



## **Perspective and Attitude toward Trends in the Curriculum and Teaching Methodology among Dental Students In Haryana- An Observational Study**

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### **ABSTRACT**

Teaching in dentistry in India is still based on conventional learning methods. Understanding an educational program can assist with quality assurance by identifying where a program can be improved. The fundamental right of students to freely express their views and their active role in the decision-making process is a cornerstone of any academic program. The purpose of this study was to assess the preference and attitude of dental undergraduates towards teaching methods to recommend a better teaching system for dental education.: A cross-sectional study was conducted among Bachelor of Dental Surgery (BDS) students of a private and government institute, to determine their preferences towards teaching curriculum and strategies in their respective dental colleges. A self-administered 10-item web-based close-ended questionnaire was prepared and was provided to the students and their submitted responses were analyzed. The data recorded were subjected to statistical analysis using the Chi-square test. The level of statistical significance was set at  $P \leq 0.05$ . Among all the participants, 65 (54.2%) were 3<sup>rd</sup> year BDS, and 55 (45.8%) were 4<sup>th</sup> year BDS students. It was found that 87.3% of 4<sup>th</sup>-year students and 81.5 % of third-year students considered that traditional teaching should switch over to active learning methods as these methods are more effective learning methodologies. Around 69.4% from a private institute and 45.8% from a government institute preferred a 45-minute session for effective academic learning. Almost all students irrespective of their year of study and institute affiliation felt if active learning methods are incorporated into teaching, it will make the dental subjects more interesting.

**Conclusion:** Implementation of combination of teaching methodologies will aid in improving the learning process, competency, logical thinking, and confidence of the dental students.

**Keywords:** Attitude, Curriculum, Dental students, Perception, Teaching

Received 13.10.2022

Revised 23.11.2022

Accepted 16.12.2022

### **INTRODUCTION**

With the changing scenario of education worldwide, the dental education system faces a serious challenge of improving the teaching system. With growing awareness to bring about a change, it mandates a need to look into our existing curriculum and teaching methodology and address the issues that need revision. This will bring about a change with which the students will be satisfied with the teaching methodology and this change will also improve our efforts in preparing the students for this continuously changing environment. It is important that dental students are not only able to learn their subject well and in the right way but also have a thorough understanding and knowledge of the subject and can apply their knowledge in clinical or practical work to provide appropriate treatment.

An all-time popular way of teaching has been by use of didactic lectures. Over a period of time, there has been a drastic change in teaching methodology. We have seen a change from chalkboard teaching, to the use of media and other aids. A switch over from teacher-centric approach to a student learning approach is the need of the hour. Multiple teaching methodologies like the use of video-based learning, demonstrations, role-play, discussions, computer-assisted learning are finding their way into a regular teaching practice [1, 2]. The intention is to engage the students in the subject to create a better understanding and better learning. The ultimate goal of teaching is to make learning more fruitful and to have a more productive output at the end of the day. In this process of teaching, an important fact, especially in the field of dentistry is that the teachers not only need to prepare students to acquire knowledge but also need to develop critical thinking and make them capable to be independent to make the right clinical judgment when they face patients in clinics. So, the learning process is critical. But the

question arises how will the student benefit from the teaching system? Is the student comfortable? It is important to understand what the students want or how would they like to learn. The opinion of the student becomes crucial. It is important that their viewpoints are taken into consideration and are incorporated into teaching practice.

The purpose of this study was to assess the attitude of dental undergraduates from a private and a government institute towards teaching methods in order to implement a better teaching system for dental education.

## MATERIAL AND METHODS

A cross-sectional study was conducted among dental students of a private and government institute to determine their preferences towards teaching curriculum and strategies in their respective dental colleges. Using convenience sampling, a total of 120 students pursuing Bachelor of Dental Surgery (BDS) 3rd Year and 4th Year from a private and government dental college in Haryana participated in the study. Ethical clearance was obtained before conducting the study from the Ethical Review Board of the Institute. Formal consent was obtained from all the students and was informed about the nature of the study, and confidentiality was assured. Students who were absent on the days of the study and who were not willing to participate were excluded from the study.

A self-administered 10-item web-based close-ended questionnaire was prepared in English language using google document format. Test-retest reliability was performed to test the reliability and internal consistency of the questionnaire, it was found to be good with Cronbach's alpha 0.85. The comprehensiveness of the questionnaire was optimized using content and face validity before the main study. All the participants were asked to submit their responses within 4 weeks and reminders were sent if required.

The collected data were entered into Microsoft Excel 2007 and subjected to statistical analysis using the statistical package for social sciences version 20.0 (IBM Statistics Inc., Chicago, Illinois, USA). A P value  $\leq$  0.05 will be considered statistically significant.

## RESULTS

A total of 120 dental students of the third year and fourth year batch studying in a private and government institute participated in the study. Amongst these 94 (78.3%) were females and 26 (21.6%) were male students. The majority of the students (66.7%) who participated in the study were between 21 to 22 years (Table 1).

**Table 1: Demographic details of dental students (n=120)**

Variable		n (%)
Gender	Male	26 (21.6)
	Female	94 (78.3)
Age	19-20	29 (24.2)
	21-22	80 (66.7)
	$\geq$ 23 Years	11 (9.2)
Year of study	3 <sup>rd</sup> year BDS	65 (54.2)
	4 <sup>th</sup> Year BDS	55 (45.8)
College Affiliation	Private	72 (60)
	Government	48 (40)

Around 78.2% of fourth-year students and 84.6% of third-year students believe that didactic lectures are informative however 87.3% of final-year students and 81.5% of third-year students considered that traditional teaching should switch over to active learning methods as these methods are more effective learning methodologies. Of all, 47.3% and 50.8% of final and third years felt 2 hours each day should be allotted for clinical work whereas 23.6% and 27.7% of final and third years believed 3 hours should be allotted for clinical hours. (Table 2)

**Table 2: Preferences and attitude of dental students towards their curriculum and teaching methods based on their year of study (n=120)**

Question	Options	Student's n (%)			p value
		3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total	
Do you feel didactic lectures are informative	Yes	55 (84.6)	43 (78.2)	98 (81.7)	0.36
	No	10 (15.4)	12 (21.8)	22 (18.3)	
Do you feel traditional lecture method should change to active learning method	Yes	53 (81.5)	48 (87.3)	101 (84.2)	0.39
	No	12 (18.5)	07 (12.7)	19 (15.8)	
Preferred duration of a lecture class	30 minutes	19 (29.2)	17 (30.9)	36 (30)	0.6
	45 minutes	41 (63.1)	31 (56.4)	72 (60)	
	1 Hour	5 (7.7)	7 (12.7)	12 (10)	
Preferred number of clinical hours per day	1 Hour	3 (4.6)	1 (1.8)	4 (3.3)	0.48
	2 Hours	33 (50.8)	26 (47.3)	59 (49.2)	
	3 Hours	18 (27.7)	13 (23.6)	31 (25.8)	
	4 hours	11 (16.9)	15 (27.3)	26 (21.7)	
Most common reason for not liking a subject	Subject not interesting	18 (27.7)	16 (29.1)	34 (28.3)	0.44
	Don't understand the topic	27 (41.5)	23 (41.8)	50 (41.7)	
	Teaching style of faculty member	17 (26.2)	16 (29.1)	33 (27.5)	
	Feel subject not important	03 (4.6)	0	03 (2.5)	
Do you feel active learning method of teaching will make the subject more interesting compared to traditional teaching	Yes	62 (95.4)	49 (89.1)	111 (92.5)	0.19
	No	03 (4.6)	06 (10.9)	09 (7.5)	
Which one of the quality do you think is important in a teacher?	Personality/Language skills	09 (13.8)	04 (7.3)	13 (10.8)	0.20
	Teaching skills	54 (83.1)	51 (92.7)	105 (87.5)	
	Teaching experience	02 (3.1)	0	02 (1.7)	
Do you feel stressed out on completing the preclinical and clinical work quota	Yes	57 (87.7)	31 (56.4)	88 (73.3)	0.001*
	No	08 (12.3)	24 (43.6)	32 (26.7)	
Are you satisfied with the curriculum of dental profession	Yes	46 (70.8)	36 (65.5)	82 (68.3)	0.53
	No	19 (29.2)	19 (34.5)	38 (31.7)	

On questioning about not liking a particular subject and relating it to learning method, 41.8% of final year and 41.5% of third-year students did not like a subject because they were not able to understand the subject while 29.1 % of final year and 27.7% of third-year students felt that the subject was not interesting and about 29.1 % of final year and 26.2 of the third year felt that they did not like the subject as the subject was not taught properly (Table 2).

Of all, 56.4% of the fourth year and 70.8% of third-year students felt that they are stressed out in completing the quota for each subject but still 65.5% of final year and 70.8 % were satisfied with the curriculum laid down for them. On comparing results from the two institutes, 70.8% and 64.6 % from private and government institutes were satisfied with the curriculum (Table 2, 3).

**Table 3: Preferences and attitude of dental students towards their curriculum and teaching methods based on their institute affiliation (n=120)**

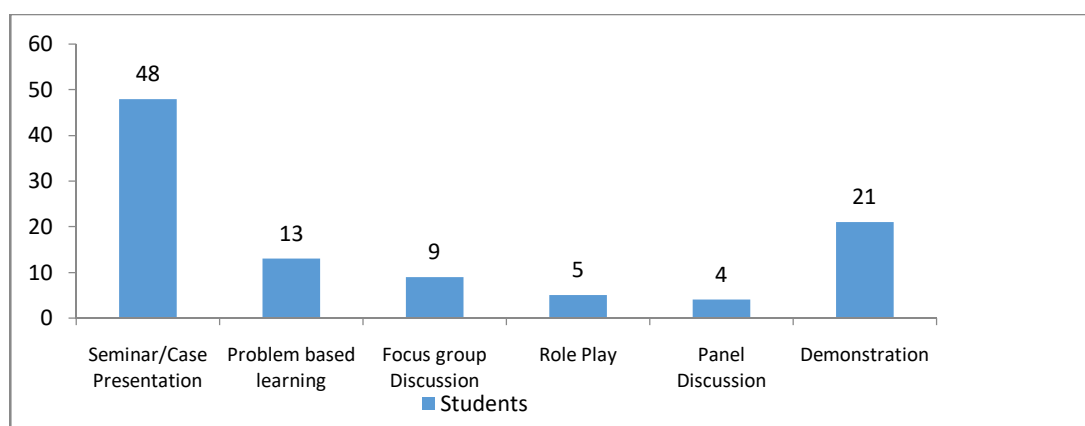
Question	Options	Student's n (%)			p value
		Private	Government	Total	
Do you feel didactic lectures are informative	Yes	61 (84.7)	37 (77.1)	98 (81.7)	0.28
	No	11 (15.3)	11 (22.9)	22 (18.3)	
Do you feel traditional lecture method should change to active learning method	Yes	61 (84.7)	40 (83.3)	101 (84.2)	0.83
	No	11 (15.3)	08 (16.7)	19 (15.8)	
Preferred duration of a lecture class	30 minutes	16 (22.2)	20 (41.7)	36 (30)	0.03*
	45 minutes	50 (69.4)	22 (45.8)	72 (60)	
	1 Hour	06 (8.3)	06 (12.5)	12 (10)	
Preferred number of clinical hours per day	1 Hour	03 (4.2)	01 (2.1)	4 (3.3)	0.83
	2 Hours	34 (47.2)	25 (52.1)	59 (49.2)	
	3 Hours	18 (25)	13 (27.1)	31 (25.8)	
	4 hours	17 (23.6)	09 (18.8)	26 (21.7)	
Most common reason for not liking a subject	Subject not interesting	16 (22.2)	18 (37.5)	34 (28.3)	0.07
	Don't understand the topic	35 (48.6)	15 (31.2)	50 (41.7)	
	Teaching style of faculty member	18 (25)	15 (31.2)	33 (27.5)	
	Feel subject not important	03 (4.2)	0	3 (2.5)	
Do you feel active learning method of teaching will make the subject more interesting compared to traditional teaching	Yes	69 (95.8)	42 (87.5)	111 (92.5)	0.09
	No	03 (4.2)	06 (12.5)	9 (7.5)	
	Personality/Language skills	10 (13.9)	03 (6.2)	13 (10.8)	0.19
	Teaching skills	60 (83.3)	45 (93.8)	105 (87.5)	
	Teaching experience	02 (2.8)	0	2 (1.7)	
Do you feel stressed out on completing the quota	Yes	66 (91.7)	22 (45.8)	88 (73.3)	0.001*
	No	06 (8.3)	26 (54.2)	32 (26.7)	
Are you satisfied with the curriculum of dental profession	Yes	51 (70.8)	31 (64.6)	82 (68.3)	0.54
	No	21 (29.2)	17 (35.4)	38 (31.7)	

On comparing the response between private and government institute students it was observed that 48.1 % of private and 31.2 % of government institute students did not develop a liking for a subject as they were not able to understand it whereas 25% and 31.2% related it to teaching the skill of faculty member respectively. 89.1% of final years and 95.4 % of third-year students felt if active learning methods are incorporated into teaching it will make the subject more interesting. (Table 2,3)

The opinion regarding qualities that student looks for in a teacher was teaching skills (83.3% and 93.8%), personality (13.9 % and 6.2%) in the private institute and government institute respectively (Table 3).

Irrespective of the year of study and institute affiliation, 40% of dental students chose seminar presentation as the preferred teaching methodology followed by 25.2% of students who thought demonstration to be a better teaching method (Figure 1).

**Figure 1:** Number of dental students with their preference towards different teaching methodologies



## DISCUSSION

An important challenge that is being faced in our dental education system is to ensure students are satisfied with the curriculum as well as the learning environment. Researchers have proposed that each student is unique and have their own style of learning [3]. A modification in teaching methodology or incorporating different styles of teaching from time to time will make an environment more conducive for learning. This will improve students' learning ability and will make teaching more effective which will ultimately contribute towards improvement in dental education. This study was conducted in a private and in government institute in Haryana with an aim to understand the students' attitude and their perspective towards learning.

Didactic lectures have been a traditional way of teaching. It seems to be a more economical, practical method to address a large gathering [4], however this long followed method seems to have students as passive listeners.<sup>5</sup> Vast knowledge is disseminated in a class via didactic lectures, this is a fact and a similar opinion was expressed by the students in the present survey. However, it has been observed that in this method of teaching the students are unable to retain the complete knowledge.<sup>2</sup> The major shortcoming is the lack of interaction between the teacher and the students. Students restrict themselves to listening and writing down notes. Their involvement may be restricted to the question-answer session at the end of the lecture. Incorporating active learning methods like group discussions, demonstrations, panel discussion, role play, and other methods, will definitely make learning more interesting and students will concentrate more on the teaching and will be able to grasp more information provided to them.

The duration of a lecture has been a topic of debate. The majority of students both from private and government institutes felt that a 45-minute session of teaching and 2 hours for clinical demonstrations are more acceptable and more fruitful. Though a smaller group of students felt a 30-minute session of teaching and 3 hours of clinical demonstrations are better. A very few agreed to one hour of teaching. In a study done by SenM et al [7], similar observations were made by students where they too agreed for a 45 minutes session. Al Hamdam et al [3] in their study found that the students were comfortable if the lecture timings did not extend beyond 40 minutes. Students feel that number of teaching hours per day doesn't matter much rather the duration of each session influences the learning process. Similarly, adequate clinical hours of teaching are important as these have a major influence on learning the subject. An adequate time frame provides an environment for the students to apply their theoretical knowledge in clinical practice [8].

Students' preferences varied when questioned about like and dislike of a subject. Most of the students disliked a subject because they were not able to understand the subject. They have also related their liking of a subject to the teaching style and use of various methodologies by the teacher. Students also agreed that active learning methods like group discussions, demonstrations will make subjects easy to understand. This will help them to develop a better understanding of the subject and probably could also influence their choice while selecting a subject for further studies and specialization. It is the responsibility of the teacher to ensure that the teaching is in a simplified manner and the message put across is retained by the student. The students should be able to recollect and apply the knowledge in their practice when they face situations. Paul SA et al [9] have suggested that the blended method of teaching was better for teaching oral surgery topics to students and found students of their study group had a better understanding and retention of the subject matter. A study by Gupta A et al<sup>10</sup> revealed that students stressed the need for interactive and clinically based teaching for the subject of oral medicine

and have suggested that blended teaching will help to develop interest and a better understanding of the subject. Teaching methodologies will have to be modified as per the subject or the topic so that the students are able to grasp the intricacies of the subject.

Expectations of students have changed over a period of time. They are more comfortable with newer teaching methodologies and show acceptance for the same. Quality of teaching skill in a teacher matters to them more which was also observed in this study. For them, years of teaching experience that the teacher has and their personality did not matter much. However, a smaller group of students were influenced by the personality and language skills of a teacher. The observations further reinforce the fact that a change in teaching methodology is the need of the hour.

Students do experience stress during their academic session which is often related to the learning environment, preclinical or clinical workload, completion of work in time, difficulties in managing patients. Most of the students from private institute felt more stressed out in completing the quota allotted to them. Students from government institute had an equal and mixed response regarding the completion of the quota. To make students more efficient and to improve their skills certain amount of work and practice is necessary. The curriculum has been designed to make more students confident and independent in their work. The dental curriculum being under the guidance of the regulatory body has some level of uniformity for students in all the dental institutions. In this study students from both institutes gave a satisfactory response to the curriculum laid down for them.

Students are the most important part of the education system and their opinions have a significant role in understanding the strength and weaknesses of our teaching system. Their opinions form a base for improving our teaching system and the implementation of newer ideas and technologies for a better learning environment. Opinions will vary from student to student, institute to institute, region to region. Cultural background and surrounding atmosphere may also influence a student to some extent in making an opinion. A study on a larger scale can contribute more in understanding the needs of students and in policymaking for an affected learning system

## Conclusion

There is no single method of teaching that can ensure a thorough understanding of a subject. A combination of teaching methodologies will not only improve the learning process but will also contribute to the improvement of communication skills and critical thinking which is definitely an unsaid and an important part of any curriculum. The ultimate aim is to bring about a change by taking into account the input and suggestions made by the students. This will not only aid in preparing the students for the future but will also help in improving their competency, their logical thinking so that they are able to develop better clinical reasoning and are able to manage their work with confidence and with ease.

## ACKNOWLEDGMENT

The authors would like to thank Dr. Mala Kamboj, Senior Professor, and Head, Department of Oral Pathology, PGIDS, Rohtak for her support throughout the study.

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#### **CITATION OF THIS ARTICLE**

Aparna Dave, Charu Khurana, Pulin Saluja, Manpreet Arora and Radhika Rai: Perspective And Attitude Toward Trends In The Curriculum And Teaching Methodology Among Dental Students In Haryana- An Observational Study. *Bull. Env.Pharmacol. Life Sci., Spl Issue [5]: 2022: 127-133.*