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A survey on knowledge, attitude and practice among the doctors towards systemic health possibly influenced by periodontitis

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Abstract

The purpose of this study was to assess the knowledge, attitude and practice among the doctors towards the influence of periodontal diseases on systemic health conditions. This is a cross sectional survey done among 227 medical practitioners by distributing a self-prepared questionnaire about the possible influence of Periodontal disease on systemic health.

Later, Descriptive analysis was done on the data collected. 79% of the doctors were aware of the association between periodontal health and systemic disease. Significant awareness was seen in association of periodontal disease with diabetes mellitus. And Only 58% of the doctors had the practice of referring patients with systemic health complications to dentists. The practice of referral to dentist and the awareness of relationship between periodontal health and systemic disease was not proportionate.

Keywords: Periodontal Disease, periodontitis, Systemic disease, Systemic health, perio medicine, periomedicine, relationship

Introduction

The chance of oral health possibly influencing systemic health was once proposed by Waller miller in 1891 [1]. Later in 1996, the term “periodontal medicine” was coined by Offenbacher exhibiting the relationship between periodontal diseases and systemic conditions [2]. Recent evidence based researches has revealed that periodontal diseases can possibly influence and they also can be one among the risk factors for cardiovascular diseases like atherosclerosis, coronary heart disease, myocardial infarction and angina, cerebrovascular disease like stroke, diabetes mellitus, preeclampsia, low birth weight infants, respiratory diseases like chronic obstructive pulmonary disease and pneumonia.

There are increasing evidences proving that individuals with periodontal disease may be at increased level of risk for adverse systemic health outcomes [3, 4]. Offenbacher *et al.* hypothesized that periodontal disease is a clinically significant risk factor for preterm low birth weight [5, 6] and also Collins JG in 1994 investigated about the effect of *Porphyromonas gingivalis* infection on the inflammatory mediator response and pregnancy outcomes in hamsters which revealed that maternal exposure to periodontal infection is associated with a reduction in fetal weight by 25% [7]. Destefano *et al.* [8] and Mendez *et al.* [9] proved the increased incidence of vascular diseases in person with periodontal disease in their research and George W Taylor *et al.* explained with evidence about severe periodontitis may be a risk factor for poor glycemic control and suggest that there is a possibility for successful management of Non-insulin dependant Diabetes mellitus by prevention and management of periodontitis [10].

Bonten MJ reported that the most common route of respiratory infections are by aspiration of oropharyngeal bacterial species [11]. Also, Scannepieco *et al.* showed that the potential respiratory pathogens like *Enterobacteriaceae*, *Pseudomonas* and *Staphylococcus aureus* contribute only less than 1% of bacterial population of plaque in individuals with periodontitis. He also stated that, however, following antibiotic therapy, the prevalence of respiratory pathogens increases and thus these bacteria can be aspirated by immunocompromised individuals thereby causing respiratory diseases. They also found that persons with chronic respiratory disease had poor oral hygiene index scores than without respiratory diseases [12]. Jayakaran T *et al.*, stated that Periodontal pathogens have direct systemic action to the blood circulation, hence there are some evidences for the relationship between the presence of periodontitis and the development of Rheumatoid arthritis [13].

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Thus, since past century, the evidence based researches are there to clearly depict the relationship between periodontal disease and systemic health. The knowledge, attitude and practice of a medical practitioner towards dentistry and oral health may play a key role in improving general and oral health [14]. Though this focal infection is an ancient concept, still there is lack of knowledge and practice among all health care professionals.

Hence, this survey was undertaken to assess awareness of medical practitioners in Chennai city about periodontal medicine.

Materials and Methods

This survey was a cross sectional study done by a self-prepared questionnaire among the medical practitioners including medical interns, general practitioners and specialized practitioners in Chennai city.

This study included medical practitioners who were working in government hospitals, individual and corporate clinics and hospitals.

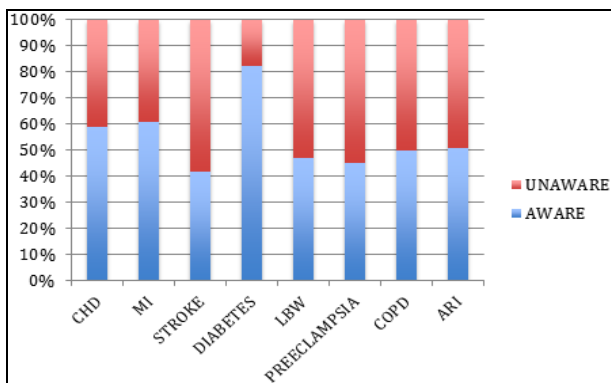
The data in respect to their knowledge, attitude and practice about periodontal health was collected using a questionnaire containing 16 multiple-choice questions. The questionnaire acquired the respondent’s occupation, no. Of months or year of practice. Out of 16 questions, 8 questions that required dichotomous response (Yes or No) were related to their awareness about the relationship between periodontal disease and systemic conditions like cardiovascular disease, stroke, diabetes mellitus, preterm or low birth weight infants, preeclampsia, acute respiratory infections and obstructive pulmonary disease. Eight other questions were about their practice of referral of respective patients with specific systemic conditions. The data collected were compiled and descriptive analysis was done. The results were expressed in terms of percentage.

Results

Awareness of periodontitis causing particular systemic disease

This study showed that 82% of medical practitioners was aware that periodontal disease may be a risk factor for diabetes mellitus and on the lower side only 42% of the medical practitioners were aware that periodontitis may cause stroke.

Awareness of relationship between coronary heart disease and myocardial infarction was seen in around 60 % of respondents and where as 50 % were aware about the association of respiratory diseases. The presence of knowledge about periodontal disease causing adverse pregnancy outcomes was in 46% of medical practitioners.

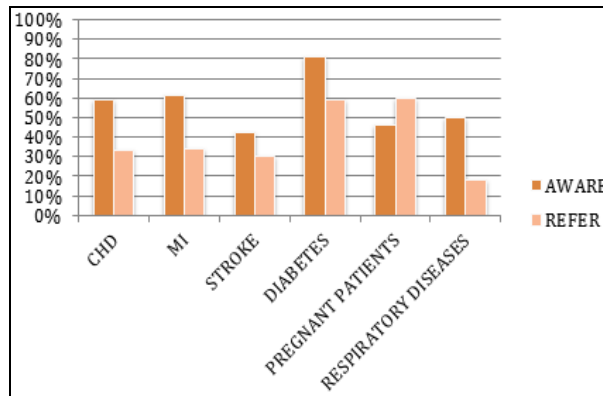


Graph 1: Awareness about relationship between various systemic diseases and periodontal health.

Referral practice

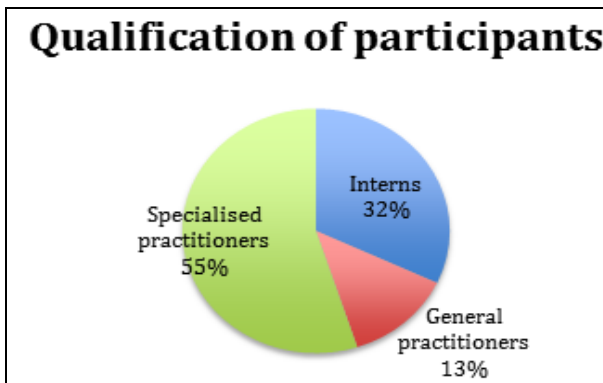
Though 81% of the practitioners were aware that periodontal infection may worsen the glycemic control in patients with diabetes mellitus, only 59% of the practitioners had the practice of referral. Out of 42% of practitioners who were aware about stroke, 30% of them refer their patients to the dentists. Among 60% of medical practitioners being aware of the relationship between periodontal health and cardiac disease, 34% of them refer their cardiac patients to dentists. The awareness among doctors about pregnancy complications caused by periodontal disease was 46% and their practice of referral to dentist was 60%.

Out of 51% of the doctors who were aware that periodontitis may cause acute respiratory infections, 18% among them refer their acute respiratory infection patient to dentists.

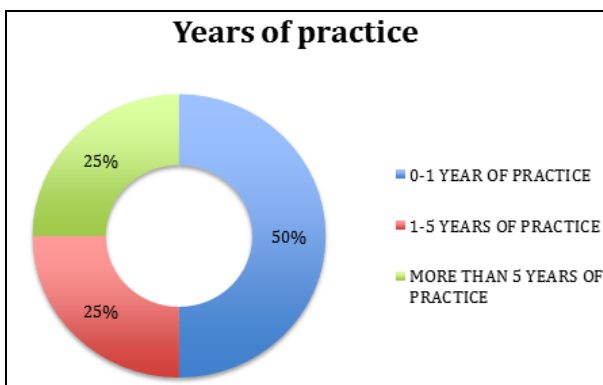


Graph 2: Awareness and practice of referral proportion

Qualification of participants



Graph 3: Demographic distribution of participants by their qualification



Graph 4: Demographic distribution showing no. of years of practice

Discussions

This survey in Chennai city, showed that knowledge regarding the relation between oral health and general health was high but their referral practice was not as good as their awareness. Though the awareness about pregnancy outcomes due to periodontal disease was around 46%, the referral practice of pregnant patients to dentists was 60%. It is well known that pregnancy has a bidirectional relationship with periodontal disease. This discrepancy may also be due to the possible effect of pregnancy on periodontal health.

The similar surveys done in due course of time were the survey conducted by J.P. Majra *et al.* in 2009 among the medical practitioners in eastern India regarding the systemic effects of oral diseases and expressed that only 48% of the study group knew about the bidirectional relationship between the systemic and periodontal diseases [15]. Patil *et al.* in 2010 to assessed the knowledge, attitude and practice of dental awareness among medical practitioners in Sangamner city, Maharashtra, India and showed that the medical professionals possess poor level of awareness regarding oral disease impact on general health [16].

A KAP survey performed by Shwetha *et al.* showed that medical practitioners in Mysore city has fair to good awareness and their referral system is not as good as their level of awareness [17].

Conclusion

Among the medical doctors practicing at Chennai city, this study showed that knowledge regarding the relation between oral health and general health was high. Although majority of the medical doctors reported that they knew that periodontal disease possibly influence systemic health, this failed to appropriate clinical practice. These results might not reflect the actual opinion of all medical doctors due to small sample size. A larger sample size may be required to not the significant difference.

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