

Awareness of Scope of Periodontics among Undergraduate Dental Students

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ABSTRACT

Aim: The main aim of this study was to evaluate the awareness of scope of periodontics among undergraduate dental students.

Materials and Methods: Two hundred and fifty undergraduate dental students (mean age 20.1 years $\pm$ 2.5) from Sri Sai College of Dental Surgery Vikarabad were recruited into this study. The participants completed a structured questionnaire during a personal interview. The questionnaire constituted of participant's personal data (age, gender, level of their study) and oral knowledge related to periodontics. Statistical analysis: Pearson chi-square test was done to evaluate the statistical significance.

Results: Except for the questions related to periodontal infection and regeneration there was statistically significant difference among the participants with respect to the awareness about the scope of Periodontics. Over all correct response was 80% and it was noted in descending order from Interns followed by fourth year and third year students.

Conclusion: The study showed moderate results of awareness regarding prosthetic, orthodontic, implant treatment and about the scope of Periodontics among undergraduate dental students.

Keywords: Periodontics, Awareness, Undergraduate students.

INTRODUCTION

Periodontics is the science of periodontium or the study of supporting structures of the tooth that includes both hard and soft tissue supporting structures. Various forms, have afflicted humans since the dawn of history. Studies in paleopathology have indicated that destructive periodontal disease, as evidenced by bone loss, affected early humans in such diverse cultures. [1]

The behavior of oral health providers and their attitudes towards their own oral health reflect

their understanding of importance of prevalence dental, periodontal procedures and improvising the overall dental and periodontal health of their patients. Periodontal health is a highly individualized concept, the perception of which is very much affected by an individual's culture and socioeconomic status. The awareness of people towards their own teeth, and the awareness of the dentists who provide the dental care, play an important role in determining the health condition of the population. [2]

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Periodontal disease includes both gingivitis and periodontitis. It is considered as a common disease among population and left untreated leads to tooth loss. It is multifactorial in nature. The main cause of the disease is bacterial plaque, although many other factors such as hormonal changes, smoking, diabetes, stress, nutrition may affect the initiation and progression of gingival and periodontal disease. It is well documented from different studies that development of common periodontal disease depends mainly on human behavior. It is well documented from different studies that antibiotics are used as an adjunctive for proper periodontal therapy but aren't supplement the periodontal therapy. [3]

In Arab world, although studies were carried-out regarding the prevalence of gingival and periodontal diseases as well as periodontal disease knowledge and awareness among adults and children, none were carried out among university students to assess their knowledge towards gingival and periodontal health, except for three studies which assessed the dental and oral health attitudes and behaviors among dental-field-related university students. By reviewing the available literature, it appeared that we lack data concerning the effect of the student's level of studies and study discipline (i.e., humanities or scientific faculties) on oral health knowledge. This study provides data for future research and allows comparisons with university students' oral health knowledge in other nations. [1]

We all know that periodontal surgery/therapy includes Regeneration of lost bone. There are numerous studies and data available to evaluate the success of regenerative therapy. One among them is the autogenous bone graft and PRP which are obtained from patients own bone and blood have shown superior results when compared to other bone grafting procedures. The other advanced techniques such as minimally invasive techniques and lasers are used now a days to reduce the surgical as well as periodontal infection. [4]

The present study seeks to assess the dental knowledge, awareness of etiological factors and different treatment modalities available in periodontics among dental students.

OBJECTIVES

1. To assess the dental knowledge among the undergraduate students
2. To assess their attitudes towards periodontal health and related systemic causative factors
3. To assess the awareness of diagnosis and scope of periodontal treatment among undergraduate dental students

MATERIALS AND METHODS

A closed subjective study carried out to assess the knowledge, attitudes, behavior and awareness of periodontal treatment in undergraduate dental students. A simple random study was done. A sample size of about 250 undergraduate students were considered in the study. Data was collected using a Questionnaire from 2nd to 4th year BDS as well as Interns were included in the study. Questions asked were mainly focused on diagnosis and scope of periodontal treatment. The score of each student was analyzed and collected data is statistically analyzed. The mean score was calculated for year of education, age and response towards to the questionnaire based on the diagnosis and Periodontal treatment.

Statistical Analysis

The data was analyzed using SPSS version 20.0 software (SPSS Inc., USA). Descriptive statistics were obtained and frequency distribution, means, standard deviation were calculated for awareness on scope of Periodontics & practice among dental students. Pearson Chi-square was used as test of significance for statistical evaluation of means.

RESULTS

From a total of 250 students, 230 students (mean age 20 ± 2 years) of Sri Sai College of dental Surgery Vikarabad completed the questionnaire. 20 students were unavailable during the study. Out of 230, (67.02%) were females and (32.98%) were males [Table 1]. The sample size included the students from 2nd year to interns. Maximum students who participated in the study were of IV year group.

The participants completed a structured questionnaire during a personal interview. The questionnaire consisted of items to assess participants' personal data (age, gender, level of their study) and their knowledge related to periodontics. Approximate time required for a participant to fill out the questionnaire ranged from 15 min to 20 min. The questionnaire consisted of 10 questions and each question was answered as Yes, No, Don't know. Except for the questions related to periodontal infection and regeneration (questions 2 & 5) there was statistically significant difference among the participants with respect to the awareness about the scope of Periodontics [Table 2]. Over all correct response was 80% and it was noted in descending order from Interns followed by fourth year and third year students.

Table 3 summarizes the distribution of participant's knowledge based on the response to the questionnaire according to their age. Statistically significant difference among the participants with respect to the questions related to minimally invasive dentistry, Perio – Prostho relationship and implants.

Table 4 demonstrates the response of the students according to their age, again focusing each question individually. Students of the age 22 years had more knowledge compared to others.

DISCUSSION

An important task of dental health professionals is to instill among themselves the correct concepts in the diagnosis and treatment plan of the oral diseases. The first step in establishing the relevant knowledge among undergraduate dental students is to raise the awareness about the newer concepts in various of dentistry. High awareness about periodontics may not only have a direct impact on the attitude of dental students in diagnosis and treatment aspect but also for patient education and may help to create oral awareness in general population. [1-3]

In previous studies by Kawamura et al involving Greek, Japanese, Finnish and Chinese dental students' age was not a significant factor affecting attitude and behavior and there was no trend to evaluate it. [5,6] But in our study among Indian students, there was a variation in age group

among each year. Many students were of higher age group compared to their level of their dental education probably many students take more attempts to clear the preliminary entrance exam to join dentistry. [2]

In many developing countries, there is no emphasis on dental health care during 2nd, 3rd, 4th year of dental education. Knowledge and awareness concerning some oral health studies like periodontal disease, periodontal disease as a manifestation from systemic diseases, different modalities mentioned in the questionnaire's is much needed to be known by dental students. Quiteish Taani et al showed that high percentage of the adults reported gum bleeding on brushing, bad breath, and were irregular attendees to the dentist. Based on the results obtained from questionnaire highest percentage (100%) was observed in intern group for about 9 questions, which means that interns were well aware of the different treatment modalities when compared to other year dental students. [7]

There is overall a variation of knowledge among the students of IYr compared to IIYr and IVYr. The difference is not much when basic knowledge about periodontics is concerned. But the gradient of knowledge variation is vast when the other aspects of microsurgery are concerned, like minimally invasive technique, blood born derivatives, augmentation of patient's bone to treat the bone defect etc. the knowledge is poor among students.

Furthermore, to mention the 2nd and 3rd years were having a maximum percentage of 50% and 91.76 respectively, which indicates that there was less awareness of the questions asked about periodontal disease, signs, causes, treatment, preventive measures and relations to systemic health and disease. These students were less exposed to clinical side rather than academically. Emphasis on dental health care and education should be developed and maintained during the early years of dental education to attain good knowledge about the different periodontal diseases. condition, treatment modalities. so that, they can improvise the oral as well periodontal health knowledge among adults.

From this study, we can emphasize that oral health education should be included in university curriculum from 2nd year of dental education. It is well known that the oral health of parents reflects on their children, the same way, the knowledge about periodontal health among dental students from earlier years of dental education reflects their parents and patients too. Hence educating adults via providing good education to dental students improves oral health knowledge.

CONCLUSION

This study showed overall moderate results of awareness about the scope of periodontics among undergraduate dental students. The students showed moderate awareness regarding prosthetic, orthodontic and implant treatment. Knowledge

regarding the recent advances like minimally invasive techniques, patient's blood derivatives like PRP/PRF in treatment of periodontal defects is lacking. Thus apart from basic education students should be educated about the advances in the field of periodontics.

What is already known on this topic

- There are various studies in literature in assessing the Oral Health Knowledge of Periodontal Disease among the dental students.

What this study adds

- This study is one of the very few studies to assess the scope of Periodontics among the undergraduate students

Table 1: Distribution of students according to the year.

Variability	[n]
Year of study	
II year	40
III year	83
IV year	102
Interns	5

Table 2: Response to the questions by the students.

	II yr (%)	III yr (%)	IV yr (%)	Intern (%)	p-value
1. Do you think that periodontist have a role in diagnosing underlying systemic disease like diabetes?					
Yes	11.5	91.76	97.2	100	0.037*
No	27.5	4.7	-	-	
Don't know	65	3.7	2.7	-	
2. Can periodontal infection be solely treated with antibiotics?					
Yes	22.5	29.4	23.24	25	0.78#
No	30	49.4	69.44	75	
Don't know	47.5	21.2	7.4	-	
3. Are you aware that patients own bone can be used to augment periodontal bone defects?					
Yes	45	64.7	82.4	100	0.043*
No	25	8.7	1.38	-	
Don't know	30	27	17.22	-	
4. Can we use patient's blood derivatives to treat periodontal					

defects like PRP/PRF?					
Yes	20	26.8	38.88	100	0.04*
No	20	17.6	16.66	-	
Don't know	60	56.4	37.03	-	
5.Can periodontal regeneration be achieved using dental stem cells?					
Yes	50	62.35	42.59	100	0.67#
No	7.51	7	8.33	-	
Don't know	42.52	30.65	48.29	-	
6.Is minimally invasive dentistry applicable in periodontics?					
Yes	25	43.5	39.8	100	0.26*
No	15	7.4	17.66	-	
Don't know	60	50.05	43.5	-	
7.Can lasers be used to reduce periodontal infection?					
Yes	37.5	78.8	81	100	0.38*
No	10	7	11.11	-	
Don't know	52.5	14.21	13.88	-	
8.Are you aware of the role of periodontist in restorative and prosthetic dentistry?					
Yes	25	35.29	62.03	100	0.42*
No	27.5	44.7	25	-	
Don't know	47.5	20	12.96	-	
9.Are you aware that certain periodontal surgeries can shorten the time period of orthodontic therapy?					
Yes	30	31.7	55.55	100	0.48*
No	25	25.88	14.18	-	
Don't know	45	45.88	29.62	-	
10.Do you think periodontist have a major role in implant surgeries?					
Yes	37.5	54.11	72.22	100	0.41*
No	20	17.6	11.11	-	
Don't know	42.5	29.41	6.66	-	
# P > 0.05 Statistically not Significant					
* P < 0.05 Statistically Significant					

Table 3: Response of the students according to the age.

	19yrs (%)	20yrs (%)	21yrs (%)	22yrs (%)	23yrs (%)	P value
1. Do you think that periodontist have a role in diagnosing underlying systemic disease like diabetes?						
Yes	16.5	91.76	96.7	96.8	100	0.69#
No	27.5	4.7	-	-	-	
Don't know	56	3.5	3.2	3.1	-	
2. Can periodontal infection be solely treated with antibiotics?						

Yes	22.5	29.41	16.12	23.2	90	0.55#
No	30	49.41	74.1	73.01	-	
Don't know	47.5	21.27	9.6	3.1	-	
3. Are you aware that patients own bone can be used to augment periodontal bone defects?						
Yes	45	64.7	77.4	84.12	10	0.77#
No	25	8.7	6.4	3.1	80	
Don't know	30	27	16.12	11.11	10	
4. Can we use patient's blood derivatives to treat periodontal defects like PRP/PRF?						
Yes	20	25.88	38.7	41.2	70	0.87#
No	20	17.6	22.5	19.04	-	
Don't know	60	56.47	38.7	38.09	30	
5. Can periodontal regeneration be achieved using dental stem cells?						
Yes	50	62.35	48.3	47.6	70	0.65#
No	7.51	7	3.2	11.11	10	
Don't know	42.52	36.25	48.3	42.8	20	
6. Is minimally invasive dentistry applicable in periodontics?						
Yes	25	43.5	51.6	41.2	80	0.42*
No	15	9.4	6.4	9.5	10	
Don't know	60	50.5	45.16	46.03	10	
7. Can lasers be used to reduce periodontal infection?						
Yes	37.5	78.8	80.64	76.1	90	0.78#
No	10	7	9.6	12.6	-	
Don't know	52.5	14.11	12.9	11.11	10	
8.Are you aware of the role of periodontist in restorative and prosthetic dentistry?						
Yes	25	35.29	58.06	63.6	80	0.35*
No	27.5	44.7	19.3	28.5	20	
Don't know	47.5	20	22.5	7.9	-	
9. Are you aware that certain periodontal surgeries can shorten the time period of orthodontic therapy?						
Yes	30	31.7	51.6	61.9	70	0.76#
No	25	25.88	12.9	19.04	10	
Don't know	45	45.88	38.7	17.4	20	
10. Do you think periodontist have a major role in implant surgeries?						
Yes	37.5	54.11	64.5	77.5	80	0.48*
No	20	17.6	6.4	8.9	10	
Don't know	42.5	29.41	29.03	13.6	10	
# P > 0.05 Statistically not Significant						
* P < 0.05 Statistically Significant						

Table 4: Distribution of students according to age.

Age of students	[n]
19 years	32

20 years	29
21 years	71
22 years	86
23years	12

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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