academic or professional outcomes and/or on the physical health of the subjects, least importance is given either for the diagnosis, treatment or prevention and control. This study was planned and carried out to add the relevant literature by quantitatively validating and exploring the prevalence and certain associated psychological conditions (like self-esteem) among the medical students as this knowledge would be important to plan

the appropriate interventions by the clinical Psychologists and Psychiatrists to help the students overcome their doubts about their successes and achievements and thereby, make them better professionals with healthy mindset.

MATERIAL & METHODS

This study was as a cross sectional study with both descriptive and analytical components. It was conducted among the MBBS students of Part 1 of final year (6th and 7th Semesters) and Part 2 of final year (8th and 9th semesters), studying in a private medical college in the Union Territory of Puducherry. The whole study (includes protocol development, ethical clearance, data collection) was conducted over a period of 7 months extending from March to September. Care was taken during the data collection in order to avoid the contamination among the students which can hamper the quality of data. Data from the participants (students) were collected after the college hours so that their regular academic activities wont get disturbed. Those students who were willing to participate in the study were asked to contact the principal investigator over the phone. When the students contacted the principal investigator, they were given a date (as per the convenience of the participant) and time (after the college hours) for the interview and data collection. Using the Universal Sampling technique, all the undergraduate medical students studying in 6th, 7th, 8th and 9th semesters which comprised of 311 students were considered for the study but only those who were willing to give written consent were included in the study. Those students who were not willing to participate in the study, those who were willing but refusing to give the written consent, those who were on some medications or psychotherapy for some psychiatric or psychological illness and those who were on some medications which can cause Psychological disturbances were excluded from the study. Questionnaire (study tool) was developed comprising of three parts - (a) sociodemographic information, medical and drug history (b) Clance Impostor Phenomenon Scale (CIPS) which is standardized and validated and (c) Rosenberg

Self-esteem Scale (RSE) which is standardized and validated.

The Clance Impostor scale has 20 items, wherein, the respondents rate their answers (for each item) on a Likert scale ranging from 1 to 5. The scores of all items when added will range from 20 to 100. The higher the score the higher would be the severity of Imposter syndrome. If the total score is 40 or less, then it would be considered as low impostorism; 41 to 60 indicates moderate level of Imposter syndrome; 61 to 80 indicates frequent Imposter syndrome feelings and a score more than 80 indicates intense Imposter syndrome/phenomenon among the respondents(8). For the estimation of self-esteem, a score of less than or equal to (\leq) 20 indicates low self-esteem and a score of more than 20 indicates high self-esteem(9).

At the time of recruitment, it was clearly explained that the participation in the study is purely voluntary and each and every student has the right to not participate or withdraw from the study at any point. After explaining the nature of the study, the students were administered the predesigned and pretested questionnaire. The students were not examined or asked (face to face) regarding any previous or current chronic medical illnesses, psychiatric illnesses or previous and/or current drug/treatment history keeping in mind the sensitive nature of these questions. If any participant gave positive response to any of such questions (H/O any previous or current chronic medical or psychiatric illnesses, past or current drug or treatment history), which were asked in the questionnaire, he/she was excluded from the study. After excluding the students who were not interested to participate in this study and those who were on some/any kind of medications and/or

therapy for mental illness, the final sample from which data was collected was 249. The collected data was analysed using statistical program SPSS 19. Prevalence of Imposter phenomenon and psychological function (Self Esteem) were summarized as Number(s) and Proportion/Percentages. To measure the association between the different levels of Imposter phenomenon and the Self-esteem, Fisher exact test was used. p value <0.05 was considered as statistically significant.

RESULTS

The study was conducted in 249 undergraduate medical students of Part -1 and Part 2 of final or Phase 3 MBBS as per National Medical Commission (6th ,7th Semesters form the Part 1 and 8th , 9th semesters form Part - 2 of final /phase -3 MBBS) in a Private Medical College of the Union Territory of Puducherry, India. Out of the total 249 study participants, 58.2% (n=145) were in part-1 of final MBBS and 41.8% were in part-2 of final MBBS. Majority of the participants were females accounting to 57%.

It was observed that every participant had some degree of Imposter phenomenon wherein 49% (n=122) of them had moderate Imposter phenomenon. Out of 122 participants who showed moderate Imposter Phenomenon, majority were females (57.3% and 47.8% in part 1 and part -2 of final MBBS respectively). The details regarding the distribution of the study participants (according to the gender and the semester in and which they were in at the time of the conduct of the study), prevalence and distribution of Imposter Syndrome are shown in Table- 1.

Table-1: Prevalence and distribution of Impostor Syndrome among the study participants.

	Sex	Impostor				Total	p-value
		Few IP	Moderate IP	Frequently has IP	Intense IP		
Part-1	Male	8 (11.40)	31 (44.30)	27 (38.60)	4 (5.70)	70	0.108
	Female	6 (8.0)	43 (57.30)	26 (34.70)	0	75	
	Total	14 (9.70)	74 (51.0)	53 (36.60)	4 (2.80)	145	
Part-2	Male	5 (13.50)	16 (43.20)	15 (40.50)	1 (2.70)	37	0.751
	Female	5 (7.50)	32 (47.80)	27 (40.30)	3 (4.50)	67	
	Total	10 (9.60)	48 (46.20)	42 (40.40)	4 (3.80)	104	

Low self –esteem, which is one of the most common associated factor with Imposter Syndrome, was found among 12.85% of the study participants. Out of the two groups of subjects belonging to part-1 (6th and 7th semesters) and part-2 (8th and 9th semesters)

of final year, the burden of low self-esteem was found to be high among the students of part-2 of final year. The details regarding the overall burden and distribution of low self-esteem among the study subjects are given in Table- 2.

Table-2: Burden and distribution of low self-esteem among the study participants

Semesters	Sex	Rosenberg		Total	P-value
		Low esteem	Normal		
Part-1	Male	9 (12.9)	61 (87.10)	70	0.499
	Female	7 (9.30)	68 (90.7)	75	
	Total	16 (11)	129 (89)	145	
Part-2	Male	6 (16.20)	31 (83.80)	37	0.861
	Female	10 (14.90)	57 (85.10)	67	
	Total	16 (15.40)	88 (84.60)	104	

Table 3 shows the association between the low self-esteem and the presence of some level of Imposter Syndrome. While tabulating the data to show the statistical association between low self-esteem and some level of Imposter syndrome, Fisher Exact test was applied and p value was found to be 0.0001, which implicates

statistically significant association. It was observed that, a large number of students with normal self-esteem had moderate and frequent levels of Imposter syndrome and thus it can be concluded that, in reality, there was no association between the “low self-esteem” and “Imposter Syndrome”.

Table-3: Association between the low self-esteem and some level of Impostor Syndrome among the study participants.

Rosenberg	Imposter Syndrome				Total	P-value
	Few	Moderate	Frequently has IP	Intense IP		
	N(%)	N(%)	N(%)	N(%)		
Low esteem	12 (37.50)	18 (56.30)	2 (6.30)	0	32	0.0001
Normal	12 (5.50)	104 (47.90)	93 (42.90)	8 (3.70)	217	
Total	24 (9.60)	122 (49.0)	95 (38.20)	8 (3.20)	249	

Since almost all the students belong to same age group, more or less similar socio economic background (being students of a private medical college) and familial characteristics, attempts to find the association between the various socio demographic characteristics and imposter syndrome as well as self-esteem, were not done. All the students were explained that the Imposter syndrome is not a mental illness and is just a psychological pattern. Those students who were found to have some degree of Imposter phenomenon were referred to Psychology department for counselling.

DISCUSSION

The present study assessed the prevalence of Imposter Syndrome among the undergraduate

medical students of Part-1 and part-2 of the final year, as they would be participating in various teaching-learning activities (other than conventional classroom lecture method) and this will place each of them in situations which demand their ability to exhibit their knowledge (cognitive), attitude (affective) and skills (psychomotor). This would in-turn demand the students to be more active academically by participating in various clinical discussions, scientific debates etc., for which they should be competent as well as confident. A systematic review by Karina K L. Mark et al (10) highlighted various scales for the assessment of Imposter syndrome and for the present study, “Clance Imposter Phenomenon Scale” was used. As described in “Clance Imposter Phenomenon Scale” , the participants of this study were categorized as those with “Few

Impostor characteristics”, “Moderate Impostor experiences”, “Frequently has Impostor feelings” and “Intense Impostor experiences” rather than simply classifying them as those who don’t have Impostor syndrome and those who have (11,12) . According to this classification, in the present study, every participant had some degree of Impostor phenomenon but those with moderate IP experiences were majority. In a study done in Malaysia, the prevalence of Impostor phenomenon was mentioned as a single proportion among different variables like gender, race etc., which is different from the way the burden of Impostor phenomenon is described in the present study (7). In another study done by Hamza Maqsood et al in Pakistan, the prevalence of Impostor syndrome among medical students was described as mild, moderate and severe (1). In this study, 9.63% of the participants had “Few Impostor characteristics”, 48.99% had “Moderate Impostor experiences”, 38.15% had “Frequent Impostor feelings” and only 3.21% had “Intense Impostor experiences”. These findings are similar to the study done among medical interns in Goa by Mascarenhas VR et al (13). In another study among third year medical students by Beth Levant et al, the burden of Impostor syndrome was assessed by calculating the Mean scores (8).

Literature suggests that Impostor syndrome is a personality trait and is associated with a variety of Social, Psychological, behavioural and Mental health conditions like lack of confidence, anxiety, depression, low self-esteem, socio-economic status, etc., (7,14). Though there are several standardized scales to measure the self-esteem, in the present study, “Rosenberg Self-esteem Scale”, was used for its simple and easy application (15,16). In the current study the prevalence of low self-esteem was found to be more among male medical students. In countries like India (which are mostly conservative), the various social and cultural factors including the way of upbringing by parents, will make the boys tend towards distractions at a relatively young age. Probably due to this, in the recent years, in all the competitive exams as well as end-of-year academic exams, girls are performing better

than boys. These could be the reasons for low self-esteem among males. Literature says, those who have low self-esteem has high levels of Impostor phenomenon. This has been explained as Inverse correlation/association(9,17,18), but in the present study, no such association/correlation was observed. But the statistical test (Fisher exact test) exhibiting the association between low self-esteem and Impostor syndrome showed the association and this is mainly due to the presence of a large number of students with normal self-esteem having moderate and frequent levels of Impostor syndrome. Another reason for not showing association between the “Low self-esteem” and “Impostor phenomenon” could be small sample size.

CONCLUSION

It is very clear that the burden of Impostor syndrome is quite high among the medical students as this study showed that every student had some degree of Impostor phenomenon. The reasons for this high level of Impostor syndrome are varied and relatively unknown. Also, the subjects suffering from Impostor syndrome/phenomenon may not know that they are suffering from it, due to lack of awareness or due to the mere fear of getting stigmatized of some kind of mental illness. Thus, extensive research (both qualitative and quantitative) to find out the real burden as well as the causative factors of Impostor syndrome among the students and professionals of various fields and sectors is to be carried out. This information helps in designing the preventive measures for the students and professionals who are the future of the nation and the foundation stones of progress. Finally, the teachers (faculty)/role models need to be trained in identifying these traits and take the necessary steps to facilitate the students to overcome this condition.

RECOMMENDATION

Since the faculty plays a very important role in shaping the future of the students (including medical students) both professionally and to some extent personally/behaviorally (as they form the role models for majority of medical students), it is important to find out the role

and possibility of faculty in identifying these traits among their students and contribute to the prevention and control of the existing burden of Imposter syndrome (as some of the faculty would be following very strict working culture with the students thereby leading to intimidation, hesitation etc).

Recognition of this silently existing problem and a multi-pronged approach by timely identification of the condition, counselling by trained professionals (as explained by Rachel Buchan in her paper titled, "Counselling for overcoming Imposter Syndrome")¹⁹ and appropriate encouragement to the students to shun the hesitation, self-doubt, introvert behavior to overcome the traits of Imposter syndrome is the need of the hour.

LIMITATION OF THE STUDY

The data was collected from students of only final year (part 1 and 2) Undergraduate medical course of a single private medical college and so the findings are not generalizable to all the medical personnel of various academic as well as professional levels (which include Medical students of 1st and 2nd years, interns, post graduate students and faculty wherein the learning is a continuous process in medical profession) as well as those from Government Medical Colleges. The association was found only between Imposter Phenomenon and self-esteem but was not assessed in relation to various other mental health conditions like anxiety, stress, depression etc.

RELEVANCE OF THE STUDY

Throws light on the hidden burden of Imposter syndrome among medical students of India.

AUTHORS CONTRIBUTION

PP: Conception of idea, data collection, data management. RKK: Research design and protocol development, report writing. MM: Data analysis, interpretation of the results. AJP: critical reviewing and technical support.

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Nil.

CONFLICT OF INTEREST

There are no conflicts of interest.

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DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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