

Final Year BDS Student's Perception and Feedback Regarding Prosthodontics and its Teaching Methodologies



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OBJECTIVE: Teaching and learning methodologies have been a topic of concern for everyone for a decade. Dental education involves both academic and clinical understanding of subjects included in the curriculum. The study aims to determine the success of a system that could achieve the desired learning outcomes.

METHODOLOGY: In this cross-sectional study 229 BDS students at five different dental colleges affiliated with the University of Health Sciences, Lahore responded to a predesigned structured questionnaire regarding the prosthodontic subject. Feedback on the Perception of students regarding prosthodontics as a subject was asked from BDS final year regular batch, before their university final exam.

RESULTS: Most students found prosthodontics an interesting subject (82%). On enquiring about the level of difficulty of prosthodontics compared to other dental clinical subjects, 56.9% of students responded negatively. The majority were satisfied with the content (79.1%), delivery, and pace of the lectures (78.2%). 85.4% of students reported lecture material was easy to follow and satisfactory. The highly reported useful method for learning and understanding prosthodontics was PowerPoint slides 69%, followed by group discussion 52.70%. MCQs as the mode of assessment reported positive by 75.70%, whereas 77.4% of students want to have an integrated teaching method.

CONCLUSION: The majority of the students found the subject interesting but considered it difficult to understand. Further teaching methodologies must be improved to enhance the student's understanding of the subject. Better comprehension will also help in flourishing prosthodontics as a specialty.

KEYWORDS: Teaching methodology, Prosthodontics, Effective learning, Assessment, Feedback

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INTRODUCTION

Over the past few years, voices have been raised globally to develop standard criteria for dental education and curriculum. Modification in teaching and assessment strategies has been an ongoing process to

achieve and improve the set goals. Even the best teaching methods may contain flaws and mistakes. To achieve effective learning, teaching, and training, feedback is one of the most important factors that can bring fruitful outcomes with a positive attitude toward the learner's behavior.^{1,2} The effectiveness of the curriculum may be best achieved by student feedback with mental compatibility and understanding between facilitators, learners, and stakeholders.³

A dental student is most likely to learn through an efficient teaching methodology.⁴ Adopting an effective learning technique that increases and improves the absorption of a subject is a true learning method.⁵ Varieties of teaching tools and methods like; Didactic and Interactive lectures, Problem-based learning, Process Oriented Guide Inquiry Learning (POGIL), Peer Review, Peer-Led Team Learning (PLTL),

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Evidence-Based Dentistry, Computer Assisted Learning (CAL), role play, and models, which are available and is practiced in many institutes.⁶ The blended learning technique is a student-centered learning process that promotes and enhances the learning environment by decreasing direct student-to-teacher contact time. However, a study on blended learning in prosthodontics is still lacking.⁷

Teaching and training, testing, and examination are crucial to run side by side to develop effective learning dental competencies at the institutional level. Assessment methods should address validity, reliability, acceptance, cost, feasibility, and influence on teaching and learning. MCQs, SEQs, SAQs, OSCE, OSPE, workplace base assessment, Mini-CEX, DOPS, Portfolio, and Viva's voice are the common assessment tools being practiced in Pakistani institutes.^{1,8} In most undergraduate dental education systems main focus is on the development of the contents of the course along with setting the examination pattern for assessment of students' performance. Previously, obtaining feedback from students for their learning improvement was not in focus.^{9,10} Students are the best judges, who can effectively determine the most appropriate teaching tools and systems. They are in a position to critically assess and logically comment on teaching and evaluation methodology.^{11,12}

The objective of this study was to evaluate the final year BDS students' perception of prosthodontics as a subject and their feedback on teaching methodologies and assessment tools.

METHODOLOGY

This cross sectional study was conducted in five different dental colleges affiliated with University of Health Sciences, Lahore (UHS). The BDS final year students, (regular batch) who were going to appear for their final university exam having at least 75% attendance were included in the study. Repeaters, detainees and debarred students from the university exam were excluded from study. Sample size calculation was done by using WHO calculator and standard formula (Yates Formula) used was

$$n = Z^2 * \frac{P(1-P)}{(d^2)}$$

Z= Confidence interval= 95%=1.97

P= Population Proportion= 78%=0.78

d= Margin of error= 5% =0.05

The calculated sample size was 264 students by using 78%¹⁵ prevalence of students reported to choose prosthodontics as subject of specialty, 95% confidence interval and 5% margin of error.

A total of 229 final year BDS students of dental colleges affiliated with University of Health Sciences, Lahore participated and responded the survey form questions, with 86.742% participation rate. Data was collected at the end of prosthodontic final year session just before appearing in UHS annual examination 2021 using a predesigned structured questionnaire.¹³ Electronic informed consent was taken from students prior to data collection. Data was entered and analyzed in SPSS version 25.0. Percentages were used to analyze the data. Percentages and Frequencies were calculated and reported.

RESULTS

Out of total sample of 229, males were 23.85% and females were 76.15%. Majority of the study sample was based on females. (Fig 1)

Figure 1: Gender wise data distribution

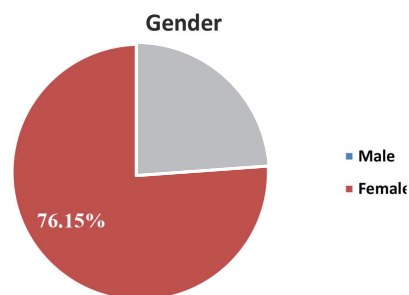


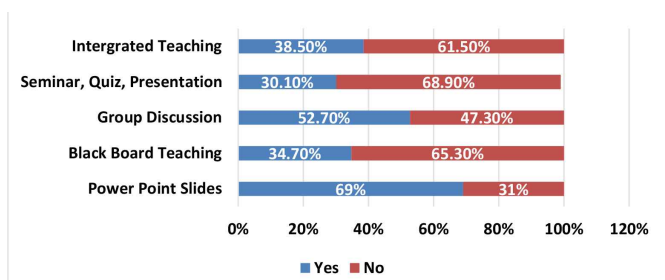
Table 1: Perception of students about prosthodontics

		Yes	No	I don't know
Students' Perception about Prosthodontics as a Subject	Do you find prosthodontics interesting	196(82%)	35(14.6%)	8(3.3%)
	Does a sound knowledge of prosthodontics help in clinical practice?	234(97.9%)	5(2.1%)	0(0.0%)
	Does integration of prosthodontics teaching with basic subjects help in better understanding of concepts?	224(93%)	6(2.5%)	9(3.8%)
	Is prosthodontics more difficult than other dental clinical subjects?	86(36%)	136(56.9%)	17(7.1%)
Teaching Methodology: Content and Quality.	Are you satisfied with the content of lectures?	189(79.1%)	38(15.9%)	12(5%)
	Do you feel that important points have been adequately highlighted during lectures and practical classes?	196(82%)	34(14.2%)	9(3.8%)
	Are you satisfied with the explanations given during lectures and practical classes?	193(80.8%)	33(13.8%)	13(5.4%)
	Are you satisfied with the delivery and pace of the lectures?	Yes	No	May be
		187(78.2%)	26(10.9%)	26(10.9%)
		Yes	No	I don't know
		213(89.1%)	17(7.1%)	9(3.8%)
Teaching Tools	Are the numbers of classes taken in prosthodontics adequate?	204(85.4%)	27(11.3%)	8(3.3%)
	Is duration of each of the class adequate?	224(93.7%)	11(4.6%)	4(1.7%)
	Are the displayed lecture material easy to follow and satisfactory?	204(85.4%)	28(11.7%)	7(2.9%)
	Are the images, flow charts and graphics used during the lectures are relevant to the topic?	224(93.7%)	7(2.9%)	8(3.3%)

The highly reported method useful for learning and understanding prosthodontics was PowerPoint slides 69%, followed by group discussion 52.70%, integrated teaching 38.50%, black board teaching 34.70%, and seminar, the responses in favor of quiz and presentation were 30.10% (Table 1)

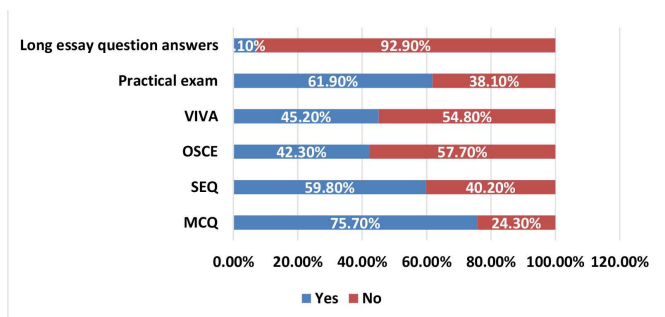
MCQs as mode of assessment was reported in positive by majority of students 75.70%. Students who reported Practical exam, SEQs, VIVA, OSCE and Long essay question answers as the mode of assessment helpful in improving knowledge and application of skills were 61.90%, 59.80%, 45.20%, 42.30%, and 7.10%. (Graph 1)

Graph 1: Methods useful for learning and understanding prosthodontics



Majority of students want to have integrated teaching method 185(77.4%). Introduction of case based learning was supported by 218(91.2%). Introduction of group discussions was supported by 199(83.3%) students. (Graph 2)

Graph 2: Modes of assessment helpful in improving knowledge and application skills



Recommendations to improve learning in prosthodontic as a subject (Table 2)

Table 2: Recommendations to improve learning in prosthodontic as a subject

Recommendations	Yes	No	May be
should we Introduce integrated teaching method	185(77.4%)	7(2.9%)	47(19.7%)
should we Introduce Case based learning	218(91.2%)	6(2.5%)	15(6.3%)
Introduce group discussions	199(83.3%)	14(5.9%)	26(10.9%)

DISCUSSION

Prosthodontics treatment planning requires a lot of time for patient interaction and communication, which in turn builds and increases student interest in prosthodontics.¹⁴ A majority (82%) of the dental students who participated in this study showed positive learning experiences with prosthodontics. Prosthodontics role in developing and improving patients' quality of life was well perceived and appreciated by students. Another study conducted at Harvard School of Dental Medicine (HSDM) reported 70% positive with only 7% negative responses of students for prosthodontics as a subject whereas the current study showed 14% negative responses.¹⁵ For better understanding 93% of participants of this study were in favor of integrated teaching of prosthodontics with basic subjects. In another study conducted at the University of Texas Health Science Center at Houston - School of Dentistry (UTSD) 98% of the students agreed to an integrated system.¹⁶

On enquiring about the level of difficulty of prosthodontics compared to other dental clinical subjects, the response of 136 students (56.9%) was negative. Conventional teaching with inadequate clinical exposure contributes to increasing difficulty in understanding the concepts of prosthodontics.¹⁷

According to the results of our study, the students reported powerpoint slides (69%) as the most useful method of learning followed by group discussions both of which are traditional methods of teaching under the results of a study done in Spain by Montero et al¹⁸ in which students perceived competence through learning by traditional learning methods was significantly higher than that by PBL methods. In a study by Manzar and Manzar, most of the students (77.1%) also thought multimedia to be the most effective teaching tool followed by transparencies and traditional blackboard teaching.¹⁹ In another study by Eslami et al it was reported that although PBL has been known as a useful approach for a long to encourage lifelong learning, the literature lacks properly designed studies to assess its effectiveness. Therefore,

more randomized clinical trials and longitudinal studies with proper comparators and control groups comparing actual diagnostic and clinical skills will shed more light on its effectiveness in prosthodontics learning.²⁰

In another study conducted at Harvard School of Dental Medicine, which also uses hybrid PBL, the majority of students reported the feeling of having not acquired enough knowledge from the lectures, and the majority did not feel confident in treating prosthodontics patients in the clinic.²¹

In a study by Deshpande et al, it was suggested that blended teaching methods employing didactic lectures as well as computer-assisted case-based learning can be used

to overcome the drawbacks of conventional teaching such as compartmentalization of knowledge and promote clinical problem-solving skills since educational reforms in medical and dental teaching are on-going globally.²² Another study also favored blended learning as it fosters student-focused learning to develop didactic and laboratory skills to achieve competency.²³

In our study, students liked MCQs as an assessment mode the most (76%) followed by a practical exam. In a study carried out by Oyebola et al, the majority of the participants also supported MCQ-based assessment.²⁴ Whereas, in another study, students favored the best choice question (BCQ) system of assessment, as it promoted critical thinking followed by multiple choice question (MCQ).¹⁹

The majority of the students were satisfied with the contents, explanations, and duration of lectures as per our study. In two other studies as well, students were satisfied with the quality of prosthodontics education and teaching.^{25,26}

However, in another study, most of the students were dissatisfied with the quality of teaching (57.2%) and also with the pattern of typical lecture-based teaching.¹⁹ The participants of our study were also satisfied with the number and duration of lectures allocated for prosthodontics. As per another study majority of students believed that 30 minutes should be the ideal duration of the lecture.¹⁹ In a study done at Harvard School of Dental Medicine students reported that shortened preclinical clock hours brought them anxiety and stress and they felt they did not gain adequate knowledge from the lectures, resulting in low self-esteem (confidence) in treating patients in the clinic but still their performance was at-par with students of other institutions and they choose prosthodontics as a specialty for future.²¹

CONCLUSION

BDS final-year students were interested in learning prosthodontics and its clinical practice, but they found prosthodontic concepts difficult to understand due to conventional teaching with inadequate clinical exposure.

RECOMMENDATIONS

Alternative teaching methodologies such as integrated teaching should be opted.

In future more randomized clinical trials and longitudinal studies with comparators and control groups are required to understand better outcome of the learning methodologies opted.

CONFLICT OF INTEREST

There was no conflict of interest among authors

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