

# Assessment of Dental Students about the Problems Faced in Studying Oral Pathology: A Cross-Sectional Study.

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## ABSTRACT

**Background:** Oral pathology, a unique and diversified branch of dentistry that identifies and manages oral diseases pertaining to the oral and maxillofacial region. Aim and objectives: To evaluate and assess the dental students oriented towards oral pathology and also to take necessary measures for further improvement of the teaching process. **Methods:** A descriptive cross sectional study was carried out in the department of Oral Pathology, GDC Srinagar where the prepared questionnaires was given to all the undergraduate students and interns of GDC, Srinagar except first year BDs and postgraduate students. The questionnaire was in the form of multiple choice questions and designed in such a way which was simple to evaluate and answer. **Results:** In this study, dental students should have adequate knowledge of this subject but there are still holes between the understanding and awareness for this subject in the students. **Conclusion:** This study emphasized the difficulties felt by the dental students in their recent curriculum in the subject of oral pathology. By making little alterations in the current schedule, it can be made more interesting and systematic for the students.

**Keywords:** Dental students, Knowledge, Education, Oral Pathology.

## INTRODUCTION

Dental education comprises a multifarious combination of moralistic and motor skill learning processes.<sup>[1]</sup> A class of dental students is not consistent and within a class, there will be a combination of students, with some more advanced and some slower in their mastery of curriculum.<sup>[2]</sup> Dental students are skillful of providing unique information regarding the effectiveness of the dental curriculum.<sup>[3]</sup> The key concern in dental education is to strengthen the students' skills and abilities so as to transform them to become more knowledgeable graduates. This seems to be focused on student welfare which has shifted the paragon from teachers to students, the most recent thought being learning and learners rather than teaching and teachers.<sup>[4]</sup> Learning environment comprises social, psychological and pedagogical influences on student achievements including attitudes.<sup>[5]</sup> The term knowledge is also used to mean the theoretical

or practical understanding of a subject. Attitude is defined as a predisposition to classify objects and events and to react to them with some degree of evaluative consistency. Attitudes are acquired by social interaction, not learned from the textbooks.<sup>[6]</sup> Earlier studies have shown that the key sources of dental health knowledge are mass media, dental professionals, and dental literature.<sup>[7]</sup> Positive attitudes toward dental health promotion must developed during students' days rather than afterward. Due to considerable variations in the dental prospectus, additional study is recommended by Federation Dental International to give dentists, the knowledge, skills, and attitudes they will need in future practice.<sup>[8]</sup> The health beliefs and attitudes of dental students are important because these individuals are the future dental health providers.

Oral and maxillofacial pathology (OMFP) is a specialty that focuses on the clinical, radiographic, and microscopic diagnosis of pathological conditions affecting the oral and maxillofacial regions. The basis of a dental student is their ability to identify pathological diseases under a microscope. This can be achieved by reading books, exhaustive literature, and following the prescribed curriculum. The Oral Pathology department plays a key role in training them to this unique and diversified field of dentistry. A lot of advancements in terms of books, internet and

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conferences but there are still gap between the understanding and interest for the subjects in the students. It can be partly due to the fact that the students observe it as a non-clinical subject thus having a slighter scope for practice.<sup>[9,10]</sup> The aim of the present study was to evaluate and assess the dental students oriented towards oral pathology and also to take necessary measures for further improvement of the teaching process. This study was conducted to overcome voids and difficulties encountered by the students so as to facilitate adequate teaching abilities and skills in order to make the students competent graduates.

## MATERIALS AND METHODS

A descriptive cross sectional study was carried out in the department of Oral Pathology, GDC Srinagar where the prepared questionnaires in the form of multiple choice questions was distributed to all the undergraduate students and interns of GDC, Srinagar. The study was approved by the ethical committee of the college. The questionnaire was pretested, validated and close ended. The validation was tested using Cronbach's alpha for test-retest and its value came out to be 0.90. All the subjects were explained the objectives of the study. The questionnaire was given to each participant and the subjects were requested to answer individually but to indicate their gender, age and educational qualification. The total study sample of 94 subjects was divided into 5 groups:-

- Group I: 27 subjects of BDS 2nd year
- Group II: 21 subjects of BDS 3rd year
- Group III: 22 subjects of BDS Final year
- Group IV: 24 subjects of Interns

In this study, 1st year BDS students, internship subjects who had done BDS from outside and postgraduate students of this institution were excluded. The questionnaire was in the form of multiple choice questions and comprised of two, three and four alternatives as well as designed in a simplest form so that each subject should understand and answer. The questionnaire composed of three parts with part A comprised of demographic details, part B consisted of 10 questions concentrating on understanding oral pathology theory as well as part C involved 10 questions concentrating on understanding oral pathology practical. All data was collected and statistically analysed with the help of SPSS software (statistical package for social sciences) version 21.0 using Pearson chi-square test, Pearson correlation coefficient test and Cronbach's alpha reliability test. A probability value of < 0.05 was considered to be statistically significant.

## RESULTS

All the 94 participants were answered to questionnaire. Out of these, 75 (79.79%) were females and 19 (20.21%) were males. The results in [Table 1] showed 53.2% of the subjects have attended all classes in oral pathology and the results were statistically significant. A 44.7% of the participants spent 2 hours and 2 days in a week in theory classes. The results were found to be statistically significant. In this study, 38.3% and 43.6% of the participants stated that the topics discussed in the classes were useful in future and difficult to understand respectively as well as the results were found to be significant. In the present study, 72.3% of the participants have sometimes asked the teachers to repeat or explain the topic again, in case of difficulties and the results were found to be statistically significant. Only 3.2% of the subjects strongly satisfied with the teaching skills of staff with statistically significant results. A 70.2% of the students felt that the number of lectures taken by the staff provide an in depth view of the subject and the results were found to be significant. In the present study, 83% of the subjects have faced difficulties in understanding the topics in theory classes with statistically significant results. A total of 84 (89.4%) participants felt that textbook can be a prime source of knowledge and the results were not significant. In the present study, 77.7 % of the students have attended seminars related to oral pathology. The results were found to be significant.

The results in [Table 2] revealed that 57.4% of the students have spent 2 days and 4 hours in a week in practical classes and the results were found to be statistically significant. Out of 94 participants, 59.6% (56) participants have seen all slides shown in practical classes with significant results. A total of 89.4% of the subjects make an effort to identify the features seen on a slide and the results were found to be significant. A 45.7% have seen more than 4 slides on an average in one practical class with a significant result. In this study, 47.9% have read the topic before seeing the slides and the results were found to be statistically significant. In the present study, 86.1% have faced difficulty in identify the slide with a non-significant results. A 37.2% have seen the oral pathology atlas before practical with a statistically significant result. A total of 95.7% (90) of the participants make histological diagram for each slide and the results were not significant. Out of 94 participants, 85.1 % of the students know that they used light microscope for observing the slide and the results were found to be significant. A 57.4% of the participants have encountered difficulty in drawing the diagrams during practical exams and the results were significant.

**Table 1: Questions concentrating on understanding oral pathology theory**

S. NO	Question	Answer	Group I	Group II	Group III	Group IV	Total	Chi-square	P-value
Q1	Have you attended all classes in oral pathology till date?	Yes	7 (25.9%)	12 (57.1%)	11 (50%)	20 (83.3%)	50 (53.2%)	17.04	<0.001*
		No	20 (74.1%)	9 (42.9%)	11 (50%)	4 (16.7%)	44 (46.8%)		
Q2	How many days and hours do you spend in oral pathology theory classes in a week?	2 hours (2days)	14 (51.9%)	5 (23.8%)	4 (18.2%)	19 (79.2%)	42 (44.7%)	47.67	<0.001*
		3 hours 45 minutes (3 days)	2 (7.4%)	14 (66.7%)	16 (72.7%)	5 (20.8%)	37 (39.4%)		
		4 hours (5 days)	3 (11.15%)	1 (4.8%)	0 (0)	0 (0)	4 (4.3%)		
		4 hours 30 minutes (3days)	8 (29.6%)	1 (4.8%)	2 (9.1%)	0 (0)	11 (11.7%)		
Q3	Have you rate the type of response produced towards the topics covered in theory class?	Interesting	14 (51.9%)	3 (14.3%)	4 (18.2%)	6 (25%)	27 (28.7%)	20.59	0.012*
		Encourages further reading	8 (29.6%)	5 (23.8%)	8 (36.4%)	8 (33.3%)	29 (30.9%)		
		Useful in clinical practice	5 (18.5%)	13 (61.9%)	8 (36.4%)	10 (41.7%)	36 (38.3%)		
		Not useful	0 (0)	0 (0)	2 (9.1%)	0 (0)	2 (2.1%)		
Q4	Have you rate the understandability of the topics covered in the class?	Easy to understand	9 (33.3%)	11 (52.4%)	13 (59.1%)	5 (20.8%)	38 (40.4%)	35.62	<0.001*
		Difficult to understand	18 (66.7%)	8 (38.1%)	6 (27.3%)	9 (37.5%)	41 (43.6%)		
		Not comprehensive	0 (0)	2 (9.5%)	1 (4.5%)	10 (41.7%)	13 (13.8%)		
		None of the above	0 (0)	0 (0)	2 (9.1%)	0 (0)	2 (2.1%)		
Q5	Have you asked your teachers to repeat or explain the topic again in case of difficulties/doubts?	Yes	3 (11.1%)	2 (9.5%)	6 (27.3%)	0 (0)	11 (11.7%)	26.91	0.001*
		No	5 (18.5%)	3 (14.3%)	1 (4.5%)	1 (4.2%)	10 (10.6%)		
		Sometimes	14 (51.9%)	16 (76.2%)	15 (68.2%)	23 (95.8%)	68 (72.3%)		
		Occasionally	5 (18.5%)	0 (0)	0 (0)	0 (0)	5 (5.3%)		
Q6	Are you satisfying with the teaching skills of your staff members?	Strongly satisfy	0 (0)	2 (9.5%)	1 (4.5%)	0 (0)	3 (3.2%)	16.85	0.006*
		Satisfy	14 (51.9%)	13 (61.9%)	15 (68.2%)	6 (25%)	48 (51.1%)		
		Neutral	13 (48.1%)	6 (28.6%)	6 (27.3%)	18 (75%)	43 (45.7%)		
		Unsatisfied	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
Q7	Are you satisfy with the number of lectures taken sufficient to provide an in-depth view of the subject	Yes	23 (85.2%)	16 (76.2%)	21 (95.5%)	6 (25%)	66 (70.2%)	33.41	<0.001*
		No	4 (14.8%)	5 (23.8%)	1 (4.5%)	18 (75%)	28 (29.8%)		
Q8	Have you faced difficulties in understanding the topics in theory classes?	Yes	24 (88.9%)	12 (57.1%)	18 (81.8%)	24 (100%)	78 (83%)	15.54	0.001*
		No	3 (11.1%)	9 (42.9%)	4 (18.2%)	0 (0)	16 (17%)		
Q9	What is your prime source of knowledge about the topics?	Textbook	25 (92.6%)	21 (100%)	20 (90.9%)	18 (75%)	84 (89.4%)	12.29	0.056
		Notes	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
		Internet	1 (3.7%)	0 (0)	2 (9.1%)	6 (25%)	9 (9.6%)		
		None of the above	1 (3.7%)	0 (0)	0 (0)	0 (0)	1 (1.1%)		

Q10	Have you attended seminars related to oral pathology topics?	Yes	16 (59.3%)	20 (95.2%)	15 (68.1%)	24 (100%)	73 (77.7%)	20.52	0.002*
		No	11 (40.7%)	1 (4.8%)	7 (31.8%)	0 (0)	19 (20.2%)		

\*Statistically Significant Difference (P-value<0.05) Group I: BDS 2nd year, Group II: BDS 3rd year, Group III: BDS Final year, Group V: Interns

**Table 2: Questions concentrating on understanding oral pathology practical**

S. No	Question	Answer	Group I	Group II	Group III	Group IV	Total	Chi-square	P-value
Q1	How many days and hours do you spend in practical classes in a week?	3 days (6 hours 30 minutes)	3 (11.1%)	4 (19%)	1(4.5%)	7 (29.2%)	15 (16%)	49.99	<0.001*
		4 days (6 hours)	1(3.7%)	0 (0)	4 (18.2%)	0 (0)	5 (5.3%)		
		2 days (4 hours)	23(85.2%)	5 (23.8%)	17 (77.3%)	9 (37.5%)	54 (57.4%)		
		None of the above	0 (0)	12 (57.1%)	0 (0)	8 (33.3%)	20 (21.3%)		
Q2	Have you seen all slides shown in practical classes till date?	Yes	10 (37%)	17 (81%)	15 (68.2%)	13(54.2%)	56 (59.6%)	13.46	0.018*
		No	17 (63%)	4 (19%)	7 (31.8%)	10 (41.7%)	38 (40.4%)		
Q3	Do you make an effort to identify the features seen on a slide?	Yes	23 (85.2%)	20 (95.2%)	21 (95.5%)	20 (83.3%)	84 (89.4%)	9.49	0.132
		No	4 (14.8%)	1 (4.8%)	1 (4.5%)	4 (16.7%)	10 (10.6%)		
Q4	How many slides have you seen on an average in one practical class?	2	8 (29.6%)	4 (19%)	6 (27.3%)	1 (4.2%)	19 (20.2%)	22.81	0.007*
		3	10 (37%)	1 (4.8%)	6 (27.3%)	6 (25%)	23 (24.5%)		
		4	4 (14.8%)	3 (14.3%)	2 (9.1%)	0 (0)	9 (9.6%)		
		More than 4	5 (18.5%)	13 (61.9%)	8 (36.4%)	17(70.8%)	43 (45.7%)		
Q5	Have you read the topic before you can see the slide?	Yes	14(51.9%)	15 (71.4%)	11 (50%)	5 (20.8%)	45 (47.9%)	30.53	<0.001*
		No	5 (18.5%)	0 (0)	0 (0)	8 (33.3%)	13 (13.8%)		
		Sometimes	8 (29.6%)	5 (23.8%)	7 (31.8%)	4 (16.7%)	24 (25.5%)		
		Occasionally	0 (0)	1 (4.8%)	4 (18.2%)	7 (29.2%)	12 (12.8%)		
Q6	Have you face difficulty in identify the slide?	Yes	24(88.9%)	17 (81%)	16 (72.7%)	24 (100%)	81 (86.1%)	7.84	0.097
		No	3 (11.1%)	4 (19%)	6 (27.3%)	0 (0)	13 (13.9%)		
Q7	How often do you see the oral pathology atlas?	Daily	1 (3.7%)	2 (9.5%)	5 (22.7%)	5 (20.8%)	13 (13.8%)	21.14	0.012*
		Before practical	7 (25.9%)	6 (28.6%)	11 (50%)	11(45.8%)	35 (37.2%)		
		During practical	6 (22.2%)	9 (42.9%)	4 (18.2%)	2 (8.3%)	21 (22.3%)		
		Almost never	13(48.1%)	4 (19%)	2 (9.1%)	6 (25%)	25 (26.6%)		
Q8	Do you make histological diagram for each slide?	Yes	25(92.6%)	21 (100%)	20 (90.9%)	24 (100%)	90 (95.7%)	3.92	0.292
		No	2 (7.4%)	0 (0)	2 (9.1%)	0 (0)	4 (4.3%)		
Q9	Which microscope have you seen your slides?	Light microscope	22 (81.5%)	21 (100%)	17 (77.3%)	20 (83.3%)	80 (85.1%)	19.90	0.008*
		Polarizing microscope	1 (3.7%)	0 (0)	4 (18.2%)	4 (16.7%)	9 (9.6%)		
		Dark field microscope	0 (0)	0 (0)	1 (4.5%)	0 (0)	1 (1.1%)		
		None of the above	4 (14.8%)	0 (0)	0 (0)	0 (0)	4 (4.3%)		
Q10	What is the main difficulty you encountered during practical exam?	Identification of slides	5 (18.5%)	5 (23.8%)	10 (45.5%)	10 (41.7%)	30 (31.9%)	18.93	0.017*
		Drawing the diagrams	15 (55.6%)	16 (76.2%)	9 (40.9%)	14 (58.3%)	54 (57.4%)		
		Remembering the histopathological features	2 (7.4%)	0 (0)	0 (0)	0 (0)	2 (2.1%)		
		All of the above	5 (18.5%)	0 (0)	3 (13.6%)	0 (0)	8 (8.5%)		

\*Statistically Significant Difference (P-value<0.05) Group I: BDS 2nd year, Group II: BDS 3rd year, Group III: BDS Final year, Group V: Interns

## DISCUSSION

A descriptive cross-sectional study was carried out to evaluate and assess the dental students oriented towards oral pathology theory and practical as well as to take necessary measures for further improvement of the teaching process. The dental graduates are trained in such a way that they can understand the pathological diseases at microscopic level. This makes it imperious that dental students develop interest in Oral Pathology. The main role of Oral Pathology branch is to expertise the student in direct patient care and also to prepare them for hospital and college jobs.<sup>[11]</sup> The dental foundations will have to emphasize this subject at the

undergraduate level so that the students value it for the rest of their training and could be benefited to the fullest.<sup>[12]</sup> In this study, 38.3% and 57.4 % of the students spent 2 days in theory classes and 2 days in practical classes in a week. These results are similar to study done by Saawarn et al.<sup>[13]</sup> In the present study, 43.6% of the students felt that difficult to understand the topics covered in the class. Sciubba et al also stated that students do get motivated if there is some kind of encouragement. Students who combine their academic knowledge and clinical diagnosis can be rewarded. This is only possible if the students get posted to Oral Medicine and Oral Radiology department more often where they can sharpen their skills. This study gave us an

insight to the student's difficulties and apprehensions.<sup>[14]</sup> In the present study, majority of the students felt that textbook is the prime source of knowledge. In this study, dental students should have adequate knowledge of this subject but there are still holes between the understanding and awareness for this topic in the students. This may be due to the fact that students consider this subject as a non-clinical and have lesser scope for practice. In this study, 57.4% of the participants have encountered difficulty in drawing the diagrams during practical exams. This can be modified by introducing 3D animated technology so as to make the classes more interactive and interesting. These new ideas modify the course so that the students will show more interest in their studies. Thus, an effort should be made to maintain a helpful atmosphere for study, without compromising on quality of education and this can only be obtained through student's response and advances in the syllabus done by the institutions. The main idea to enhance performance is by having digitalization of slides as well as students have to put an effort for making the histological diagram.<sup>[15,16]</sup> The teaching skills can be modified by introducing 3D animated technology so as to make the classes more interactive and interesting. These new ideas modify the course so that the students will show more interest towards studies. Thus, an effort should be made to maintain a helpful atmosphere for the study, without compromising on quality of education and this can only be obtained through student's response and advances in the syllabus done by the institutions.

## CONCLUSION

This study emphasized the difficulties felt by the dental students in their recent curriculum in the subject of oral pathology. By making little alterations in the current schedule, it can be made more interesting and systematic for the students. The specialty needs to be anticipated well among dental students increasing their interest in the discipline as productive career option.

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