Periodontal Disease and Its Bi-Directional Relationship with Systemic Disease: A Survey among Medical Interns and Graduates.

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ABSTRACT

Background: To assess the level of awareness on periodontal disease and its bidirectional relationship with systemic diseases among medical interns and graduates.

Methods: A Cross sectional survey was conducted among 105 Medical interns and 53 Graduates in a medical college of northern India. Statistical analysis: Descriptive statistical analysis and chi-square test were used.

Results: Regarding awareness on the importance of oral health 92% of the participants reported very important and 77.1% of them were aware of periodontal disease but only 6.7% of them were knowing about the bidirectional relationship between periodontal disease and systemic diseases. 94.3% of the participants were agreed for the inclusion of certain dental topics on oral examination and diagnosis in medical curriculum.

Conclusion: We conclude that there is an urgent need to include selected dental topics of oral examination and diagnosis in medical curriculum.

Keywords: Knowledge; Medical curriculum; Periodontal disease; Systemic disease

INTRODUCTION

Periodontitis is an infectious disease associated with a small number of predominantly gram-negative microorganisms that exist in a subgingival biofilm. According to World Health Organization (WHO) 10 – 15% of the world populations suffer from severe Periodontitis. In India it is the most common oral infection with a prevalence rate of 55.4% at the age of 12 and 89.2% in the age group of 35-44 years and 79.4% in 65-74 years of age group.

Periodontal disease has many stages, ranging from easily treatable gingivitis to irreversible severe Periodontitis. During pathogenesis of the periodontal disease, periodontal pathogens and their toxins such as cytolytic enzymes & lipopolysaccharides have access to the blood stream, a number of inflammatory mediators, including tumor necrosis factor alpha, interleukin (IL)-β, Prostaglandin E2, interferon-γ are produced. These inflammatory mediators stimulate a chronic inflammatory response in the body that lead to breakdown of connective tissue attachment leading to formation of periodontal pocket, alveolar bone resorption, gingival recession, tooth mobility & tooth loss.

Although pathogenic bacteria are necessary for periodontal disease, they are not sufficient alone to cause the disease, a susceptible host is also imperative. The importance of host susceptibility is clearly evident in the medical literature. Many of the systemic conditions act as a modifier or a risk factor for Periodontitis. Two way relationship of periodontitis and systemic disease such as cardiovascular disease, stroke, diabetes mellitus, preterm labour, preeclampsia and respiratory
MATERIALS AND METHODS

The present study was carried out in one of the private medical college of northern states of India. Consent for conducting the study was obtained from the concerned authority of the institution, after appraising them regarding the purpose and significance of the study. This cross sectional survey was conducted among medical interns and graduates to assess the awareness on periodontal disease and its bidirectional relationship with systemic disease.

The study consisted of total 163 participants which included 105 interns and 53 medical graduates. A verbal consent was obtained from all the participants. The data was collected using a self structured, pretested questionnaire.

The questionnaire included the demographic details and 15 questions with multiple choice answers. The questions were framed to assess the awareness among study group regarding the importance of system disease and its bidirectional relationship with systemic diseases.

Related to bidirectional relationship between periodontal disease and systemic diseases 69.5% of participants were aware of the fact that certain systemic diseases can lead to periodontal disease. 21% & 9.5% were reported no and not sure respectively. Only 6.7% of study subjects reported yes and 74.3% & 15.2% of them reported no and not sure respectively [Figure 2].

On the referral of their patient to periodontist or dentist, only 23% of them referred sometimes and 77% never referred their patient to periodontist or dentist [Figure 4].

94.3% of them totally agreed for the inclusion of topics on oral examination and diagnosis in medical curriculum, only 1% and 4.8% of them...
reported disagree and not sure respectively [Figure 5].

Figure 1: Awareness on importance of Oral Health on Systemic Health.

Figure 2: Awareness on Periodontal disease, cause & consequences.

Figure 3: Awareness on Bidirectional relationship between Periodontal disease and systemic disease

Figure 4: Attitude of Medical graduates in referring their patients to Dentist/ Periodontist

Figure 5: Regarding the inclusion of topics on Oral examination and Diagnosis in Medical curriculum

DISCUSSION

The World Health Organization (WHO) defined health in its broader sense in its 1948 constitution as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. The present study was based on the fact that medical doctors form a main group as primary health care providers and their awareness on the impact of periodontal disease on the systemic health is of utmost important, because there is a substantial amount of literature available on the bidirectional relationship between periodontal disease and systemic diseases that means periodontal disease could be one of the risk factor for many systemic diseases and large number of systemic diseases were also considered as a risk factor for periodontal disease. [9]

In our study 92% of the study participants were reported that it is very important to have a good oral health to have a good systemic health. In a previous study about 94% of medical and 80% of ayurveda students were aware that bad oral hygiene can cause adverse effects on general health, our finding on the awareness of the periodontal disease in the study population was found to be 44%. In another study 80% of the study group were aware of the fact that plague is the cause for periodontal disease. [11]

Only 6.7% our study subjects were aware of the influence of periodontal disease on systemic diseases. In a similar study 11% of the participants were aware on the systemic effects of periodontal disease among medical interns. [5]

As periodontal disease is very prevalent in India, it is very important to diagnose periodontal disease at its early stage there by to prevent the associated morbidity and mortality. Medical Healthcare professionals can act as a good source of knowledge providers to general public. Physicians receiving oral health related training will be capable of providing not only emergency care but also able to provide comprehensive counselling related to the cause of dental problems, methods of prevention, treatment and general health related issues. [12]

CONCLUSION

The medical graduates and interns were aware of the fact that oral health is very important to achieve a good systemic health. They were not completely aware of the bidirectional relationship between periodontal disease and systemic diseases and also not adequately trained regarding the oral examination and diagnosis of oral and periodontal diseases. Now the time has come to connect medical science and dental science further by including the necessary dental topics on oral
examination, diagnosis and periodontal medicine in medical curriculum in order to provide a comprehensive health care for the public.

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REFERENCES
