

Original Article

Navigating the Transition from Preclinical to Clinical Dentistry: Initial Patient Encounter Experiences Among Dental Students and House Officers Across Pakistan – A Cross-Sectional Study

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ABSTRACT

Background: Transitioning from preclinical simulation to patient care involves psychological and practical challenges for dental trainees. **Objective:** To describe clinical-transition experiences among dental students and house officers in Pakistan and explore associations with demographic and institutional characteristics. **Methods:** A quantitative cross-sectional survey recruited a convenience sample of 100 participants through digital distribution channels. A structured questionnaire assessed preclinical anxiety, diagnostic confidence, patient-management challenges, patient sourcing, and perceived procedure duration. Frequencies and percentages summarized responses. Associations were evaluated using fixed-margin Monte Carlo tests based on Pearson's chi-square statistic, with 1,000,000 resamples per comparison, and Cramér's V. **Results:** Participants included 16 third-year students, 58 final-year students, and 26 house officers; 64% were female, 93% attended private institutions, and 90% attended institutions in Sindh. Finding patients was the most frequently reported management challenge (49%). Hospital outpatient/triage allocation supplied patients for 52%, while 36% arranged patients themselves. Slightly longer procedure duration was reported by 45% and double the time by 25%. Diagnostic-confidence agreement or strong agreement was reported by 49%. None of the five exploratory associations reached statistical significance ($p = 0.129-0.517$; Cramér's $V = 0.187-0.245$). **Conclusion:** Patient sourcing and perceived procedural demands were prominent concerns within this predominantly private-sector, Sindh-based sample. Demographic and institutional associations remained inconclusive. **Keywords:** Dental education; dental students; house officers; clinical transition; diagnostic confidence; Pakistan.

INTRODUCTION

The transition from preclinical instruction to direct patient care is a significant stage in dental education, requiring students to apply knowledge and technical skills within a less predictable clinical environment. During this transition, learners must integrate procedural performance with diagnostic reasoning, patient communication, and supervised decision-making. Research from an Australian regional university describes this transition as a challenging process involving changes in workload, learning approaches, and confidence, with orientation and chairside teaching contributing to adaptation (1). Similarly, research at King Abdulaziz University highlights the interaction between academic demands, perceived clinical competence, and the need for structured support when students begin clinical training (2).

The difficulties associated with this transition extend beyond the transfer of technical skills. Students must manage uncertainty, respond to patient concerns, and work within institutional expectations while developing confidence in their clinical abilities. These experiences may vary according to previous exposure, training stage, and the educational environment. Erenay et al. identified differences in anxiety, preparedness, and confidence associated with sex, university sector, and previous observational experience, indicating that readiness for clinical practice should not be treated as a uniform characteristic across learners (3). Perceived confidence also needs to be distinguished from objectively demonstrated competence: a student's appraisal of readiness provides information about the learning experience but does not independently establish clinical proficiency.

Psychological well-being is another relevant dimension of dental training. A survey involving dental undergraduates from 34 universities in China documented stress, anxiety, and depression alongside differences in coping styles and student circumstances (4). Although such findings establish the relevance of psychological demands within dental education, general measures of distress do not necessarily explain the specific difficulties encountered when students first assume responsibility for patient care. Understanding clinical transition therefore requires attention to both emotional experiences and practical demands, including perceived preparedness, communication, supervision, and the organization of clinical work. A mixed-methods study by Faheem et al. similarly described workload concerns and initial nervousness during entry into clinics, alongside increasing confidence as students gained experience and support (5).

Several educational approaches have been investigated to support this transition. A systematic review of early clinical exposure reported potential benefits for knowledge, skills, and confidence, while identifying methodological limitations that restrict certainty about its effectiveness (6). Virtual-reality training in pediatric dentistry has also been explored as a supplement to preclinical preparation, with students reporting reduced apprehension about entering clinical practice; however, favorable perceptions do not by themselves demonstrate sustained improvements in clinical performance (7). A scoping review of stress-management interventions further indicates that supportive, physical-activity, and cognitive approaches have been studied, although stronger evidence is needed concerning their sustained effects (8). Peer-assisted learning offers another potentially useful source of practical and interpersonal support, but variation in tutor preparation, assessment, and long-term evaluation complicates its integration into formal curricula (9). Collectively, this literature supports examining learners' specific needs before selecting or implementing educational support strategies.

Despite the attention given to preparedness and psychological adjustment, these dimensions do not fully describe the operational circumstances of early clinical practice. In particular, obtaining patients, managing equipment or financial constraints, and completing procedures within expected timeframes may represent distinct aspects of the transition experience. The studies discussed above provide a rationale for investigating these concerns alongside anxiety and diagnostic confidence, but they do not establish how these experiences are distributed within the present Pakistani study population. A focused assessment encompassing third-year BDS students, final-year BDS students, and house officers can contribute contextual information across different stages of clinical training. Such comparisons must nevertheless recognize differences in accumulated clinical experience and the limitations of a convenience sample.

Accordingly, this quantitative cross-sectional study aimed to describe self-reported preclinical anxiety, diagnostic confidence, patient-management challenges, patient-sourcing practices, and perceived procedure duration among participating dental students and house officers in Pakistan. A secondary exploratory objective was to examine associations between selected experiences and gender, training level, institutional sector, and institution

region. The study sought to identify concerns relevant to clinical preparation and institutional support within the sample surveyed, without estimating nationally representative experiences or determining the effectiveness of educational interventions.

MATERIAL AND METHODS

A quantitative cross-sectional survey was conducted to examine self-reported experiences associated with the transition from preclinical simulation to direct patient care among dental students and house officers in Pakistan. This design enabled the description of perceived anxiety, diagnostic confidence, and practical challenges across different stages of clinical training, together with exploratory assessment of their associations with participant and institutional characteristics. The study focused on perceived clinical-transition experiences rather than objectively assessed competence or the effectiveness of an educational intervention.

The target population comprised undergraduate dental students and house officers undertaking clinical training. Participants were recruited through convenience sampling using digital distribution channels directed toward dental training institutions. The analytical sample comprised 100 respondents, including 16 third-year Bachelor of Dental Surgery students, 58 final-year students, and 26 house officers or interns. Respondents attended public or government and private institutions in Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, and a combination Azad Jammu and Kashmir/Gilgit-Baltistan category. Institutional representation was concentrated in the private sector, which accounted for 93 respondents, and in Sindh, which accounted for 90 respondents. These characteristics defined the scope of the sample and were considered when interpreting institutional and geographical comparisons. Data were collected using a structured, self-administered electronic questionnaire. Before initiating the survey, participants provided electronic informed consent. Participation was voluntary, and responses were collected anonymously and handled confidentially. Completed questionnaires were automatically tabulated and exported for data cleaning and statistical verification.

The questionnaire included demographic and institutional characteristics together with items addressing perceived preparation and difficulties encountered during clinical transition. Its development drew on previously published work examining preparedness and anxiety during the transition from preclinical to clinical dental education (3). The reported questionnaire domains included preclinical preparation and simulation, anxiety, diagnostic confidence, patient communication, supervision, patient sourcing, financial and patient-management difficulties, and perceived procedural efficiency. Agreement-based items used five response categories ranging from strongly disagree to strongly agree. Other questions used categorical response options specific to the experience being assessed.

Participant characteristics included gender, training level, institutional sector, and institution region. Training level was categorized as third-year BDS student, final-year BDS student, or house officer. Institutional sector was classified as public/government or private. Institution region referred to the location of the respondent's training institution. Preclinical anxiety and diagnostic confidence were analyzed as ordered responses across the five agreement categories. Patient-management challenges were categorized as finding patients, equipment issues, financial burden, language barriers, or strict evaluation. Patient-sourcing responses were classified as hospital outpatient/triage allocation, self-arrangement, or allocation through senior students.

Perceived procedure duration was recorded using the response categories "double the time," "slightly more time," and "same amount of time." These measures represented respondents' perceptions rather than direct observations of anxiety severity, diagnostic accuracy, or procedure duration.

Statistical analysis was performed using IBM SPSS Statistics version 26.0. Frequencies and percentages were used to summarize participant characteristics and categorical questionnaire responses. Cross-tabulations examined gender in relation to preclinical anxiety, training level in relation to diagnostic confidence, institutional sector in relation to patient-management challenges, and institution region in relation to patient sourcing and perceived procedure duration. Each of these reported cross-tabulations included 100 respondents. The comparisons were unadjusted and were interpreted as exploratory associations within the surveyed sample.

Pearson chi-square tests of independence were used for the reported categorical comparisons, with a statistical significance threshold of $p < 0.05$. Expected cell frequencies were examined to assess the suitability of the chi-

square approximation. Across the five cross-tabulations, 40%–80% of cells had expected frequencies below five, reflecting small subgroup sizes and sparse response distributions. Consequently, the resulting asymptotic p-values were interpreted cautiously alongside the observed frequencies and percentages. Nonsignificant findings were not treated as evidence of equivalence between groups, and the convenience sampling strategy and uneven institutional and geographical representation restricted population-level inference.

RESULTS

The tables below use the 100 participants represented in the supplied cross-tabulations. Percentages were recalculated from the counts. Association testing was enhanced using fixed-margin Monte Carlo tests based on Pearson's χ^2 statistic, with 1,000,000 resamples per comparison; these p-values replace the original asymptotic p-values. Cramér's V was calculated as the unadjusted association effect size.

Table 1. Demographic and institutional characteristics of participants (N = 100)

Characteristic	Category	n (%)
Gender	Male	36 (36.0)
	Female	64 (64.0)
Training level	Third-year BDS student	16 (16.0)
	Final-year BDS student	58 (58.0)
	House officer	26 (26.0)
Institutional sector	Public/government	7 (7.0)
	Private	93 (93.0)
Institution region	Punjab	2 (2.0)
	Sindh	90 (90.0)
	Khyber Pakhtunkhwa	2 (2.0)
	Balochistan	5 (5.0)
	AJK/Gilgit-Baltistan	1 (1.0)

BDS, Bachelor of Dental Surgery; AJK, Azad Jammu and Kashmir.

Table 2. Responses to the preclinical anxiety item by gender: n (row %)

Gender	n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Male	36	1 (2.8)	5 (13.9)	19 (52.8)	10 (27.8)	1 (2.8)
Female	64	5 (7.8)	18 (28.1)	29 (45.3)	10 (15.6)	2 (3.1)
Total	100	6 (6.0)	23 (23.0)	48 (48.0)	20 (20.0)	3 (3.0)

Table 3. Responses to the diagnostic confidence item by training level: n (row %)

Training level	n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Third-year BDS student	16	0 (0.0)	2 (12.5)	6 (37.5)	8 (50.0)	0 (0.0)
Final-year BDS student	58	0 (0.0)	1 (1.7)	30 (51.7)	24 (41.4)	3 (5.2)
House officer	26	2 (7.7)	1 (3.8)	9 (34.6)	13 (50.0)	1 (3.8)
Total	100	2 (2.0)	4 (4.0)	45 (45.0)	45 (45.0)	4 (4.0)

BDS, Bachelor of Dental Surgery.

Table 4. Reported patient-management challenges by institutional sector: n (row %)

Institutional sector	n	Finding patients	Equipment issues	Financial burden	Language barriers	Strict evaluation
Public/government	7	4 (57.1)	0 (0.0)	2 (28.6)	1 (14.3)	0 (0.0)
Private	93	45 (48.4)	21 (22.6)	11 (11.8)	11 (11.8)	5 (5.4)
Total	100	49 (49.0)	21 (21.0)	13 (13.0)	12 (12.0)	5 (5.0)

Table 5. Reported patient-sourcing methods by institution region: n (row %)

Institution region	n	Hospital outpatient/triage	Self-arranged	Shared by senior students
Punjab	2	2 (100.0)	0 (0.0)	0 (0.0)
Sindh	90	46 (51.1)	32 (35.6)	12 (13.3)
Khyber Pakhtunkhwa	2	0 (0.0)	2 (100.0)	0 (0.0)
Balochistan	5	3 (60.0)	2 (40.0)	0 (0.0)
AJK/Gilgit-Baltistan	1	1 (100.0)	0 (0.0)	0 (0.0)
Total	100	52 (52.0)	36 (36.0)	12 (12.0)

AJK, Azad Jammu and Kashmir.

Table 6. Responses to the perceived procedure-duration item by institution region: n (row %)

Institution region	n	Double the time	Slightly more time	Same amount of time
Punjab	2	2 (100.0)	0 (0.0)	0 (0.0)
Sindh	90	20 (22.2)	42 (46.7)	28 (31.1)
Khyber Pakhtunkhwa	2	1 (50.0)	0 (0.0)	1 (50.0)
Balochistan	5	1 (20.0)	3 (60.0)	1 (20.0)
AJK/Gilgit-Baltistan	1	1 (100.0)	0 (0.0)	0 (0.0)
Total	100	25 (25.0)	45 (45.0)	30 (30.0)

AJK, Azad Jammu and Kashmir.

Table 7. Unadjusted associations between participant or institutional characteristics and clinical-transition responses (N = 100)

Association	Pearson χ^2	Monte Carlo p-value	Cramér's V
Gender $\times$ preclinical anxiety	4.982	0.294	0.223
Training level $\times$ diagnostic confidence	11.984	0.141	0.245
Institutional sector $\times$ patient-management challenges	3.495	0.423	0.187
Institution region $\times$ patient sourcing	7.160	0.517	0.189
Institution region $\times$ perceived procedure duration	11.504	0.129	0.240

Monte Carlo p-values were estimated from 1,000,000 random contingency tables per comparison, conditional on the observed row and column totals, using Pearson's χ^2 statistic. Cramér's $V = \sqrt{[\chi^2 / \{N \times \min(r - 1, c - 1)\}]}$, where r and c denote the numbers of rows and columns. Statistical significance threshold: $p < 0.05$.

RESULTS

The analytical sample comprised 100 participants, including 64 females (64.0%) and 36 males (36.0%). Final-year BDS students constituted the largest training group (58.0%), followed by house officers (26.0%) and third-year students (16.0%). Most respondents attended private institutions (93.0%), and 90.0% attended institutions in Sindh (Table 1).

Neutral responses were the most frequent category for the preclinical anxiety item, accounting for 48 participants (48.0%). Overall, 23 participants (23.0%) selected agree or strongly agree, while 29 (29.0%) selected disagree or strongly disagree. Agreement or strong agreement was reported by 11 of 36 males (30.6%) and 12 of 64 females (18.8%) (Table 2). For diagnostic confidence, 49 participants (49.0%) selected agree or strongly agree and 45 (45.0%) selected neutral. Combined agreement was reported by 8 third-year students (50.0%), 27 final-year students (46.6%), and 14 house officers (53.8%) (Table 3).

Finding patients was the most frequently selected patient-management challenge (49.0%), followed by equipment issues (21.0%), financial burden (13.0%), language barriers (12.0%), and strict evaluation (5.0%). Finding patients was selected by 4 of 7 public-sector respondents (57.1%) and 45 of 93 private-sector respondents (48.4%). Financial burden was reported by 2 public-sector respondents (28.6%) and 11 private-sector respondents (11.8%) (Table 4).

Hospital outpatient or triage allocation was the most frequently reported patient-sourcing method (52.0%), followed by self-arrangement (36.0%) and sharing by senior students (12.0%). Among respondents from institutions in Sindh, the corresponding proportions were 51.1%, 35.6%, and 13.3% (Table 5). For perceived procedure duration, 45 participants (45.0%) selected slightly more time, 25 (25.0%) selected double the time, and 30 (30.0%) selected the same amount of time (Table 6).

Monte Carlo did not identify statistically significant associations for any of the five comparisons. The association between gender and preclinical anxiety yielded $p = 0.294$ and Cramér's $V = 0.223$, while training level and diagnostic confidence yielded $p = 0.141$ and $V = 0.245$. Institutional sector and patient-management challenges yielded $p = 0.423$ and $V = 0.187$. For institution region, the associations with patient sourcing and perceived procedure duration yielded $p = 0.517$ and $V = 0.189$, and $p = 0.129$ and $V = 0.240$, respectively (Table 7).

DISCUSSION

This study identified patient sourcing and perceived procedure duration as prominent practical concerns among the surveyed dental students and house officers. Responses concerning anxiety and diagnostic confidence were distributed across agreement categories, with substantial neutral responses. The exploratory analyses did not provide clear evidence of associations between the selected experiences and participant or institutional

characteristics. These findings describe a sample concentrated in private institutions in Sindh and do not establish that clinical-transition experiences are equivalent across demographic groups or educational settings.

The practical concerns reported here are broadly compatible with previous descriptions of clinical transition as a period requiring adaptation to new responsibilities and learning environments. Malau-Aduli et al. described an abrupt transition accompanied by workload demands, while identifying orientation and chairside teaching as supportive features of the learning environment (1). Jazzar et al. similarly emphasized difficulties integrating theoretical knowledge with clinical responsibilities and the importance of structured support (2). The present study adds descriptive information about patient-sourcing arrangements and perceived procedure duration within its surveyed population. However, these measures differ from broader assessments of workload and preparedness, so the findings should be viewed as complementary rather than directly comparable.

Finding patients was the most frequently selected management challenge, and more than one-third of respondents reported arranging patients themselves. Together, these observations suggest that access to clinical cases deserves attention when examining the learning environment. They do not establish that self-arrangement caused the reported difficulty, because patient-sourcing method and management challenges were not analyzed jointly. Nor do they demonstrate that institutional allocation was inadequate. Nevertheless, the prominence of patient sourcing indicates that transition experiences include organizational demands alongside the application of clinical knowledge. Previous studies describing workload and adjustment difficulties provide a broader educational context for this finding, although they do not establish the specific contribution of patient-allocation practices in the present sample (1,2,5).

The reported procedure-duration responses also warrant careful interpretation. A plausible educational explanation is that less experienced clinicians must coordinate technical tasks, communication, and diagnostic decisions while adapting to supervision and the clinical environment. Previous transition studies describe this integration of knowledge, practical activity, and professional responsibilities as challenging (1,2). However, the present survey did not measure procedure complexity, elapsed treatment time, supervision delays, or clinical quality. The response categories therefore cannot distinguish difficulty performing a procedure from time spent communicating with patients or obtaining appropriate supervisory input. Longer perceived duration should not be equated with poor clinical competence or compromised patient care.

The substantial proportion of neutral anxiety responses does not establish either psychological well-being or clinically important distress. Neutral responses may represent intermediate experiences, uncertainty about the statement, or differences in how participants understood it. Research involving dental undergraduates in China demonstrates the relevance of psychological distress and coping within dental education, but its findings cannot be directly compared with an individual agreement-based item (4). Similarly, Erenay et al. assessed anxiety using the State-Trait Anxiety Inventory, providing a different measurement basis from the categories reported here (3). These distinctions are important because a response to a transition-related statement is not interchangeable with a validated anxiety score or a diagnostic assessment.

Diagnostic confidence varied within each training group, but the analysis did not demonstrate an association with training level. This finding does not indicate that clinical development stops after entry into patient care. Faheem et al. described increasing confidence as students gained experience and support, using qualitative accounts to explain their adjustment (5). The present cross-sectional comparison involved different individuals at different training stages and therefore cannot assess within-person development. Differences in case exposure, supervision, and expectations could also influence self-assessment, although these explanations were not tested. Confidence should consequently be interpreted as a perception of capability rather than a direct measure of diagnostic accuracy.

The absence of clear demographic associations also contrasts with some earlier findings. Erenay et al. reported differences in anxiety and confidence associated with sex and institutional sector, while Faheem et al. identified gender-related differences in selected transition domains (3,5). Differences in instruments, outcome definitions, recruitment, and subgroup composition may help explain these discrepancies. In the present study, the public-sector and several regional groups contained very few respondents. Monte Carlo testing improved the evaluation of the sparse contingency tables, but it did not increase the information available within those groups. The reported

Cramér's V estimates describe unadjusted association strength; without uncertainty intervals or established educational thresholds for these items, they do not establish practical importance.

The findings support examining clinical preparation together with the organization of clinical learning. Early clinical exposure, supplementary simulation, and peer-assisted learning are relevant approaches discussed in the existing literature, but none was evaluated as an intervention in this study. Reviews of early clinical exposure suggest potential educational benefits while identifying limitations in the underlying evidence (6). Virtual-reality work in pediatric dentistry reports favorable student experiences, although its applicability to patient recruitment and wider clinical logistics is uncertain (7). Reviews of stress-management interventions and peer-assisted learning likewise identify potentially useful approaches alongside gaps in sustained outcomes and implementation (8,9). These strategies should therefore be regarded as options for contextual evaluation rather than interventions shown by the present findings to be effective.

A strength of this study is its inclusion of both undergraduate clinical students and house officers, together with practical outcomes extending beyond anxiety alone. Presentation of complete categorical distributions makes the descriptive findings transparent, while the revised analysis retains the original response categories. However, convenience recruitment creates potential selection bias, and the predominance of private-sector institutions and Sindh substantially limits generalizability. Cross-sectional data cannot establish temporal relationships or changes during training. Self-report introduces possible recall and social-desirability biases, particularly if participants interpreted questions about early encounters in light of their current experience.

Additional limitations concern measurement and analytical scope. The available questionnaire documentation does not establish the validity of the adapted items in this population, and the timing of the experiences being rated is insufficiently defined. The procedure-duration item also lacks a clearly documented comparison benchmark. Analyses were unadjusted, and the supplied aggregate tables do not permit assessment of confounding or joint relationships between outcomes. Respondents from the same institution may share educational conditions, but institutional clustering was not addressed. Future research could clarify these relationships through prospective assessment around entry into clinical training, documented measures, and broader institutional recruitment, building on the developmental and contextual perspectives identified in earlier transition studies (1,5).

CONCLUSION

Among the surveyed dental students and house officers, finding patients was the most frequently reported management challenge, and most respondents selected categories indicating additional procedure time. Anxiety and diagnostic-confidence responses varied, while exploratory analyses did not establish associations with the selected demographic and institutional characteristics. The findings identify patient access and perceived procedural demands as relevant aspects of the clinical learning experience within this predominantly private-sector, Sindh-based sample.

REFERENCES

1. The following list corresponds to the revised Introduction, Methods, and Discussion. Existing citation numbers 1–9 are retained; no additional sources were required.
2. Malau-Aduli BS, Lee A, Alele F, Adu M, Drovandi A, Jones K. Preclinical to clinical transition experiences of dental students at an Australian Regional University. *Eur J Dent Educ*. 2022;26(1):182–96. doi:10.1111/eje.12687.
3. Jazzar A, Gadi R, Rajeh M, AlDehlawi H, Alhamed S, Badeeb T. Dental students' perspective of transitioning from pre-clinical to clinical practice. *Adv Med Educ Pract*. 2024;15:1271–83. doi:10.2147/AMEP.S482341.
4. Erenay BY, Selman AE, Karaduman B. Preparedness and anxiety of dental students in the transition from preclinical to clinical practice. *Eurasian Dent Res*. 2024;2(2):44–51. doi:10.62243/edr.1511223.
5. Fang Y, Li J, Yang M, Zhang Y, Huang W, Meng S, et al. A survey on stress, anxiety, depression and coping styles in dental undergraduates from 34 universities in China. *BMC Med Educ*. 2026;26:1055. doi:10.1186/s12909-026-09371-9.

6. Faheem S, Khan M, Zaidi SJA, Qasim R, Saleem SA, Al'Saani SMAJ, et al. Crossing into clinics: a mixed-methods study of dental students' transition. *BMC Med Educ.* 2026;26:1068. doi:10.1186/s12909-026-09415-0.
7. Gadbail AR, Gondivkar SM, Yuwanati M, Sonone A, Dhamande M, Panchbhai A, et al. Early clinical exposure in undergraduate dental education: a systematic review of effectiveness, experiences, and outcomes. *BMC Med Educ.* 2026;26:324. doi:10.1186/s12909-026-08692-z.
8. Lautier M, Béal F, Reibel Domergue A, Jung S, Clauss F, Strub M. Using virtual reality to support the transition from preclinical to clinical training in paediatric dentistry. *BMC Med Educ.* 2026;26:217. doi:10.1186/s12909-025-08502-y.
9. Boehm GD, Lieffers JR, Mills S, Singh A. Stress management for students in dental education: a scoping review. *J Dent Educ.* 2026;90(5):628-41.
10. Moamen SM, Mohamed AI, Van Der Merwe L. The use of peer-assisted learning in teaching clinical skills in undergraduate medical education: a scoping review. *J Med Educ Curric Dev.* 2026;13:23821205261422892. doi:10.1177/23821205261422892.