International Journal of Enhanced Research in Medicines & Dental Care (IJERMDC),
ISSN: 2349-1590, Vol. 13 Issue 1, January 2026

Exploring the Shift of Dental Students from Pre-Clinical Education to Hands-On Clinical Experience

Sneha Mary Varghese[1], Dr. Ajay Gaikwad[2]

[1]Intern, Department of Prosthodontics, School of Dental Sciences, Krishna Vishwa Vidyapeeth (Deemed to be University), Karad, Maharashtra, India 415539
[2]Professor, Department of Prosthodontics, School of Dental Sciences, Krishna Vishwa Vidyapeeth (Deemed to be University), Karad, Maharashtra, India 415539

ABSTRACT

Background: This study explores the transition in Dental education from Pre-clinical to Clinical training—a critical shift from lab-based learning to real patient care—which presents emotional, technical, and cognitive challenges that can impact students' confidence and clinical performance.

Objective: To investigate the attitudes, difficulties, and experiences of Dental students as they go from Pre-clinical coursework to clinical experience, and to pinpoint important elements that either support or impede this change.

Methods: 150 dental students enrolled in their clinical years at School of Dental Sciences KVV, Karad participated in a cross-sectional study. A standardized self-administered questionnaire was used to gather data in order to evaluate students' perceived preparation, confidence, and major transitional challenges.

Results: The study found that although most Dental students felt well prepared theoretically during their preclinical years, many of them faced increasing anxiety and a lack of confidence when they entered clinical practice.

Conclusion: More than just technical proficiency is needed for the complex process of transitioning to clinical practice. Enhancements to the curriculum, like better simulation, mentorship frameworks, and integrated clinical experience, can be extremely important in closing the knowledge gap between theory and practice.

INTRODUCTION

The change from theoretical knowledge and simulated practice to actual patient care occurs during the crucial pre-clinical to clinical training phase of Dental education[1]. In order to provide safe and efficient patient care, pre-clinical education gives students a core understanding of the fundamental sciences as well as manual skills through simulation-based learning. But there are unique problems in the hands-on clinical phase, such as managing patients, making clinical decisions, dealing with time constraints, and applying ethical concepts in practical situations[2].

Dental students may experience fear and a lack of confidence as a result of this shift, which frequently results in a high learning curve, particularly during the early phases of clinical exposure. Additionally, it evaluates the students' professionalism, communication abilities, and flexibility[3]. During this stage, a well-organised mentorship and orientation program is essential to a seamless transfer and improved clinical outcomes. Enhancing students' clinical competence and general confidence is largely dependent on the integration of clinical reasoning with practical procedures[4].

In order to improve teaching methods and curriculum design, it is crucial to comprehend students' viewpoints and difficulties as contemporary dental curricula move towards early clinical exposure and competency-based education. As dental students transition from preclinical to clinical training, this study intends to investigate their perspectives, readiness, and experiences. In the end, these insights can help create more capable and self-assured future dental professionals by informing improved academic support systems.

METHODOLOGY

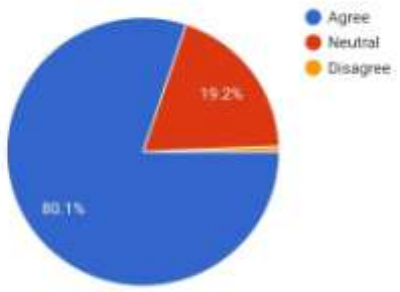
This study will employ a mixed-methods research design, integrating both quantitative and qualitative approaches to gain a comprehensive understanding of the transition dental students undergo from pre-clinical to clinical education. By combining numerical data with in-depth qualitative insights, the study aims to capture the multifaceted nature of students' experiences during this critical phase in their professional training.

The target population for this study comprises undergraduate dental students from the 3rd year to the final year enrolled in the Bachelor of Dental Surgery (BDS) program at School of dental sciences,KVV karad. A questionnaire-based study design will be implemented to collect data from participants. The formula $n = 4pq \div L^2$ is used to determine the sample size, which is 150 students.The sampling method employed will be simple random sampling to ensure each eligible student has an equal chance of being selected.

Inclusion and Exclusion Criteria: To be included in the study, participants must have completed or be preparing for their prosthodontics theory and/or practical examinations and must voluntarily consent to participate. Students will be excluded if they are not currently involved in prosthodontics coursework or if they have received psychiatric treatment for anxiety disorders (self-reported), in order to avoid confounding factors that could affect the study outcomes.

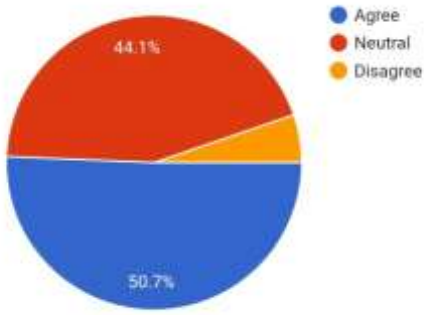
RESULTS

The vast majority of respondents (80.1%) concur that orientation is necessary before beginning clinical work, demonstrating that dental students strongly agree that being ready before entering clinics is crucial. The fact that so few people disagreed suggests that this intervention is nearly universally supported.



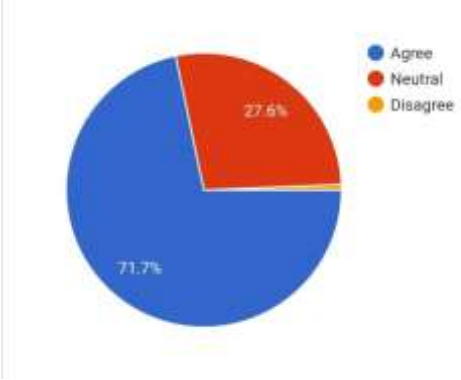
The findings show that dental students consistently and clearly want formal orientation prior to starting clinical practice. A thorough orientation program can boost student confidence, facilitate the transfer from pre-clinical to clinical education, and possibly improve patient care results.

The first clinical experience was rated as exceeding expectations by more than half of the respondents (50.7%), indicating a smooth and possibly well-supported transition from pre-clinical to clinical training. Only a tiny percentage (5.2%) had an unfavourable perception, although a sizable chunk (44.1%) remained neutral, perhaps reflecting mixed or ambiguous realities.



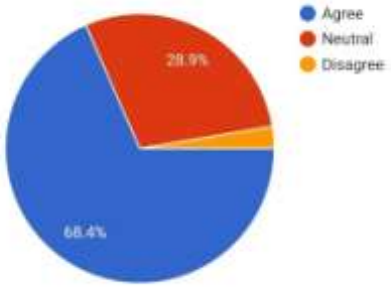
According to the data, the early clinical exposure went more smoothly than expected for the majority of dental students. This is a result of efficient pre-clinical planning or established support systems. To guarantee a consistently positive experience for every student, the high proportion of neutral responses also points to the necessity for ongoing improvements in onboarding and early clinical support.

The vast majority of students (71.7%) agreed that they would require some time to become used to the clinical setting. This suggests that most students needed some time to get used to the clinical environment, even with their academic preparation. The neutral answer rate of 27.6% can indicate experiences that are situationally dependent or mixed.



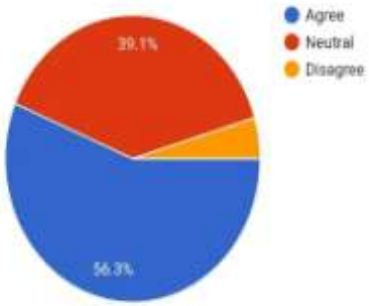
The information confirms that students go through a significant adjustment period when they go to clinical training. To facilitate this transition and improve student confidence and performance, educational institutions may think about offering structured support, such as psychological orientation, phased clinical exposure, or mentorship.

Almost 70% of students believed that, aside from their theoretical understanding, their first clinical experience was their first genuine introduction to the dental field. This illustrates how important clinical posts are in forming students' professional identities and field knowledge.



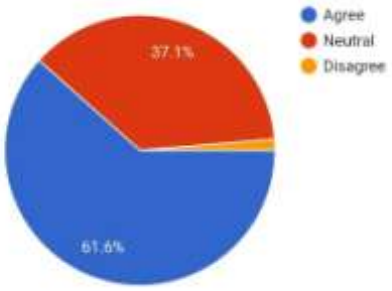
During the transformative phase of clinical training, students start to envision themselves as working professionals. The high proportion of agreement indicates that practical clinical experience is a crucial and enlightening phase in dentistry education, highlighting the necessity of immersive and hands-on teaching from the outset.

More than half of those surveyed (56.3%) admitted to feeling a lot of stress during their first clinical postings. This implies that pre-clinical schooling may not adequately address the psychological and emotional difficulties that the clinical setting may bring. When determining one's own stress levels, a high percentage of neutral responses (39.1%) may suggest different coping strategies or a lack of clarity.



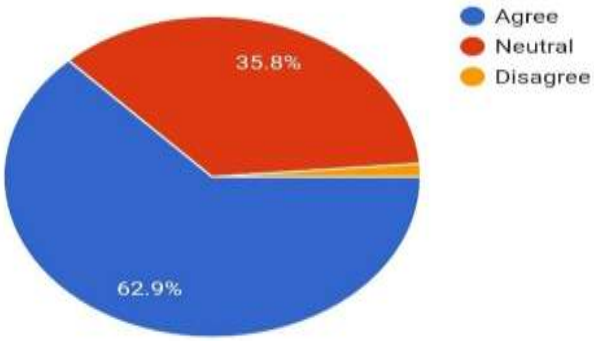
Numerous students find that the clinical transition phase is stressful, underscoring the necessity of early clinical training faculty mentorship, stress management courses, and mental health support networks.

The majority of students (61.6%) said they had trouble in the first few weeks of the clinical experience. The high neutral rate (37.1%) can be a reflection of different experiences based on the particular therapeutic setting or the level of personal readiness. The fact that just 1.3% did not find it challenging highlights how widespread transitional difficulties are.



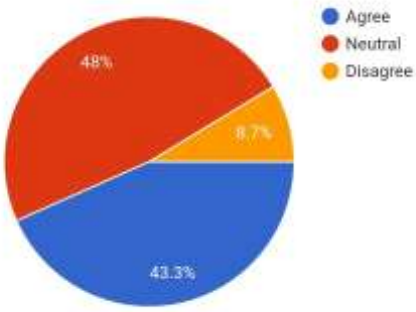
Most dental students find the early clinical period difficult, which emphasizes the value of planned orientation, progressive exposure, and emotional support networks in assisting students in managing and doing well.

Only 1.3% of the 151 respondents disagreed with the statement that the clinical staff offered adequate support, while 62.9% agreed and 35.8% were neutral.



According to the findings, most respondents had a very favorable opinion of the assistance that clinical professionals offered. Few people expressed discontent, and approximately two-thirds agreed, indicating that the clinical support system is typically well-received. A possible subject for additional qualitative research or better communication and exposure of support services is highlighted by the comparatively large percentage of neutral replies (35.8%), which would suggest that several respondents were unsure or had conflicting experiences.

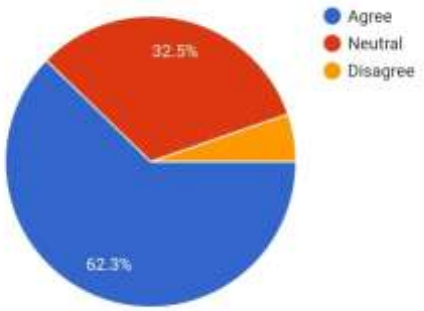
43.3% of the 150 respondents said that the changeover from preclinical to clinical training went well, compared to 48% who were neutral and 8.7% who disagreed.



The results indicate that while a significant percentage of participants (43.3%) thought the shift from preclinical to clinical training went well, almost half (48%) had no opinion. This suggests that the individuals have varying degrees

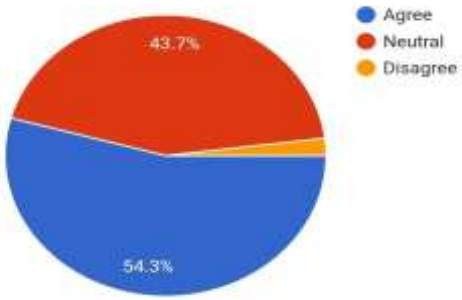
of experience or uncertainty. Furthermore, 8.7% of respondents said they were unhappy with the transfer process. The noteworthy neutral answer and comparatively low agreement point to a possible lack of support or readiness during this crucial stage, which calls for more research and perhaps changes to the curriculum or orientation.

62.3% of the 151 respondents concurred that there is a significant workload during the clinics. Just 5.3% of respondents disagreed with the statement, and 32.5% were neutral.



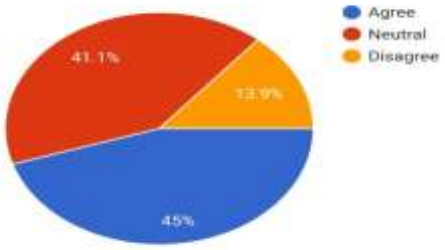
The overwhelming majority of responders (62.3%) agreed that clinical duties are hard, indicating that they view the clinical workload as high. The moderate percentage of neutral answers (32.5%) can indicate that some students are either handling the task well or are unsure of how demanding it is. There is little resistance to the idea of a severe workload, as seen by the low disagreement rate (5.3%). These results highlight how important it is for organisations to evaluate how the workload is distributed and think about support plans like better time management classes, mental health services, or better scheduling.

54.3% of the 151 respondents agreed that it was hard to adjust to the work schedule, 43.7% were neutral, and only 2% disagreed.



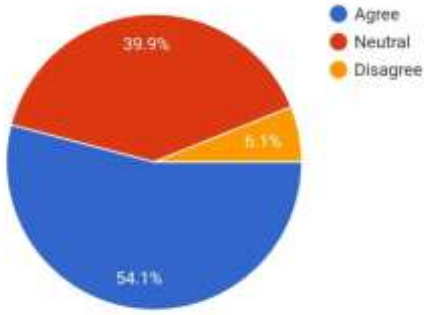
Many students may find the shift to regular clinical responsibilities taxing, as seen by the majority of responders (54.3%) acknowledging difficulties adjusting to the clinical work routine. A noteworthy 43.7% gave a neutral response, indicating that their experiences were ambiguous or inconsistent. Overall, the notion of initial adaptation difficulty is supported by the low amount of disagreement (2%) reported. These findings demonstrate the necessity of mentorship, time management training, or organised orientation programs to help trainees more smoothly transition into the clinical setting.

Among the 151 respondents, 45% agreed, 41.1% were neutral, and 13.9% disagreed that they have enough time to study during their clinical rotations.



A similar percentage (41.1%) expressed no opinion, despite the fact that almost half of the participants (45%) thought they had enough time to study during clinical rotations. This could be a sign of a lack of clarity or differences in coping mechanisms and schedules. A significant 13.9% of students disagreed, indicating that some may find it difficult to juggle clinical work with academic coursework. According to these results, while some students are good at managing their study time, others can gain from better time management assistance or rearranging their rotation schedules to increase their level of academic engagement.

The clinical workload is exhausting, according to 54.1% of the 150 respondents, 39.9% of whom were neutral, and 6.1% of whom disagreed.



It is evident that students frequently face physical and/or mental tiredness during clinical training, as more than half of the respondents (54.1%) said they felt worn out from the clinical workload. Individual tolerance levels or differences in workload within departments may be reflected in the sizeable neutral group (39.9%). The fact that so few students disagreed (6.1%) indicates that they did not find the assignment to be particularly taxing or doable. According to these findings, in order to avoid burnout and preserve performance, it is critical to treat clinical exhaustion through workload management, sufficient rest periods, wellness programs, and institutional support systems.

DISCUSSION

In dentistry education, the shift from preclinical to clinical training is a complicated and multidimensional process that has a big impact on students' learning, self-esteem, and professional growth. The results of this study show that although preclinical training provides a solid theoretical and technical basis, students frequently feel unprepared for the clinical phase. This is consistent with earlier research showing a gap between simulated training and actual patient care, especially in domains like key decision-making, anxiety management, and patient communication[2].

Anxiety during first clinical contacts emerged as a key issue in the student answers. This anxiety was linked to a fear of making mistakes, hurting patients, and receiving negative feedback from peers and teachers, all of which are well-known issues in dental education research[5]. In order to reduce psychological strain and facilitate a more seamless transfer to clinical responsibilities, these findings point to the necessity of more structured transitional support, such as early clinical exposure, simulated patient interaction, and stress management workshops[6].

A significant finding was the disparity in students' assessments of their readiness, which was significantly impacted by the caliber of preclinical instruction, mentorship, and clinical supervision. Students who had faculty mentoring and peer-assisted learning reported feeling more confident and adjusting to the clinical setting more easily[3]. These results corroborate earlier research that found scaffolded learning and peer mentoring to be useful strategies for closing the preclinical-clinical gap[7].

Students also indicated that preclinical coursework and clinical competencies needed to be better integrated. It was determined that a program that integrates theoretical modules with real-world applications, such competency-based evaluations and case-based discussions, is more successful in preparing students for actual clinical situations. According to the findings, in order to provide a comprehensive educational experience, dentistry schools had to think about implementing more integrated and student-centred curricular approaches.

The transition from pre-clinical to clinical training in dental education is a pivotal yet challenging phase for students, often accompanied by emotional and cognitive stressors. Henzi et al. (2005) emphasize that students' perceptions of the dental school learning environment significantly influence their adaptation to clinical responsibilities. Their study revealed that many students feel underprepared for the clinical phase due to gaps in the alignment between theoretical instruction and practical application. These perceptions can result in decreased confidence and increased anxiety as students are suddenly expected to apply their knowledge in high-stakes, real-world patient care scenarios. Addressing

these disconnects by fostering more integrative and supportive learning environments can ease the transition and improve students' clinical performance[8]. In addition, Masella (2007) argues that the increasing commercialization of healthcare and the influence of market forces on dental education may further complicate this transition. The emphasis on technical proficiency and production metrics can overshadow the cultivation of professionalism and ethical patient care. Masella advocates for a renewed focus on professional identity formation and mentorship, particularly during the clinical years when students are most vulnerable to stress and value conflicts. This supports the need for educational reforms that not only bridge the pre-clinical and clinical divide but also emphasize reflective practice, humanistic care, and mentorship—elements that can profoundly enhance the learning experience and resilience of future dental professionals[9].

Furthermore, the significance of empathy, ethical reasoning, and communication skills emerged, reaffirming that clinical competence encompasses more than just technical proficiency. By including these components in the preclinical curriculum, students can develop their professional identities and be better prepared to deal with patient interactions with more tact and confidence[1].

All things considered, the study emphasizes how important it is that dentistry schools acknowledge and deal with the difficulties associated with this academic shift. To support students not only intellectually but also emotionally and professionally during this crucial time, it is necessary to establish channels for student feedback, staff training, and ongoing curriculum evaluation.

CONCLUSION

In Dental education, the shift from pre-clinical instruction to practical clinical experience is crucial and has a big impact on students' growth. This change develops clinical competency, exposes students to real-world problems, and cultivates professional identity. But it also points out areas where students are not ready and emphasizes the need for improved curricular integration, emotional support, and mentoring. Resolving these issues can facilitate the shift and enhance patient and student results.

REFERENCES

[1]. Khattak, O., Ganji, K. K., Iqbal, A., Altassan, M., Khan, F. H., & Anis, R. (2024). Beyond labs: Unveiling dynamics of dental students' transition from pre-clinical to clinical training in a Saudi dental school. PeerJ, 12, e18019.
[2]. Ali K, Raja M, Watson DG, Stark P. Perceptions of transition from preclinical to clinical training among dental students in the UK. Eur J Dent Educ. 2020;24(2):280–287.
[3]. Divaris K, Barlow PJ, Chendea SA, Cheong WS, Dounis A, Dragan IF, et al. The academic environment: the students' perspective. Eur J Dent Educ. 2013;17(1):64–72.
[4]. Victoroff KZ, Hogan S. Students' perceptions of effective learning experiences in dental school: a qualitative study using a critical incident technique. J Dent Educ. 2006;70(2):124–132.
[5]. Rajab LD. Perceptions of students on the transition from the preclinical to clinical phase in a problem-based learning curriculum. J Dent Educ. 2007;71(9):1090–1095.
[6]. Stewart DW, Thomas CJ. Findings from a preclinical to clinical transition course. J Dent Educ. 2011;75(9):1234–1241.
[7]. Atwa H, Money N, McIlwaine C, Garry J. Peer-assisted learning: the role of clinical placement buddies in undergraduate nursing education. Nurse Educ Today. 2020;84:104218.
[8]. Henzi D, Davis E, Jasinevicius R, Hendricson W. Appraisal of the dental school learning environment: the students' view. J Dent Educ. 2005;69(10):1137–1147.
[9]. 8. Masella RS. Renewing professionalism in dental education: overcoming the market environment. J Dent Educ. 2007;71(2):205–216.