Qualitative evaluation of learning environment in Indian teaching dental institutions from the students' perspective using focus group interviews

Viswa C. Chandu[1], Srinivas Pachava[1], Venkat Ramana Reddy Baddam[2], Yamuna Marella[3], Madhura Sai Tejaswini Panchumarti[4]

AFFILIATION
1 Department of Public Health Dentistry, Sibar Institute of Dental Sciences, Guntur, Andhra Pradesh, India
2 Department of Oral Pathology & Microbiology, Sibar Institute of Dental Sciences, Guntur, Andhra Pradesh, India
3 Department of Periodontics, Sibar Institute of Dental Sciences, Guntur, Andhra Pradesh, India
4 Sibar Institute of Dental Sciences, Guntur, Andhra Pradesh, India

CORRESPONDENCE TO
Viswa C. Chandu. Department of Public Health Dentistry, Sibar Institute of Dental Sciences, Takkellapadu, Guntur, Andhra Pradesh 522509, India. E-mail: viswachaitanya17@gmail.com

KEYWORDS
dental education, institutional culture, learning environment

Received: 26 April 2020, **Revised:** 16 July 2020, **Accepted:** 7 December 2020

Popul. Med. 2021;3(January):3 https://doi.org/10.18332/popmed/131263

ABSTRACT

INTRODUCTION The perspectives of students towards their learning environment has seldom been in introspect in Indian dental institutions, which are against the advocacy of international dental education working groups. The aim of this study is to document students' perceptions of their learning environment in two of the thirteen teaching dental institutions in the state of Andhra Pradesh, India.

METHODS This qualitative study, involving focus group interviews, was conducted among undergraduate dental students in two teaching dental institutions in the state of Andhra Pradesh. Theoretical sampling was done with concurrent conduct of purposive sampling for focus group interviews and two researchers who participated in the pre-session were involved in moderating the interviews, which consisted of groups of six to eight participants. All the focus group interviews were audio-taped and transcribed. The transcripts were analyzed using general inductive approach to extract themes.

RESULTS Problems in lectures and in the clinical learning environment, dissatisfaction with evaluation processes and poor academic drive were identified as the major themes responsible for negative learning outcomes. Some of the responses given by the students highlighted their disinclination towards receiving feedback and emphasized the need to move away from the authoritarian approach in teacher–student interactions. Evaluation is a major domain where reforms are necessary, as opined by the students.

CONCLUSIONS The perspectives of students towards the learning environment has seldom been in introspect in Indian dental institutions, which may have a substantial negative impact on students' attitudes and efficiency.

INTRODUCTION

Education is a word that is intriguing, even though it is rather familiar. The meaning assigned or attributed to the word is more belief bound than fact bound. In the rapidly evolving stream of education in healthcare, it appears that transfer of knowledge is the sole purpose of education, with application of this knowledge to real-world scenarios as a potential consequential outcome. However, the learning process does determine the acquisition of abilities that enable an individual to deal with the real world in a constructive way. The relevance of the learning process to socially desirable outcomes only increases for education in healthcare in light of the social roles the healthcare students assume in the future[1].

Initially there was refusal from medical schools to incorporate dental education in their curricula, which could find its rationale in the opinions of some groups that the independent establishment of dental schools would be more practical as medical schools may be unwilling to offer the requisite physical space and expensive equipment for the greater technical and mechanical training involved in dentistry[2]. From those times, dental education has gone far during the last century to establish dentistry as one of the most sought after and celebrated healthcare professions. However, the quality and recognition of dental education has not been the same worldwide, leading to evolution of the accreditation process for foreign-trained dental graduates in some nations[3]. International dental education working groups have highlighted the relevance of students'

perspectives in the quest of improving dental curricula and have urged that students' views be considered in dental education planning and development[4,5].

In the Indian context, it is evident that there has been a phenomenal growth in the number of dental colleges over the past couple of decades[6]. Currently, there are 313 functional dental institutions in the country making India one of the countries that produces the largest number of dental graduates every year[7]. In this regard, it is essential to continuously review the way in which the curriculum is being implemented at the institutional level to keep the standards of dental education in India abreast with the global dynamics in dental education. It must also be understood that this responsibility of program evaluation and refinement of curricula, as necessary, must occur both at the institutional and national level. Unfortunately, it appears that most of the dental institutions in India have not focused on this responsibility. Seldom has it been in introspect how well the curriculum is being followed and how satisfied the students, the main stakeholders, are with the learning environment and what their problems are in following the curriculum[8]. Regular evaluation and critical appraisement are as cardinal as the design and implementation of these curricula. With this background, the objective of this qualitative study was to document students' perceptions of the learning environment in two of the thirteen teaching dental institutions in the state of Andhra Pradesh.

METHODS

The dental curriculum in India requires that the dental students undergo clinical training in the third and fourth (final) year of the course and, after successful completion, are required to follow a one year paid rotating internship that must be completed for the students to graduate[9]. This qualitative study involved focus group interviews of dental students in two teaching dental institutions in the state of Andhra Pradesh, India. Focus group interviews are well documented in the literature as effective methods for gaining a deeper insight into the construct of interest. In India, undergraduate dental education has a 5-year curriculum, where the first two years are devoted to basic sciences and pre-clinical exercises in dentistry. Clinical training is offered in the third and fourth years of the curriculum; the fifth year of the curriculum requires the student to complete a rotatory internship with scheduled posting in all the specialties before being awarded a Bachelor of Dental Surgery degree (BDS). In this study, each focus group had representation from all clinical years (i.e. third, fourth and internship); all the participating students were given a pseudonym to ensure anonymity. The number of participants in each focus group ranged from 6 to 8, as recommended in the literature. Two researchers were involved in moderating the interviews. The interviews were semi-structured and a loose set of questions were prepared beforehand to facilitate the discussion. Table 1 shows the interview guide used in this study, which is not exhaustive as other questions emerged from the interaction between the moderator and the study participants. This set of questions was prepared by a group of four experienced dental educators and included the following constructs: teaching skills and attitudes; clinical learning environment; assessment criteria in practice; and challenges in meeting requirements. A pre-session was conducted before the focus group discussions so that the participants and moderator became acquainted. All the focus group interviews were audio-taped and transcribed by two members of the study team. The transcripts were given to two researchers for independent open coding to extract thematic constructs from the discussion. All the themes were reviewed by both researchers and consensus was obtained wherever there were differences in coding.

Table 1. Interview guide

As a student, what have been your personal experiences over the years with lectures given by faculty members?
You have entered clinical postings in the third year of your BDS program. Since then, have you ever faced problems in clinical learning?
What are the most common issues that preclude your comprehensive learning in clinics?
How satisfied are you with the current student evaluation processes being followed?
Do you feel that there is a need for objective assessment methods for evaluation of students' performance?
Are you really interested to demonstrate excellent academic performance?

Theoretical sampling was done with concurrent conduct of purposive sampling for focus group interviews, data collection, and data analysis, which identified if there was a need for further recruitment of participants. Data saturation was considered to have been achieved after seven focus groups were interviewed in Institution A and six in Institution B. The study was conducted between October and November 2019. Ethical approval for the study was obtained from the institutional review board of SIBAR Institute of Dental Sciences and verbal informed consent was obtained from all the participating students with prior information to and approval from the Institutional Review Board (IRB). It was explained to the IRB that the need to obtain written informed consent would limit the rate of participation, given the objectives of the study and that the study participants had yet to complete their course. A script of verbal consent was reviewed and deemed satisfactory by the IRB.

RESULTS

The mean age of the study participants was 22.6±1.71 years, with no significant differences between institutions. The

average duration of the focus group interviews was 64.7±8.2 minutes. Within each of the focus groups, there were more female than male students. The following thematic constructs were developed from the responses to determine negative learning outcomes: 1) problems in lectures; 2) problems in clinical learning; 3) dissatisfaction with evaluation processes, and 4) poor academic drive.

The following are some of the responses in the students' own words. Some of the responses were translated for convenience in presentation, since both the local language Telugu and English could be used in the focus group interviews. After translation, the responses were reviewed by two bilingual experts for any changes in the meaning of the responses. Few of the responses that were representative of the general opinion expressed by students were presented in a construct sense.

Problems in lectures

The majority of the students expressed concerns about the lectures. While the importance of theory classes as influencing the conceptual foundations in a discipline was well acknowledged by the students, it was the way in which theory classes were being conducted that received criticism. Almost all the theory classes were reported to be power point presentations with nominal use of other teaching aids. The following are some responses obtained from students:

'Some of the teachers read from power point slides. We are asked to take notes from the slides. I never felt engaged in the class'.

'We want teachers to be interactive. Theory class must include questions. In classes where the teachers question, I feel more engaged'.

'Some topics require video demonstrations in the class for us to better understand. Certain practical works are understood better by videos than reading from a power point'.

'Is it mandatory for a lecture to be completely in English? I feel some faculty convey the message better if they have the opportunity to use both the languages, English and Regional'.

'Afternoon theory classes are very difficult to concentrate. Either we keep thinking about what had happened in the clinic that day in the morning or we sleep'.

Problems in clinical learning

The problems in clinics were reported to be affecting the interest and confidence of students to perform the clinical procedures being taught and practiced. It was reported that the students are not very comfortable at and do not enjoy going to clinics.

'In my opinion, the main problem in clinics is demos. When any demo is given, 13 of us are standing around the professor and not everyone can see the work. Demos should be given for small groups of 4 or 5'.

'Sometimes, my instructor does the work for me. At that moment, I feel happy. But if the same work has to be done under a different instructor in my second posting, I regret about why I had not learnt that work in the previous posting'.

'We don't want our work to be done by the instructors. We want the instructor to stay beside and help us through'.

'My fear is that my instructor would belittle me if I ask a stupid doubt. There was an occasion when I was made fun of in front of the patient after which the patient refused to get the examination done and walked out'.

'Feedback is very important for us to improve. When I joined here, I was very enthusiastic about interacting with staff and seek feedback. The scenario has changed now. I don't know whether it is because of a legacy that is transferred from the previous batch or due to some bitter experiences we had, but I am not keen in receiving feedback now'.

'I think we should be allowed to go to clinics to complete the unfinished quotas whenever we find time. My professor says "you don't have to sacrifice theory class from another department and come here". But no one will be there in the clinic after the theory class in the afternoon. How can I ever finish my quota like this?'.

Dissatisfaction with evaluation processes

Evaluation processes adopted by the faculty were opined by the students to be far from objective. It was reported that comparison instantly comes where competition exist, and it is discouraging to see comparatively better grades being given for under-performing students.

'There is definitely partiality in evaluation. We bother more about who is the internal for the practical examination than what all topics to be prepared for'.

'Some students move closely with faculty. I feel it can be inconvenient both for fellow staff and the students as well. But I don't know whose mistake is it more'.

'You can compare marks in pre-clinical examination and final year examinations. The huge difference in the marks of a student is because of the difference in examiners on the two occasions'.

'If everyone is getting highest marks, the students who are really interested to perform will lose that enthusiasm. I know this has happened'.

'If you see the theory marks of the students who got highest marks in practical, they are less. There must be something wrong, no!'.

Poor academic drive

At the end of each focus group interview, the students were asked if they were really interested to do well and perform academically.

'Most of us are not very keen. Many students want to just get through'.

'Yes, obviously everyone wants to perform well. I don't really understand the question'.

'I know why this question is being asked. There are things which the students need to change as well. It is not right to give suggestions for others to improve when you yourself are not prepared enough to excel'.

'I have written so many internals. Every time I feel that I should write this internal well. But I have never prepared for an internal and never passed one. There is a notion that we will get at least 5 marks for the 10 marks allotted for internals. I don't know how true it is'.

'As far as internals are concerned, we just need to attempt all of them. There is no time to prepare and study, and what I know is we don't really have to pass'.

DISCUSSION

The changing scenario of education in healthcare, globally, shifted the focus from preparing trainees to developing an institutional culture, with administration, faculty, and the students being recognized as accountable for the latter[10]. Literature suggests that faculty development programs (FDPs) in dental education are almost nonexistent in India[11]. A Master's in Dental Surgery (MDS) is a clinical training program wherein the necessary skills for educating and training students are not fully imparted, so if one is interested in teaching, the faculty needs to learn pedagogical techniques through FDP or another way. Therefore, FDPs are essential and must be observed as part of the institutional curriculum. Most of the problems faced by students relating to classroom teaching in this study could be comprehended as being consequential to the lack of initiatives such as FDP. Engaging the students in the class translates to facilitating active learning and allowing for intuitive appreciation of instantaneous feedback.

Since there were no large differences in the opinions of the students, and it was not the intention of this study to compare institutions but to try and develop an understanding of the learning environment from the students' perspective, the responses were not categorized based on the institution. This choice was made since these institutions follow the same curriculum and offer admission to students predominantly from the state of Andhra Pradesh, India. Moreover, initial review of the participant responses did not show marked differences in opinions relating to different aspects of the learning environment. Few incidents were identified in the study where students were reportedly mistreated in the clinics. It was recognized that the students did not report these incidents before and opined that it was senseless to report the incidents. Similar findings were reported by the Association of American Medical Colleges, where students refrain from reporting mistreatment thinking that the incident does not carry enough importance, fearing reprisals and believing that the incidents would be ignored[12]. A study on students' perceptions of the clinical learning environment in New Zealand noted that students were not satisfied with the feedback received[13]. Consistent with the above observations, students in this study expressed disinclination towards receiving feedback.

It is imperative for both faculty and students to understand that misinterpretations and uncertainties are inevitable in clinical practice as the presentation of a clinical condition differs from individual to individual and so does the provision of care. It was suggested by Perry that empathetic teachers in a clinical environment who admit their uncertainty in a given clinical situation helps students in the much-needed transition from right–wrong dichotomy to acceptance of uncertainties[14]. Furthermore, the authoritarian attitude of teachers towards students has the unwanted consequence of the attitude being adopted by students towards their patients. It is well documented in the literature that students who face public humiliation and considered unworthy do not empathize with patients[15]. In this regard, it becomes the responsibility of any healthcare institution to focus on student-centered teaching which translates to patient-centered care being observed by the students or trainees.

Globally, assessment of students' academic performance is an area of professional education that has undergone a multitude of changes over the past few decades[16]. However, the assessment criteria in most dental educational institutions in India continue to be the same, with no objective methods in place to evaluate the clinical skills demonstrated by the students. It is essential to discern that assessment constructively navigates learning. It is only when the influential role of assessment in motivating the students to learn is recognized that the need for appropriate assessment criteria relevant to the domain to be assessed is understood. The dissatisfaction expressed by the students with evaluation in the present study emphasizes the need to institute more objective assessment criteria. International experience suggests that students show better interest and report better learning when marking and grading are not in concomitance with the learning process[13,17]. Inclusion of Objective Structured Clinical Examination (OSCE) in the dental curricula would be beneficial in eliminating prejudice and allows everyone to be assessed by the same criteria[18]. Furthermore, use of portfolios facilitating students to reflect upon their own performance would facilitate better learning[19]. OSCEs are widely used in undergraduate dental education in European[20], American[21], and Canadian dental education[22]. A study focusing on the integrated aspects of team-based learning with peer-to-peer teaching at the Harvard School of Dentistry reported that weaker students performed considerably better with less faculty involvement and more self-directed learning[23]. These findings highlight the need for preparing customized teaching plans to stimulate students' quest for learning. Student Evaluation of Teaching (SET) is known to be an effective way for assessing faculty performance by the recipients themselves. When constructed and delivered in the right manner, SETs are acknowledged to be valid and reliable measures for assessment of faculty performance, and should be linked with annual salary increment or promotion of faculty members[24]. The relevance of SETs in dental curricula has been widely discussed over the years, and can be considered for inclusion in the Indian dental educational context[25,26].

Strengths and limitations

The results from this qualitative study highlight the fact that students face challenges in the learning environment, which lead to negative learning outcomes, especially when the students demonstrate poor academic drive. Nevertheless, the temporal association between perception of problems in the learning environment and poor academic drive cannot be inferred from the results of this study. However, it is certain that the responses given by some students demonstrating their mediocre interest to perform well academically may not entirely be attributed to the learning environment but could be circumstantial, especially in light of the growing debate for the future of the dental profession in India.

The findings of this study provide some solutions and offer a framework for the conduct of future research to better understand the guiding factors for students' perceptions of the learning environment based on what was documented here. The study also highlights the need for regular institutional reviews of curricula in dental education. Though it cannot be claimed that the findings of this study can be generalized to all teaching dental institutions in India, it is most likely that they apply across dental institutions.

CONCLUSIONS

In countries like India where the burden of oral diseases is very high, it is pertinent that technically well equipped, socially empowered, and cognitively empathetic dental professionals be prepared to meet the ever-increasing need for dental healthcare. Conducive learning environments are necessary for the preparation of such professionals, which demands commitment from educators, administrators and students. Regular introspection of the strength and implementation of the curricula and documentation of the perceptions of the stakeholders demonstrate the need for this commitment and provide an opportunity for better dental education. In a competitive world where mediocrity is not entertained, striving for excellence has become the norm. In this context, it is recommended that all teaching dental institutions develop institution-specific models for assessment of the learning environment and councils regulate the learning environment by instituting fundamental common norms across the dental institutions in the country.

REFERENCES

1. Kossioni AE, Lyrakos G, Ntinalexi I, Varela R, Economu I. The development and validation of a questionnaire to measure the clinical learning environment for undergraduate dental students (DECLEI). Eur J Dent Educ. 2014;18(2):71-79. doi:10.1111/eje.12051
2. Institute of Medicine, Committee on the future of dental education. Evolution of dental education. In: Field, MJ ed. Dental education at the cross roads: Challenges and change. Washington, DC: The National Academies Press; 1995:35-58. https://www.nap.edu/read/4925/chapter/4#57. Accessed February 14, 2020.
3. Butts HC. Foreign-trained practitioners should meet our standards to be licensed. J Am Dent Assoc. 1977;94(3):417-418. doi:10.14219/jada.archive.1977.0028
4. Fontana M, González-Cabezas C, de Peralta T, Johnsen DC. Dental Education Required for the Changing Health Care Environment. J Dent Educ. 2017;81(8):eS153-eS161. doi:10.21815/JDE.017.022
5. Subramanian J, Anderson VR, Morgaine KC, Thomson WM. The importance of 'student voice' in dental education. Eur J Dent Educ. 2013;17(1):e136-e141. doi:10.1111/j.1600-0579.2012.00773.x
6. Sarfaraz H. Dental education in India. Journal of interdisciplinary dentistry. 2016;6(3):101-102. doi:10.4103/2229-5194.201654
7. Dental Council of India. http://www.dciindia.gov.in/. Accessed February 16, 2019.
8. Batra M, Ivanišević Malčić A, Shah AF, et al. Self Assessment of Dental students' Perception of Learning Environment in Croatia, India and Nepal. Acta Stomatol Croat. 2018;52(4):275-285. doi:10.15644/asc52/4/1
9. Dental Council of India. BDS COURSE REGULATIONS 2007. https://dciindia.gov.in/Rule_Regulation/Revised_BDS_Course_Regulation_2007.pdf. Updated July 25, 2007. Accessed February 9, 2020.
10. Coman A, Bonciu C. Organizational Culture in Higher Education: Learning from the Best. European Journal of Social Sciences Education and Research. 2016;3(1):135-145. doi:10.26417/ejser.v6i1.p135-145
11. Guntupalli SNV, Sanikommu S, Pachava S, et al. Perceptions on faculty development among dental faculty in Andhra Pradesh. The journal of the Indian Association of Public Health Dentistry. 2017;15(2):151-156. doi:10.4103/jiaphd.jiaphd_177_16
12. McLeod M, Salari S. Unspoken barriers to change in the medical learning environment. Med Teach. 2018;40(5):535-536. doi:10.1080/0142159X.2017.1398399
13. Ebbeling S, Adam L, Meldrum A, Rich A, McLean A, Aitken W. Oral Health and Dental Students' Perceptions of Their Clinical Learning Environment: A Focus Group Study. J Dent Educ. 2018;82(10):1036-1042. doi:10.21815/JDE.018.102
14. Benbassat J. Hypothesis: the hospital learning environment impedes students' acquisition of reflectivity and medical professionalism. Adv Health Sci Educ Theory Pract. 2019;24(1):185-194. doi:10.1007/s10459-018-9818-1
15. Meirovich A, Ber R, Moore M, Rotschild A. Student-centered tutoring as a model for patient-centeredness and empathy. Adv Med Educ Pract. 2016;7:423-428. doi:10.2147/AMEP.S107115
16. Dawson P. Assessment rubrics: Towards clearer and more replicable design, research, and practice. Assess Eval High Educ. 2015;42(3):347-360. doi:10.1080/02602938.2015.1111294
17. 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. doi:10.1002/j.0022-0337.2006.70.2.tb04068.x
18. Cannick GF, Horowitz AM, Garr DR, et al. Use of the OSCE to evaluate brief communication skills training for dental students. J Dent Educ. 2007;71(9):1203-1209. doi:10.1002/j.0022-0337.2007.71.9.tb04385.x

19. Ahmed MH. Reflection for the undergraduate on writing in the portfolio: where are we now and where are we going?. J Adv Med Educ Prof. 2018;6(3):97-101. doi:10.30476/JAMP.2018.41021
20. Wardman MJ, Yorke VC, Hallam JL. Evaluation of a multi-methods approach to the collection and dissemination of feedback on OSCE performance in dental education. Eur J Dent Educ. 2018;22(2):e203-e211. doi:10.1111/eje.12273
21. Romito L, Schrader S, Zahl D. Using Experiential Learning and OSCEs to Teach and Assess Tobacco Dependence Education with First-Year Dental Students. J Dent Educ. 2014;78(5):703-713. doi:10.1002/j.0022-0337.2014.78.5.tb05722.x
22. Gerrow JD, Murphy HJ, Boyd MA, Scott DA. Concurrent validity of written and OSCE components of the Canadian dental certification examinations. J Dent Educ. 2003;67(8):896-901. doi:10.1002/j.0022-0337.2003.67.8.tb03676.x
23. Nalliah RP, Allareddy V. Weakest students benefit most from a customized educational experience for Generation Y students. PeerJ. 2014;2:e682. doi:10.7717/peerj.682
24. Clayson DE. Student Evaluations of Teaching: Are They Related to What Students Learn?: A Meta-Analysis and Review of the Literature. Journal of Marketing Education. 2008;31(1):16-30. doi:10.1177/0273475308324086
25. Jahangiri L, Mucciolo TW, Choi M, Spielman AI. Assessment of teaching effectiveness in U.S. Dental schools and the value of triangulation. J Dent Educ. 2008;72(6):707-718. doi:10.1002/j.0022-0337.2008.72.6.tb04536.x
26. Grillo AC, Murdoch-Kinch CA, Ramaswamy V, Inglehart MR. Student Evaluations of Teaching: Dental and Dental Hygiene Students' and Faculty Members' Perspectives. J Dent Educ. 2016;80(4):439-451. doi:10.1002/j.0022-0337.2016.80.4.tb06102.x

CONFLICTS OF INTEREST
The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none was reported.

PROVENANCE AND PEER REVIEW
Not commissioned; externally peer reviewed.

FUNDING
There was no source of funding for this research.