

Knowledge and awareness of periodontal health among medical practitioners - A cross section institutional study

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Abstract

Background: Medical practitioners play active role in maintaining general as well as oral health. Dental caries and periodontitis are the two most common diseases of oral cavity. Periodontitis is considered to be a unique infection as part of its structure is exposed to the external environment thus helping in colonization of bacteria. It is a longstanding chronic infection asymptomatic most of the time. The most common disease of periodontium is inflammation known as periodontitis caused commonly by dental plaque. **Aim and Objective:** To assess and evaluate the knowledge and awareness of periodontal health status among the medical practitioners in Koppal, Karnataka. To explore possibility of better oral health care measures relayed to larger population of patients through Medical Practitioners. **Methods:** A cross sectional study was conducted using 35 well structured questionnaires was distributed among 86 medical practitioners of Koppal. **Results:** The answers from the questionnaire were scored and entered into excel sheets and submitted for statistical analysis. The results obtained were presented as cumulative percentile. **Interpretation and Conclusion:** The awareness about periodontal health, disease and treatment were found to be good among the medical professionals with small areas of voids with respect to the oral prophylaxis causing enamel loss and dental implants.

Key Words: Periodontal Health; Medical practitioners workers; Knowledge; Awareness.

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INTRODUCTION

Periodontology is a branch of dentistry that deals with the health and diseases affecting periodontium comprising of two hard tissues (Cementum and Alveolar bone) and two soft tissues (Gingiva and periodontal ligament). The most common disease of periodontium is inflammation known as periodontitis caused commonly by dental plaque. Periodontitis is considered to be a unique infection as part

of its structure is exposed to the external environment thus helping in colonization of bacteria. It is a longstanding chronic infection caused predominantly by gram negative bacteria which is asymptomatic most of the time. The mediators of inflammation, cytokines and toxins produced during periodontitis enter the blood stream to vital organs like joints, heart lungs amniotic fluid and other systemic organs and thus disrupt the normal homeostasis of the body.¹ Medical practitioners deal with patients with numerous systemic diseases in their day to day practice.² It is customary for medical doctor to examine oral cavity along with general examination. But, it is limited to examination of only mouth and tongue bypassing important structures like that of gingival and periodontium, hence undermining its relevance and overlooking its consequences.³ Thus the aim of our study was to assess the knowledge and awareness of periodontal health in disease among medical practitioners in an attempt to ensure better health care measures to larger population.

MATERIALS AND METHODS

A cross section institution study was conducted to assess the knowledge and awareness of periodontal health among 87 medical practitioners in Koppal Institute of Medical Sciences. We designed self structured questionnaire containing 35 questions in total which were divided into two parts. The first part was to assess the knowledge and comprised of 20 questions and the second part was made of 15 questions to assess the awareness of periodontal health. After obtaining permission from the Institution, the sample size was selected using simple random sampling method. The study group in our study comprised of medical professionals from all specialties of Koppal Institute of Medical Sciences. A descriptive questionnaire contained closed- ended questions with a total of 35 questions in English were distributed to the study group. The study group was provided necessary clarification and the questionnaires were collected on the same day.

RESULTS

This current study to assess the knowledge and awareness of periodontal health and disease among 87 medical professionals was met with a good response and voluntary participation. We used close ended questionnaire based survey comprising of 35 self structured questions in our study. The answers obtained were numerically converted and entered into excel work sheet and submitted to a statistician for further descriptive analysis and were expressed as cumulative percent. 55% of the medical professionals knew about Periodontology being a branch of dentistry. 58% felt that periodontitis is the commonest periodontal lesion and it is preceded by gingivitis in 68% but 73% (63) did not identify periodontal medicine used to treat periodontitis. 77% agreed that dental plaque was the main etiological agent of periodontal lesions and bleeding gums was its early sign 75% and 60% felt that genes may play a role in periodontal diseases. Almost all participants agreed that bad breath is known as halitosis 88% with poor oral hygiene as the main reason of halitosis 93%. 63% felt that pyorrhea is same as gingivitis with 58% agreeing to occurrence of gingival swelling in pregnancy. However the lack of knowledge of the reason for gingival enlargement related to drugs was noted to be 76%. This was a strange finding considering the good level of awareness about related topics. Most of the participants were aware of association of systemic diseases like coronary heart disease and bacterial pneumonia and COPD, cerebral infections; rheumatoid arthritis 64%, 64%, 61%, 58% respectively. However 58% of participants did not agree association of periodontal lesions among diabetics and 52% felt the association of

low birth weight with periodontitis. Interestingly 71% of participants felt that smoking is the only reason for teeth pigmentation. 72% of participants were aware that periodic visit to dentist should be once at least a year and that tooth brush should be changed once in a month 69%. There was an opinion that periodontitis can be treated only with antibiotics in 69%. Not only did they agree that oral prophylaxis or scaling is not be the primary treatment for periodontitis along with the belief that oral prophylaxis results in loss of enamel 77%. They seemed to have an idea that gingival swellings are treated by excision 49%. 66% agreed that black or brown colored gingiva can be treated as well as gummy smile 67%. 81% approved that gingival recession can be treated surgically and alveolar bone can be regenerated using bone graft 79%. 65% were aware of the local drug delivery treatment for periodontitis and 55% believed that alloderm used in treatment of burn patients is used in dentistry. 58% were aware about application of lasers in treatment of periodontitis as well as platelet rich plasma (PRP) 52%. 64% believed that dental implants implied to removable partial denture with only 10% believing that dental implants are actually artificial tooth that is anchored in the jaw bones.

DISCUSSION

Medical practitioners form the first level of approach for all types of health related issues to the general population. William Osler rightly said oral cavity is a mirror to general body health and thus general examination of patients include oral examination however it is mostly limited to tongue.⁴ Other important oral tissues like gingiva are usually missed out. It is now an established fact that most systemic diseases manifest as oral lesions and periodontitis may merely be an association or sequelae to systemic diseases like cardiovascular problems, pulmonary conditions, diabetes mellitus, osteoporosis, obesity, pancreatic cancer and Alzheimer's disease.⁵ Periodontal diseases are mainly caused by the interplay of bacteria and host response. The bidirectional association of periodontal disease with systemic diseases can be explained by focal infection theory where bacterial products like LPS through sulcular epithelium are disseminated to distant sites thereby initiating disease in that site.^{6,7} Considering the higher prevalence of periodontal diseases our study was an attempt to assess the level of knowledge and awareness of periodontal diseases among medical practitioners. As our study was conducted on medical professionals there seemed to be a good knowledge and awareness about the basics of periodontal tissues, the etiologic factor and the diseases affecting it. Majority of the practitioners were aware about the association of systemic diseases with

periodontitis except the association of diabetes with periodontitis in comparison to cardiovascular, respiratory, rheumatoid arthritis and cerebral infections. Though there is uniform acceptance of relation of periodontal lesion and systemic diseases is noted in most of the studies, there has been conflicting findings on the association of periodontal disease with diabetes. Umeizudike *et al* 2016 and Prahalad and Thomas 2011 found a high awareness of 88% but the awareness was found to be less in medical interns of Pakistan as suggested by Shah MN 2013.^{8,9} These findings of our study correlate with the findings of Allen *et al* 2008 and Anandakumar 2016. The awareness about periodontal lesions during pregnancy in our study is 58% higher than the studies of Anandakumar which showed 36%. Interestingly we noted that more than 3/4th of medical practitioners felt that smoking was the only reason for teeth pigmentation and drugs involved in gingival enlargement. Thus, around 50% of participants felt that gingival swellings should be treated by excision than scaling as treatment overlooking the underlying etiology of drug involvement. They also believed that gummy smile can be treated and gingival treatment can be corrected surgically. Around 3/4th of the participants believed that smoking was the only reason for pigmentation of teeth. We could not correlate this finding of ours with other studies as these were not emphasized in previous literatures. We hypothesize that though medical professionals are aware of presence of bacteria in the oral cavity they may not be aware of the chromogenic bacteria which is also the reason for external staining of teeth and developmental disturbances affecting the teeth which can cause internal staining of teeth. The high awareness of frequent dental visits and change of tooth brushes could possibly be due to their personal daily life style habits. Majority of the medical professionals felt that periodontitis can be treated with antibiotics placing less emphasis on oral prophylaxis as the preliminary measure. Interestingly it was also noted that more than 3/4th of them felt that oral prophylaxis results in enamel loss. This finding of ours is similar to the previous findings of Ravindranath 2016 and is noted as universal finding in many previous studies. This misconception needs to be rectified.^{10,11} More than half of participants of our study group were aware of newer advancements like application of lasers to treat periodontal infections use of bone graft for regeneration of alveolar bone and use of platelet rich plasma to regenerate periodontal tissues. They were aware that local drug delivery treatment is available for treating periodontal lesions and application of Alloderm in treating periodontitis (which is traditionally used to treat burns). These were pleasant findings noted in our study as these modalities are used in medical practices as well.¹¹ At this juncture we agree with Al-Wahadni *et al.*

and Barrieshi-Nusair *et al* who established in their studies that level of education is an important factor and educated strata enrich their knowledge from multiple resources.¹² More than 3/4th of our participants felt that dental implants refers to dentures (removable and fixed) whereas only 9 participants agreed that it implied to an artificial tooth anchored into jaw bones. The limitations of the present study are that it is limited to one single institution and thus the results cannot be generalized to nationwide. This study was designed with self structured data of close ended questions. Our questionnaire did not include previous dental visits or previous dental treatments. We did not emphasize on the fact whether any family member (spouse, sibling, children) was a dental professional.

CONCLUSION

Our study reflected that the awareness of periodontal health, disease and treatment were found to be good among the medical professionals and the small voids in the knowledge could be patched up using CDE and knowledge based programs so that it may better equip them to understand and deal with periodontal lesions. Thus, knowledge of periodontal health disease and its association with systemic diseases will improve the efficiency of medical professionals as well as beneficial for the patients.

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