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Impostor phenomenon and its effect on students' self-esteem of a North Indian Health University: A cross-sectional survey

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Abstract

Background: Psychologists Clance and Imes coined the term "Impostor Phenomenon", characterised by feeling of failure and a sense of dishonesty. Self-esteem is a key prerequisite and predictor of IP.

Objectives: To evaluate and explore the traits of Impostorism and Self-Esteem and its relationship with gender and academic year among dental students.

Methods: This descriptive cross-sectional survey involved undergraduate students (I to IV year), interns, postgraduate students and junior residents at Adesh University Dental School. An electronically administered, 20-item pre-validated Clance Impostor Phenomenon Scale (CIPS) and 10-item pre-validated Rosenberg Self-Esteem Scale (RSES) was used for data collection. The mean age of students was 18-25 years. Data analysis was performed using IBM-SPSS version 22.

Results: The e-questionnaire was sent to 350 potential study participants out of which 332 have completed and recorded data was analysed. The overall response rate was 266 (80.10 %) females and 66 (19.90 %) males. The mean IP score was highest and lowest in the final year dental students and junior residents, respectively. No significant difference was observed based on gender and between year wise IP scores. When Self-esteem was compared for study participants, it was found that greater CIPS scores were linked to lower levels of self-esteem.

Conclusions: Impostor phenomenon is prevalent amongst dental students. This may have damaging physical and mental effects with negative consequences. The implementation of a modified curriculum and self-development plans are some of the recommended solutions.

Keywords: Impostor phenomenon, Impostorism, Self-esteem, Dental education

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1. Introduction

The Impostor Phenomenon (IP), also referred to as Impostorism, first introduced by psychologists Pauline Clance and Suzanne Imes (1978), is a psychological pattern that impacts otherwise capable and competent individuals and is characterized by persistent feelings of inadequateness and self-doubt.[1,2] IP has garnered attention within the scientific literature in recent times, mostly due to its psychological effects on high-achieving individuals such as medical professionals. It refers to a pervasive feeling of intellectual fraudulence experienced by individuals, despite evidence of their competence and accomplishment.[3]

This phenomena describes the deep fear of failure and the sense of intellectual deception that exceptional performer's experience.[2] Individuals that exhibit IP frequently believed that they have been the "only ones" experiencing this phenomenon, which further isolates them and lowers their self-esteem. Impostors typically employ one of two coping mechanisms in these situations: They either over plan (perfectionism) or put off doing tasks as long as they can (procrastination).[2] Research indicates that over 70% of individuals with varying backgrounds experience intellectual property during a portion of their careers. According to the findings of certain researchers, people who witness this phenomenon are likewise more prone to regret their professional decision, burn out, make medical mistakes, and be absent from work, or have low job satisfaction.[2]

According to studies conducted on student populations, self-esteem is a key prerequisite and predictor of IP.[4] Since

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self-esteem is the evaluative aspect of self-knowledge, it refers to how someone views themselves, either positively or negatively.[4,5] Self-esteem has a favourable correlation with mental health, competence, confidence, and productivity, whereas poor self-esteem is correlated with inferiority complexes, melancholy, depression, desperation, and suicide ideation.[4,6] Initial gender-typical investigations revealed that this was a feature found more frequently in females. However, subsequent studies found that males and females were equally susceptible to IP.[2]

Training for a career in medicine and other health professions (such as dentistry, nursing, and pharmacy) can contribute to significant stressors like time pressure, memorization of large amounts of information, frequent evaluations, financial difficulties, limited time for recreation and relationships, peer competition, and increased responsibilities related to patient care.[7] In the context of Dental Education, where rigorous training and high academic standards are paramount, the prevalence of imposter feelings among students is a matter of growing concern as there's atmosphere of intense academic scrutiny, which puts certain students at possibility of feeling like intellectual fraudulence and phoniness. Because of this, it's unsurprising that so many students in the dental professions express clinical levels of distress and that their levels of despair and anxiety is considerably more than one may expect given their demographics.[7]

Progression through stages of a profession across academic levels in a dental school relates to times when imposter feelings particularly emerge. Moving from pre-clinical to clinical phases of dental training may be particularly challenging.[8] Furthermore, self-doubt and feelings of inadequacy can negatively impact on a person's professional progress and skill development in a field that primarily depends on experience and decision-making. This can make it difficult for them to manage patients and cases with rational logic and knowledge.[3] The aim was to explore and associate the traits of IP and Self-Esteem among dental students at a North Indian Health University.

1.1. Study objectives

To evaluate the frequency and intensity of impostorism among dental students in the specified North Indian Health University and to examine the association between IP and self-esteem levels among dental students. To compare the frequency and severity of the IP in males and females by gender and year.

2. Materials and Methodology

2.1. Study design

The study used a descriptive cross-sectional questionnaire among the dentistry students of Adesh Institute of Dental Sciences & Research, Adesh University, Bathinda, Punjab, India. The Study duration was of 2 months i.e. from September 2023 to October 2023. Ethical approval was obtained from research committee of Adesh University with ethical clearance number AU/EC_BHR/2K24/591.

2.2. Sample size estimation

Sample size was determined on the basis of prevalence rate of 32.2% from a previous study conducted by Shahjalal et. al. Formula used – $\mathbf{N= z^2 p (1-p)/d^2}$. The sample size that met the minimum requirement was 332.

2.3. Inclusion criteria

Participants who gave informed consent. BDS I, II, III, IV, Interns, Postgraduates Students & Junior Residents. Participants who possessed smartphones.

2.4. Sampling technique

The convenience sampling technique was used because of the ease to collect data from the research population.

2.5. Study instrument

The Google form questionnaire consisted of 3 sections. Section 1 was **Socio-demographic details** i.e. Gender and Academic Year of students. Section 2 consisted **Clance's Impostor Phenomenon Scale (CIPS)** which was used after obtaining the required permissions from psychologist, Dr. Pauline Rose Clance and Section 3 consisted **Rosenberg Self-Esteem Scale (RSES).**

The 20-item **Clance's Impostor Phenomenon Scale** is a proven tool for measuring the IP. Every item on the scale has a five-point Likert score (1-2-3-4-5), with a maximum score of 100. The impostor traits increase with scoring. The **Rosenberg's Self-Esteem Scale** is accustomed to measure self-esteem. It is 10-item self-reported global self-esteem test that evaluates feelings of acceptance and worth in oneself. Responses to the questions are given on a 4-point Likert scale (0-1- 2-3), with a maximum score of 30. Its internal reliability is strong ($\alpha = 0.79$).

2.5. Data collection

Google form was used to gather data. The questionnaire was sent to study participants as a Google form and delivered over social media sites such as WhatsApp. An informed consent form and a brief description of the study were attached along with the Google form questionnaire.

2.6. Data handling and privacy

All information was kept securely and was exclusively available to the study group. Confidentiality of participant information was strictly maintained.

2.7. Data/ statistical analysis

Data was added into IBM-SPSS Statistics Version 22, which was then cleaned, coded, and analysed. The mean, standard deviation, frequency, and percentage were employed in descriptive statistics.

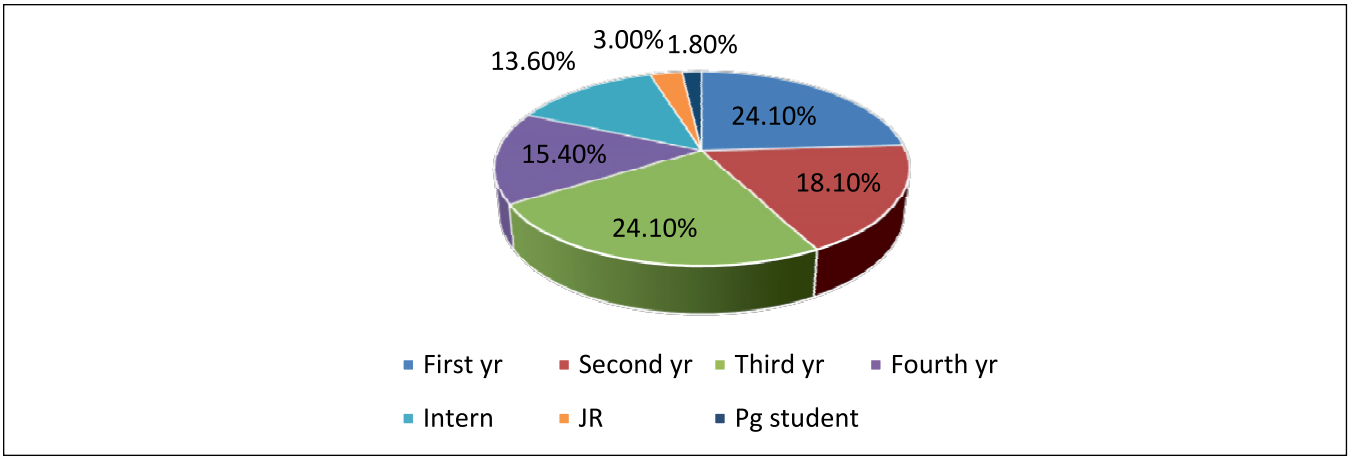

Figure 1: Demographic profile of the participants

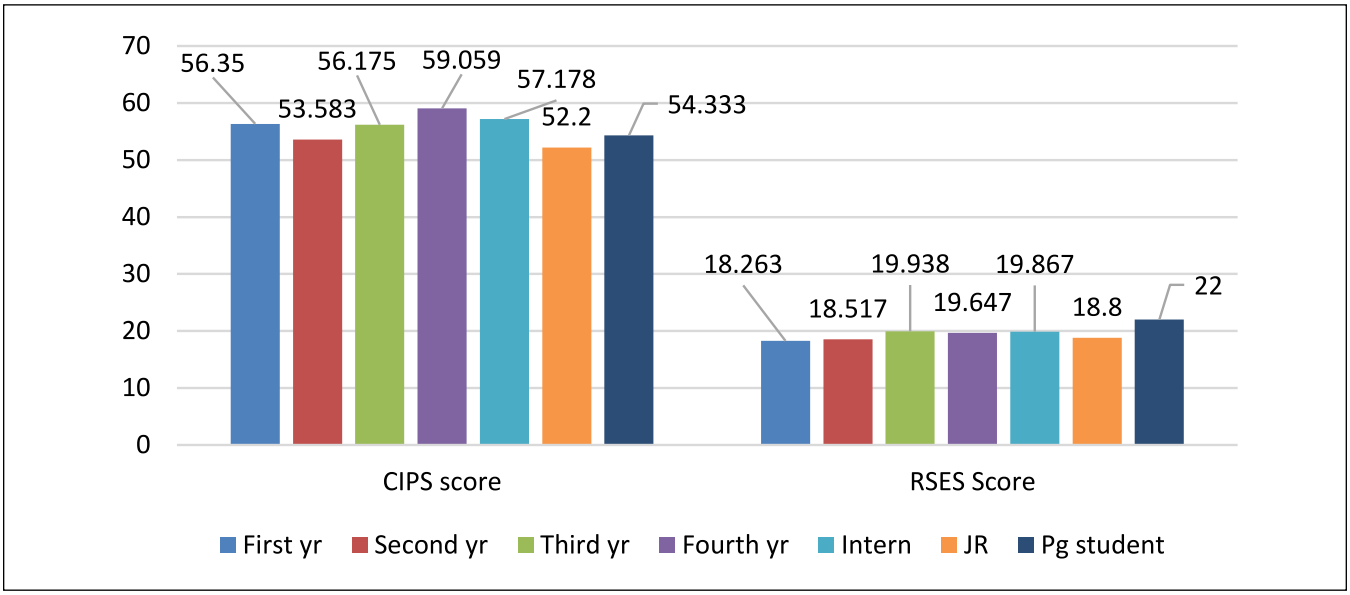

Figure 2: Year-wise comparison of cips and rses scores

The difference in RSES and CIPS scores between males and females was examined using the independent student t-test, and the connection between the IP and the research variables was ascertained using the Chi-Square test. Spearman's rank correlation was used in order to examine the connection between the IP and self-esteem. A p-value of less than 0.05 was set as the limit for statistical significance.

3. Results

The e-questionnaire was sent to 350 potential study participants. 337 questionnaires were returned. 332 have completed the questionnaires and the recorded data were analysed. The mean age of students was 18-25 years. Hence, the overall response rate was 266 (80.10 %) females and 66 (19.90 %) males. Interns, postgraduate students, junior residents, and BDS I, II, III, and IV were the target population for this research.

The demographic profile **(Figure 1)** of the study population included 24.10% first-year students, 18.10% second-year students, 24.10% third-year students, 15.40% final-year students, 13.60% interns, 3% JR, and 1.80% PG students, respectively.

Table 1: Gender-wise comparison of CIPS and RSES scores

	Gender	N	Mean	Std. Deviation	P value
CIPS	Males	66	56.424	15.7578	0.864, NS
	Females	266	56.113	12.4517	
RSES	Males	66	18.606	4.5906	0.199, NS
	Females	266	19.380	4.3161	

Rosenberg's Self-esteem and Clance's IP mean scores were 18.60 and 56.42 respectively. Regarding RSES and CIPS scores, there were no appreciable variations between the genders. **(Table 1)**

This graph displays the results of a one-way ANOVA test used to compare the CIPS and RSES scores year over year. Overall, there was not a significant difference in CIPS & RSES ratings between academic years. **(Figure 2)**

Table 2: Absolute and relative frequency of imposter and low self-esteem

	Frequency	Percent
Frequency of Imposter	85	25.6%
Frequency of low self esteem	68	20.5%

(Table 2) showed that the 25.6% of participants have more frequency of IP and 20.5% participants showed the low self-esteem.

Table 3: Association of imposterness and low self-esteem

Mean CIPS score				
	N	Mean	Std. Deviation	P value
Normal self esteem	264	53.833	12.3892	<0.001, S
Low self-esteem	68	65.265	12.0925	

When compared to study participants with normal self-esteem, individuals with poor self-esteem were found to have a considerably higher mean CIPS score. The IP and self-esteem have been shown to be inversely associated, which was statistically significant. In other words, it was found that greater CIPS scores were linked to lower levels of self-esteem. **(Table 3)**

4. Discussion

The rise in imposter syndrome has garnered notice lately.[3] The symptoms of anxiety, sadness, burnout, and stress can frequently be found to coincide with its identification.[8] Approximately 70% of millennials are thought to have encountered impostorism at least once in their lives.[8] The phenomenon known as impostor syndrome, or IP, is not new, but because of its severe and enduring repercussions on those who experience it, as well as departments, organizations, and society as a whole, academics have recently given it more attention.[4] To put it simply, the victims are those who, despite being objectively competent, harbor a secret anxiety that their lack of knowledge and expertise may one day come to light by others. The current research aimed to assess IP in dental students, during the academic journey, particularly during progression from the pre-clinical to clinical training stages.[8]

This study investigated the relationship between IP and self-esteem among dental students on the campus of a University Dental college in Northern India. IP and Self-esteem may be connected for a number of interrelated reasons. There are inbuilt, inherent, and developmental predispositions that may result in the emergence of imposter traits. These include characteristics of the personality (such as neuroticism, perfectionism, etc.) that contribute to low self-esteem.[8]

IP was initially identified in high-achieving females. According to further research, IP has an equal impact on men and women in the workplace. No such relationships with gender were discovered in this cohort by the current study. Similar research on medical students in Malaysia found that impostorism was common (45.7%), with no discernible gender differences.[9] The results were also in concordance with the research conducted by Qassim University's undergraduate students.[8]

A notable distinction was observed in the IP scores of students in various years based on a year-by-year review of the student's scores. Compared to previous academic years, third and final year dentistry students' IP scores were substantially higher. These results are in accordance with the outcomes of a study conducted on dental students at Qassim University[8] in which 70.4% of fourth year students and dental interns presented with frequent to moderate IP characteristics. Similarly, Villwock et al[10] documented a significant association between IP score of medical students and academic training year, where IP levels peaked in the fourth academic year. Conversely, in another study that assessed the relationship between IP score and academic training year, Legassie et al[11], Leach and colleagues[12] and Oriel et al[13] all failed to find it. One possible reason could be that medical students are always perceived as high achievers which keeps them under constant stress and pressure. Moreover, the multi-layered nature of clinical rotations in the dental field is a perfect blend of theoretical knowledge, clinical skills, and patient care that demands serious reflection.[8]

Compared to study participants with average self-esteem, individuals with low self-esteem had a considerably higher mean CIPS score. Stated differently, there is an association between higher CIPS score and low self-esteem. As a result, self-esteem has a significant role in both causing and predicting IP. A student having low self-esteem is at higher risk of IP as compared to someone with high self-esteem. Similarly, research on dental students in the United States' Midwest stated that 58.3% of respondents had IP levels exceeding the clinical threshold and experienced the significant influence of impostorism on their professional, personal, and academic lives.[14]

The results emphasize how critical it is to identify people with IP in order to maximize their educational opportunities and career advancement. Clance and Imes suggested that people who have self-doubt should get regular, targeted feedback. Future studies can concentrate on the connection between IP and "educational safety" and non-judgmental environments for learning. Reducing IP may involve removing harmful rivalry from campus life and fostering settings that encourage students both academically and emotionally. In order to decrease IP and make diversity an all-around positive educational experience, medical universities should pay attention to the requirements of minorities.[15]

The small sample size and restricted data sources in the present study are two limitations that impact the findings' validity. Multiple data collection methods may have been employed to augment the quantity of data. To reveal more

broadly based job experiences, the population could have been bigger and more varied. This study aims to shed light on this significant topic so that further investigations into the various facets of imposter syndrome can proceed.

6. Conclusion

By addressing these objectives, we aimed to not only contribute to the expanding body of research on the IP but also to provide actionable recommendations for educational institutions seeking to create environments that foster confidence, competence, and well-being among their dental student population. It's unclear from the literature on educational research how closely IP and self-esteem, as measured in student populations, are related. No such studies on this topic, however, was conducted on dental students or at a North Indian University with a substantial multicultural student body.

7. Source of Funding

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8. Conflict of Interest

Authors declared no potential conflicts of interest with respect to research, authorship, and/or publication of this article.

9. Limitations

This study is limited to the students of one dental college in North India. Selection bias may be introduced by convenience sampling.

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None.

11. Conflict of Interest

None.

References

1. Shahjalal M, Khan MNA, Mohsin FM, Rokon S, Rahman R, Alam MM, et al. Distribution of imposter syndrome among medical students of Bangladesh: a cross-sectional study. *F1000Research*. 2021;10(1059):1–14. doi: 10.12688/f1000research.55444.1
2. Bhatti MUD, Ahmed I. Impostor phenomenon: a cross-sectional study of students and house officers from dental teaching institutes of Lahore. *Pakistan Oral & Dental Journal*. 2019;39(3):262–6.
3. Mascarenhas VR, D'Souza D, Bicholkar A. Prevalence of impostor phenomenon and its association with self-esteem among medical interns in Goa, India. Int J Community Med Public Health. 2019;6(1):355-9. doi: 10.18203/2394-6040.ijcmph20185272
4. Naser MJ, Hasan NE, Zainaldeen MH, Zaidi A, Mohamed YMAMH, Fredericks S. Impostor phenomenon and its relationship to self-esteem among students at an international medical college in the middle east: a cross sectional study. *Front Med (Lausanne)*. 2022;9:1–9: doi: 10.3389/fmed.2022.850434.
5. Abdel-Khalek AM, Korayem AS, El-Nayal MA. Self-esteem among college students from four Arab countries. *Psychol Rep*. 2012;110(1):297–303. doi: 10.2466/07.09.17.PR0.110.1.297-303.
6. Rosenberg M. Society and the adolescent self-image. Princeton (NJ): Princeton University Press; 2015.
7. Henning K, Ey S, Shaw D. Perfectionism, the imposter phenomenon and psychological adjustment in medical, dental, nursing and pharmacy students. *Med Educ*. 1998;32(5):456–64.
8. Awinashe MV, Nawabi S, Khan AM, Kolarkodi SH, Srivastava S, Javed MQ. Self-doubt masked in success: Identifying the prevalence of impostor phenomenon among undergraduate dental students at Qassim University. *J Taibah Univ Med Sci*. 2023;18(5):926–932. doi: 10.1016/j.jtumed.2023.01.012.
9. Ikbaal MY, Musa NA. Prevalence of Impostor phenomenon among medical students in a Malaysian private medical school. *Int J Med Stud.* 2018;6(2):66–70.
10. Villwock JA, Sobin LB, Koester LA, Harris TM. Impostor syndrome and burnout among American medical students: a pilot study. *Int J Med Educ.* 2016; 7:364-369. doi: 10.5116/ijme.5801.eac4.
11. Legassie J, Zibrowski EM, Goldszmidt MA. Measuring resident well-being: impostorism and burnout syndrome in residency. *J Gen Intern Med.* 2008;23(7):1090–4. doi: 10.1007/s11606-008-0536-x.
12. Leach PK, Nygaard RM, Chipman JG, Brunsvold ME, Marek AP. Impostor phenomenon and burnout in general surgeons and general surgery residents. *J Surg Educ.* 2019;76(1): 99–106. doi: 10.1016/j.jsurg.2018.06.025.
13. Oriel K, Plane MB, Mundt M. Family medicine residents and the impostor phenomenon. *Fam Med*. 2004;36(4):248–52.
14. Daniels JC. Impostor phenomenon in dental students. *Advisor* 2021;41(1): 7, doi: 10.47578/0736.0436.41.1.7
15. Clance PR, Imes S. The Imposter Phenomenon in high achieving women: Dynamics and therapeutic intervention. *Psychother.: Theory Res. Pract*. 1978;15(3):1–8.

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