

How Far The Teaching Years Increases The Cognizance of Dental Students Regarding Periodontal Diseases

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ABSTRACT

Introduction: Dental students are groomed for the dental diseases and treatment. This takes place from taking admission, till the completion of the course. So, it is expected that the cognizance goes on increasing from first year to final year. However, awareness of periodontal diseases is still seen to be nascent and perception of it is quite variable among the population and dental professionals themselves, where as the maintenance of periodontal health requires an informed individual, particularly the professionals, who are service providers.

Materials and Methods: The responses of 200 dental students, from first year to final year, was evaluated by a, close-ended, eleven-item questionnaire.

Results: A positive impact and an increase in awareness was observed from first year to second, third and final year dental students. The percentage of students who gave correct answers were found to be 57.6% among first year dental students, 64.36% for second year, 71.8% for third year and 85.27% for fourth year dental students.

Conclusions: There was an increase in the level of cognizance in dental students regarding periodontal diseases with the progress in professional year i.e. from first year to final year students.

Keywords: Dental students; periodontal diseases; teaching

INTRODUCTION

Dentistry is a branch of medicine which trains the professionals to provide dental health to the society. Learning and teaching begins from first year of B.D.S course, even before this, it is expected that the students might have the basic interest or awareness about dentistry before entering the course, simultaneously, knowledge and cognizance should also increase from first year to final year, particularly about periodontal diseases.

It is important that the dental professional must be well motivated and educated in order to impart appropriate message in their community. However, awareness for periodontal diseases is still seen to be nascent and perception of it is quite variable among the dental professionals themselves.¹ A very few studies¹⁻⁴ have been conducted in India regarding this issue, so a questionnaire based study was planned and conducted at one institute in Moradabad, India, to explore and analyze the cognizance of dental students towards periodontal diseases.

MATERIALS AND METHODS

A cross-sectional questionnaire based study was conducted among dental students of Kothiwal Dental College and Research Centre, Moradabad, U.P., India to assess their awareness regarding periodontal diseases from 4th January 2014 to 31st March, 2014. Ethical approval (Ref. No. K.D.C.R.C/

ETH/RES/2013/12/04) and written consents were obtained from the participating subjects. A total of 200 dental students, (48% were male and 52% female of age group 18-23 yrs), 50 each from first year to fourth year were interviewed through a questionnaire containing 11 close ended items (Table-1).¹ Out of 11 questions, four were related with the etiology of periodontal diseases, three were related with systemic correlation and four were related with treatment of periodontal diseases. The respondents were instructed to fill the questionnaire without discussing with each other in their own classroom. The responses were compiled, computed and analyzed.

RESULTS

Overall, the percentage of students who gave correct answers were found to be 57.6% among first year dental students, 64.36% for second year, 71.8% for third year and 85.27% for fourth year dental students (Graph-1).

Question no.1: The first question was to assess the acquaintance of dental plaque by students. 36% of 1st year dental students were not aware of it, and 64% were knowing it. In second year, 92% were aware where as the percentage increased to 98% in third year and final year.

In Question no.2: When asked if dental plaque causes periodontal disease, 64%, 78%, 92% and 98% of dental students from first, second, third and fourth year, respectively agreed. In Question no.3: 54% of first year dental students, 50% in second year, 52% of third year and 76% in final year dental students believed that genes play a vital role in periodontal disease.

In Question no.4: When they were asked about the relation between gum diseases and smoking, 82% of first year dental students, 86% in second year, 82% of third year and 98% in final year dental students considered it to be a contributory factor.

In Question no.5: 42% of first year dental students, 46% in second year, 50% of third year and 74% in final year dental

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Etiology of periodontal disease	Question no.1	Are you aware of dental plaque?
	Question no.2	Are gum diseases caused by dental plaque?
	Question no.3	Do you think genes play a role in periodontal diseases?
	Question no.4	Is there any relation between gum diseases and smoking?
Systemic correlation of periodontal diseases	Question no.5	Is there any relation between gum diseases and heart diseases?
	Question no.6	Is there any relation between gum diseases and diabetes?
	Question no.7	Are you aware of gingival swellings which may occur during pregnancy?
Treatment of periodontal diseases	Question no.8	Can gummy smile be treated?
	Question no.9	If your gums are brown, do you think they can be treated?
	Question no.10	Are you aware of the use of local drug delivery for the treatment of gum diseases?
	Question no.11	Are you aware that alveolar bone can be regenerated by using bone substitutes?

Table-1: Questionnaire

Question No.	Question Type	I st Year (%)	II nd Year (%)	III rd Year (%)	IV th Year (%)	Total (%)
Are you aware of dental plaque?	Yes	64	92	98	98	88
	No	36	8	2	2	12
Are gum diseases caused by dental plaque?	Yes	64	78	92	98	83
	No	36	22	8	2	17
Do you think genes play a role in periodontal diseases?	Yes	54	50	52	76	58
	No	46	50	48	24	42
Is there any relation between gum diseases and heart diseases?	Yes	42	46	50	74	53
	No	58	54	50	26	47
Is there any relation between gum diseases and smoking?	Yes	82	86	82	98	89.5
	No	18	14	8	2	10.5
Is there any relation between gum diseases and diabetes?	Yes	70	74	86	88	79.5
	No	30	26	14	12	20.5
Are you aware of gingival swellings which may occur during pregnancy?	Yes	26	32	56	88	50.5
	No	74	68	44	12	49.5
Can gummy smile be treated?	Yes	76	88	82	88	83.5
	No	24	12	18	12	16.5
If your gums are brown, do you think they can be treated?	Yes	84	78	82	84	82
	No	16	22	18	16	18
Are you aware of the use of local drug delivery for the treatment of gum diseases?	Yes	24	30	46	56	39
	No	76	70	54	44	61
Are you aware that alveolar bone can be regenerated by using bone substitutes?	Yes	48	54	54	90	61.5
	No	52	46	46	10	38.5

Table-2: Illustration of percentage of responses of questionnaire

students had an idea about the relation between gum diseases and heart diseases.

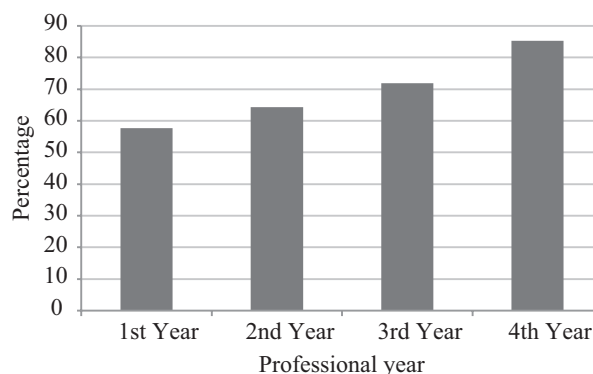
In Question no.6: When they were interviewed about the relation between gum diseases and diabetes, 70%, 74%, 86%, 88% of dental students from first, second, third and fourth year, respectively, agreed for a positive correlation.

In Question no.7: Only 26% in first year dental students, 32% in second year, 56% of third year and 88% in final year dental students believed that the gingival swelling which may occur during pregnancy.

In Question no.8: When asked if gummy smile can be treated, 76%, 88%, 82%, 88% of dental students from first, second, third and fourth year, respectively, agreed.

In Question no.9: Only 84% in first year dental students, 78% in second year, 82% of third year and 84% in final year dental students were knowing that brown gums can be treated.

In Question no.10: When interrogated about the use of local drug delivery for treatment of gum diseases, only 24%, 30%, 46%, 56% of dental students from first, second, third and



Graph-1: Representation of overall percentage of students who gave positive responses

fourth year, respectively, had idea an idea about this.

In Question no.11: 52%, 46%, 46%, 10% of first year, second, third and fourth year respectively were unaware of bone regeneration by using bone substitutes, but 90% of fourth

year students were aware of it.

The detailed questionnaire and responses of the dental students in percentage from first year to final year has been depicted in Table-2.

DISCUSSION

Dental students should be good examples of having positive oral health attitudes and behavior to their families, patients and friends as well as to the society.⁵ Prior to admission to dental institute they represent the society. Therefore, the evaluation of cognizance in first year gives an idea of the level of understanding and perception of society towards periodontal diseases. Similarly, during second year, awareness is increased because of participation in preclinicals, classrooms and through communications with seniors. This awareness is further increased during third year and final year due to their clinical postings and periodontology lectures. So, a study was conducted to assess and evaluate the awareness regarding periodontal diseases among dental students of different years of study.

The questionnaire for the study was divided into three categories namely: etiology, systemic correlation and treatment of periodontal diseases. As we know that the clinical manifestations of periodontal diseases result from a complex interplay between the etiologic agents, such as dental plaque, smoking, systemic diseases, pregnancy, hereditary conditions and host tissue. So, for the proper treatment of these periodontal diseases, a dental professional must be well acquainted, not only with the different treatment modalities, but also with the primary etiologic factors responsible, then only the prevention and treatment outcome can be successful.

Dental plaque is a naturally occurring microbial deposit adhering to the tooth surface or other hard surfaces in the oral cavity, including removable and fixed restorations.⁶ It is considered as a major etiologic factor for causing periodontal diseases. When the dental students were asked about this microbial deposit and its role in causing gum diseases, less percentage of students were knowing about it in first year, however, this percentage increased in second year probably because general microbiology is added as a subject in their curriculum.

In the third year and final year students their basic knowledge further increases as basic course in clinical periodontology starts in the third year and they are taught in detail about dental plaque and its role in causing periodontal diseases.

Cortes et al. in their study found that dental students were highly motivated about maintaining their dental health and thus, their dental education experiences appeared to have had a clear influence on their behaviour.⁵ Genetics has been considered as a major contributory factor for periodontal diseases. However, at present, the specific role the genes play in defining gum diseases remains largely unknown and questionable.⁷ When dental students were interviewed regarding the role of genes in periodontal diseases, nearly half of first year, second and third year students had no idea about it, which may be because they were lacking in knowledge regarding this aspect in their initial years of study, but as they entered in final year, their concepts regarding genes and their role in periodontal diseases might have become more clear

by reading through books and lectures of periodontics.

Smoking is a major risk factor for periodontitis, affecting the prevalence, extent, and severity of periodontal disease.⁶ When the awareness of dental students was judged regarding the relation between smoking and gum diseases, less percentage of first year and second students were knowing about it because they had not read about it in detail in their curriculum, but more percentage of students in final year were aware of this aspect, as they gained more knowledge through books. Their vision broadened because of clinical postings.

Recent studies have found a two way relationship between diabetes and periodontal diseases.^{8,9} Similarly, periodontal diseases have been implicated as a risk factor for heart diseases. When enquired about the relation between gum diseases and heart diseases, and the relation between gum diseases and diabetes, the first year (42%, 70% respectively) and second year (46%, 74% respectively) students had deficient idea, this basic idea might be through basic physiology lectures and pathology lectures during first year and second year respectively, but the awareness slightly increased in third year students as they started their clinical postings in periodontics and remarkably increased in final year students as their knowledge increased through lectures and discussions during clinical postings.

Pregnancy causes hormonal changes that increase the risk for developing oral health problems like gingivitis.¹⁰ When the dental students were asked about the gingival swelling that can occur during pregnancy, a large percentage of first year (74%) and second year (68%) students were hardly knowing regarding this aspect as they were highly unacquainted about this issue, however, as they reach third year (56%) and final year (88%), they become enlightened through books, lectures and clinical cases they observed and performed.

It is expected that the dental students have a basic idea about the various treatment modalities in dentistry, so they were asked about the treatment of various conditions, for example- gummy smiles, brown gums; and use of local drug delivery and bone substitutes for bone regeneration.

Regarding the treatment of gummy smile and brown gums, less percentage of students in first year (76%, 84% respectively) were knowing about it and as they reached second year (88%, 78% respectively), their awareness for treatment of gummy smiles increased but for brown gums treatment, surprisingly, a large percentage of first year (84%) students had an idea about it, which may be due to increasing consciousness of the society for esthetics and its treatment. However, second year students had less idea regarding it as they did not have any clinical postings and their curriculum did not include these aspects. Another reason could be that surgical cryotherapy and laser have been started to treat the pigmentation of gingiva, and this has led to exposure of students to this aspect.

However, in third year (82%, 82% respectively) and final year (88%, 84% respectively) students awareness increased by observing their seniors, staffs treating such cases and by reading through periodontology books.

Regarding the use of local drug delivery and bone substitutes for bone regeneration, less percentage of students in

first year (24%, 48% respectively) and second year (30%, 54% respectively) were knowing about it and in third year (46%, 54% respectively), and final year (56%, 90% respectively), their awareness increased through periodontology lectures and observing clinical cases. Likewise, Maatouk¹¹ et al. (2006), observed that dental students achieved better oral health practices and status at the end of their 5 years of their course, highlighting the importance of dental studies on motivation and attitude towards treatment.

Other studies are required to include more students at multiple professional institutes to evaluate the awareness and simultaneously the impact of teaching among the budding dentists.

CONCLUSION

This study presented a comprehensive overview of the level of cognizance among dental students. It can be concluded that there is an increase in the level of cognizance in dental students regarding periodontal diseases with the progress in professional years i.e. from first year to final year students.

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