

Indian approach to teaching dentistry is wrong, should the system change - A survey

¹Dr.Arjun MR, Reader, Dept. of Periodontics and Implantology, Mahe Institute of Dental Sciences, Pondicherry, India.

²Dr Anil Melath, Professor and HOD, Dept. of Periodontics and Implantology, Mahe Institute of Dental Sciences, Pondicherry, India.

³Dr.Gireesh Kumar KM, Assistant Professor, Dept of Biochemistry, Mahe Institute of Dental Sciences, Pondicherry, India.

Corresponding Author: Arjun MR, reader, Dept. of Periodontics And Implantology, Mahe Institute of Dental Sciences, Pondicherry, India.

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Abstract

Background: The knowledge of interdisciplinary treatment approach is imperative for achieving complete holistic health. In this regard understanding the periodontal disease concept and treatment amongst dental professionals was assessed.

Aim: The aim of this study was to evaluate the knowledge of dental doctors about periodontics in Mangalore and Kerala

Methods: This study was carried out using questionnaires that were given to all the participating doctors. The questionnaires consisted of questions about the basic information on periodontics, as well as the knowledge of those doctors about the referrals. In total, 800 responses were received, from post graduate level, graduate level and undergraduate level

Statistical analysis: A CHI square test was done to evaluate the values

Results: The findings of this study showed that this awareness was not supported by precise knowledge, and often failed to translate into appropriate clinical practice.

Conclusion: Where most of the graduates and interns feel that periodontics is a department only for oral prophylaxis it is the responsibility of the office bearers in the field of periodontics to make sure that each and every dental college in the country has a panel of dental hygienists who would do the first screening and prophylaxis before the periodontal department comes into play. Such studies should be performed in future to get an overall perception of the undergraduates, graduates and post graduates toward periodontal treatment in India

Keywords: Periodontal Diseases; graduates; Knowledge; post graduates

Introduction

The specialty of periodontology is evolving in all aspects ranging from newer advances in diagnosis, to the use of growth factors and regenerative techniques in treatment. These evidence-based advances have given periodontal diagnosis and treatment a level of predictability of success, which was lacking just a decade ago. In spite of several dental colleges, a majority of the population visits private dental clinics for their dental needs, especially in the urban areas. It is a matter of concern for the periodontists that the knowledge of periodontal diagnosis and treatment in the minds of a general dentist is sometimes limited to the level taught in the BDS curriculum at the time of their graduation. We have to evaluate the attitude and perception of the graduates and interns toward periodontal treatment, as they form the core of dental practice. Hence, this study aims to identify the knowledge interns, graduates, and post graduates have about the field of periodontics. Many of the studies conducted in this area have attempted to analyze the various aspects of the relationship between the referring doctor and specialist. They have compiled the opinions and observations of both referring general practitioners (GPs) and specialists regarding periodontal care^[1-4]. In a study of a similar pattern, Ze Manovich et al, have evaluated the demographic variables affecting patient referrals from general dental clinic to a periodontist. They concluded that various factors such as gender of the dentist and the proximity to a periodontist affected the number of referrals by a general dentist^[5]. Our study intends to identify the knowledge interns, graduates, and post graduates have about the field of periodontics.

Methodology

The present prospective study was conducted in dental colleges in Mangalore and Kerala in a 1-year time period from Jan 2014- 2015. A total of 800 dental

professionals participated in this questionnaire study, Out of which 250 were interns, 280 post graduates and trainees (MDS) and 270 undergraduates (BDS).

The printed questionnaire was distributed to the participants and was collected on the same day after the participants finished responding. The questionnaire included questions pertaining the awareness of participants regarding specific dental services provided by a periodontist to an individual patient as well as to the society in general.

The role of periodontist in spreading awareness and improving a patient's as well as communities periodontal as well as oral and general wellbeing was evaluated. The questionnaire also evaluates the role of periodontist in the diagnosis and treatment planning of systemic health condition. Awareness of impact of periodontist on planning a major surgical procedure also was evaluated. Few questions also focused on influence of periodontal intervention on overall oral and systemic health and Disease. All the questions were answered by all participants. Data thus collected was subjected to statistical analysis by CHI square test and results were calculated.

Statistical analysis and result interpretation

A CHI square test was done to evaluate the values.

Statistical analysis of the questions and answers

Question 1: Do Periodontist Surgically Treat Advanced Gum and Bone Infections?

The question of do Periodontist surgically treats advanced gum and bone infections? Was answered as yes by the BDS (100%) the interns (100%) and the MDS graduates (100%) where all of them said that periodontists surgically treat advanced gum and bone infections. This relation is statistically not significant

Question 2: Do Periodontist Perform Dental Implants and Related Procedures?

The question do Periodontist perform dental implants and related procedures was answered as no in predominant cases by the BDS (41%) and the interns (95.2%) as compared to the MDS graduates where all of them agreed that Periodontist perform dental implants and related procedures. This relation is statistically significant with chi square value of 463.602 and p value of <0.001

Question 3: do you agree that Periodontist are advisers to other dental and medical professionals in regard to diagnosis prognosis and treatment plan?

The question do you agree that Periodontist are advisers to other dental and medical professionals in regard to diagnosis prognosis and treatment plan was answered as no in predominant cases by the BDS (89%) and the interns (99%) as compared to the MDS graduates where only 24.9% of them dined that Periodontist are advisers to other dental and medical professionals in regard to diagnosis prognosis and treatment plan. This relation is statistically significant with chi square value of 425.529 and p value of <0.001

Question 4: Do you agree that Periodontist promote research to better understand periodontal diseases, their effect on systemic health and their related therapy's?

The question do you agree that Periodontist are advisers to other dental and medical professionals in regard to diagnosis prognosis and treatment plan was answered as no in predominant cases by the BDS (52%) but the interns (88%) and post graduates (100%) agreed that Periodontist promote research to better understand periodontal diseases, their effect on systemic health and their related therapy's. This relation is statistically significant with chi square value of 252.343 and p value of <0.001

Question 5: Do you agree that Periodontist are educators promoting health?

The question do you agree that Periodontist are educators promoting health was answered no in predominant cases by the BDS (80.30%) and the interns (72.10%) but the post graduates (96.70%) agreed that Periodontist are educators promoting health. This relation is statistically significant with chi square value of 404.752 and p value of <0.001

Question 6: Do you agree Periodontist s assist in conserving patient dentition in health by emphasizing plaque control methods?

The question do you agree that Periodontist s assist in conserving patient dentition in health by emphasizing plaque control methods was answered as yes by the BDS (100%) the interns (100%) and the MDS graduates (100%) where all of them said that Periodontist s assist in conserving patient dentition in health by emphasizing plaque control methods. This relation is statistically not significant

Question 7: Do you agree that Periodontist treat aesthetically compromised periodontal conditions through bone and soft tissue procedures??

The question do you agree that Periodontist treat aesthetically compromised periodontal conditions through bone and soft tissue procedures was answered as yes by the BDS (100%) the interns (100%) and the MDS graduates (100%) where all of them said Periodontist treat aesthetically compromised periodontal conditions through bone and soft tissue procedures. This relation is statistically not significant

Question 8: Do you agree that periodontal treatment help the general dentist and other specialties to increase successful therapeutic out come?

The question do you agree that periodontal treatment help the general dentist and other specialties to increase successful therapeutic outcome was answered as yes by the BDS (95.5%) the interns (96.4%) and the MDS

graduates (93.8%) where all of them said that periodontal treatment help the general dentist and other specialties to increase successful therapeutic out comes. This relation is statistically not significant

Question 9: Are you aware that periodontal consultation is mandatory before any major surgical procedure?

The question are you aware that periodontal consultation is mandatory before any major surgical procedure was answered as no in predominant cases by the BDS (86.5%) and the interns (95.6%) as compared to the MDS graduates where all of them agreed that periodontal consultation is mandatory before any major surgical procedure. This relation is statistically significant with chi square value of 644.088 and p value of <0.001

Question 10: do you confidently refer your patients for periodontal treatment?

The question of do you confidently refer your patients to periodontal treatment was answered as no in predominant cases by the BDS (86.9%) and the interns (90%) as compared to the MDS graduates where all of them would confidently refer patients for periodontal treatment. This relation is statistically significant with chi square value of 596.914 and p value of <0.001(refer table 1, 2 and 3)

Results and discussion

The results reveal that the interns and the graduates have to be given good orientation in regard to the education level in periodontics and the post graduates are more enlightened and aware about treatment modalities in the of the department of periodontics. Periodontal disease is a common oral health problem worldwide. It is a well-known fact in the community of periodontists that, the potential effects of systemic diseases on the periodontium have been reported in earlier studies^{6, 7} and a new branch of medicine defined as “medical

periodontology” was proposed by Williams and Offenbacher⁷ who pointed to the bidirectional relationship between periodontal diseases and systemic conditions such as diabetes mellitus, cardiovascular, cerebrovascular and respiratory diseases, preterm birth and low birth weight. Additionally, previous researches have shown that periodontal disease may impact the general health of an individual or change the course of systemic conditions^{8,9} Periodontal infections may play a role in atherosclerotic plaque formation, and periodontal pathogens can be isolated from these atherosclerotic plaques. If atherosclerotic plaques occur in brain arteries, they can cause stroke; when plaques occur in coronary arteries, they can lead to myocardial infarction.^{9, 10} Preterm birth and low birth weight are notable health problems associated with PD, and PD related infections may lead to altered cytokine and hormone levels, which may lead to complications during pregnancy^{11,12} The biological mechanisms involved in the relationship between PDs and respiratory diseases remain unclear, but aspiration of bacteria from the oropharynx into the lower respiratory tract may be to blame.^{13,14} In recent studies, the relationships between obesity, anxiety, stress, kidney disease, and periodontal health have also been investigated and there is a great deal of ongoing research. Probably an interdisciplinary curriculum may be the need of the hour. In contrast to a specific discipline-based view of knowledge, an interdisciplinary approach does not stress delineations but linkages. Interdisciplinary curricula must be organized around specific themes. A harmonious combination of basic and clinical sciences will make a head way for assessing competency-based skills. Our international collaborations with other health professional’s schools will then set the footing for achieving global standards. Thus, the interdisciplinary curriculum provides an

opportunity for a more relevant less fragmented and stimulating experience for students hence, ejecting them out of the penumbra associated with the otherwise constricted system of individualistic specialty-based approaches. A 2009 editors' consensus report published in the American Journal of Cardiology and the Journal of Periodontology concluded: "because untreated or inadequately controlled moderate to severe periodontitis increases the systemic inflammatory burden, periodontitis may independently increase the risk for cardiovascular disease."^{15, 16} The consensus report also recommended that dentists (periodontists) and physicians managing patients with cardiovascular disease "should closely collaborate to optimize cardiovascular risk reduction and periodontal care."

Conclusion

Where most of the graduates and interns feel that periodontics is a department only for oral prophylaxis it is the responsibility of the office bearers in the field of periodontics to make sure that each and every dental college in the country has a panel of dental hygienists who would do the first screening and prophylaxis before the periodontal department comes into play. Such studies should be performed in future to get an overall perception of the undergraduates, graduates and post graduates toward periodontal treatment in India. Such studies should be done at regular period intervals to get an accurate idea about the perception professionals have about the department of periodontics.

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Legend Tables and Graph

Table: 1

| Sn. | Questionnaire | BDS | Interns | Post graduates |
|-----|---------------------------------------------------------------------------------------------------------------------------------------|-----|---------|----------------|
| 1 | Periodontists surgically treat advanced gum and bone infections | Yes | Yes | Yes |
| 2 | Periodontists perform dental implants and related procedures | No | No | Yes |
| 3 | Periodontists are advisers to other dental and medical professionals in regard to diagnosis prognosis and treatment plan | No | No | Yes |
| 4 | Periodontists promote research to better understand periodontal diseases, their effect on systemic health and their related therapy's | No | Yes | Yes |
| 5 | Periodontists are educators promoting health | No | No | Yes |
| 6 | Periodontists assist in conserving patient dentition in health by emphasizing plaque control methods | Yes | Yes | Yes |
| 7 | Periodontists treat aesthetically compromised periodontal conditions through bone and soft tissue procedures. | Yes | Yes | Yes |
| 8 | Periodontal treatment help the general dentist and other specialities to increase successful therapeutic outcome | Yes | Yes | Yes |
| 9 | Are you aware that periodontal consultation is mandatory before any major surgical procedure. | No | No | Yes |
| 10 | Do you confidently refer your patients for periodontal treatment | No | No | Yes |

Table 2: Chi square tests:

| | | Bds | | Intern | | Mds | | Chi square | P value |
|---------------------------------------------------------------------------------------------------------------------------------------|-----|-------|------------|--------|------------|-------|------------|------------|---------|
| | | Count | Column N % | Count | Column N % | Count | Column N % | | |
| periodontists surgically treat advanced gum and bone infections | Yes | 244 | 100.00% | 251 | 100.00% | 305 | 100.00% | . | . |
| periodontists perform dental implants and related procedures | No | 100 | 41.00% | 239 | 95.20% | 13 | 4.30% | 463.602 | <0.001 |
| | Yes | 144 | 59.00% | 12 | 4.80% | 292 | 95.70% | | |
| periodontists are advisers to other dental and medical professionals in regard to diagnosis prognosis and treatment plan | No | 219 | 89.80% | 249 | 99.20% | 76 | 24.90% | 425.529 | <0.001 |
| | Yes | 25 | 10.20% | 2 | 0.80% | 229 | 75.10% | | |
| periodontists promote research to better understand periodontal diseases, their effect on systemic health and their related therapy's | No | 129 | 52.90% | 30 | 12.00% | 0 | 0.00% | 252.343 | <0.001 |
| | Yes | 115 | 47.10% | 221 | 88.00% | 305 | 100.00% | | |
| periodontists are educators promoting health | No | 196 | 80.30% | 181 | 72.10% | 10 | 3.30% | 404.752 | <0.001 |
| | Yes | 48 | 19.70% | 70 | 27.90% | 295 | 96.70% | | |
| periodontist s assist in conserving patient dentition in health by emphasizing plaque control methods | Yes | 244 | 100.00% | 251 | 100.00% | 305 | 100.00% | . | . |
| periodontists treat aesthetically compromised periodontal conditions through bone and soft | Yes | 244 | 100.00% | 251 | 100.00% | 305 | 100.00% | . | . |

| | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------|-----|-----|--------|-----|--------|-----|---------|---------|--------|
| tissue procedures | | | | | | | | | |
| periodontal treatment help the general dentist and other specialties to increase successful therapeutic out come | No | 11 | 4.50% | 9 | 3.60% | 19 | 6.20% | 2.177 | 0.337 |
| | Yes | 233 | 95.50% | 242 | 96.40% | 286 | 93.80% | | |
| are you aware that periodontal consultation is mandatory before any major surgical procedure | No | 212 | 86.90% | 240 | 95.60% | 0 | 0.00% | 644.08 | <0.001 |
| | Yes | 32 | 13.10% | 11 | 4.40% | 305 | 100.00% | | |
| do you con friendly refer your patients for periodontal treatment | No | 212 | 86.90% | 226 | 90.00% | 0 | 0.00% | 596.914 | <0.001 |
| | Yes | 32 | 13.10% | 25 | 10.00% | 305 | 100.00% | | |

Graph 1

