Knowledge and Attitude among Medical Practitioners towards Periodontal health and Diabetes

Veena Kalburgi¹, Madhvi Singh², Shravya L³,
Sandhya Raghuvanshi⁴, Manish Goutam⁵

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¹Prof. and Head,
^{2&4}Post Graduate Student
Department of Periodonitics, Peoples Dental Acadmey,
Bhopal, India

³Assistant Professor
Department Of Periodontics, Dr. Shyamla Reddy
Dental College, Bangalore

⁵Post Graduate Student, Department of
Prosthodontics, Rishiraj College of Dental Sciences,
Bhopal, India

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Email for correspondence:
drmadhvisinghperio@gmail.com

ABSTRACT:

Background: Compelling evidence links periodontal disease with systemic conditions of medical interest including diabetes, pregnancy complications, cardiovascular disease, respiratory diseases, osteoporosis, rheumatoid arthritis and cancer. **Aims:** The purpose of the study was to asses the knowledge and attitude of medical practitioners towards periodontal health and diabetes. **Materials and Methods:** A cross sectional questionnaire survey was carried out among 130 randomly selected medical doctors from two medical colleges of Bhopal including 65 Post graduate as well as 65 under graduate. Out of which 60 post graduate and 42 undergraduate student responded (n=102). Questionnaire included 15 Likert scale close ended questions. Questions were mainly aimed to assess their knowledge and attitude towards link between diabetes and periodontal disease. The questionnaire was distributed by the investigator and it was verbally communicated that responses would remain confidential. The filled questionnaire were immediately collected after answering and analyzed through SPSS 20.0 software and Pearson's chi-square test was used to find the statistical significance among post graduate and undergraduate medical practitioners. **Results:** The present study found that Bhopal Post Graduate Physicians and internists have some knowledge about oral health and think there is a link between periodontal health and diabetes; however, majority do not have knowledge about the studies that link periodontal disease and diabetes. **Conclusion:** The time may be right for implementing strategies in medical and dental curricula to increase inter professional education and collaboration to prepare physicians and dentists to better care for patients with diabetes and address their treatment needs.

Key words: periodontal health, diabetes, knowledge, attitude, physicians.

INTRODUCTION

The potential link between oral and systemic health has received much attention in medical and dental circles. Studies have shown potential links

between oral health and nutritional deficiencies and periodontal disease in relation to cardiovascular disease, diabetes mellitus, obesity and pre-term low-birth weight babies.¹⁻⁵ While more studies need to

be conducted before positive associations can be confirmed or rejected, it is generally accepted that the mouth can reflect the effects of systemic diseases. Compelling evidence links periodontal disease with systemic conditions of medical interest including diabetes, pregnancy complications, cardiovascular disease, respiratory diseases, osteoporosis, rheumatoid arthritis and cancer.⁶⁻¹²

Both diabetes mellitus and periodontal disease are chronic inflammatory diseases; the relationship that exists between the two is bi-directional.^{3,13-16} In fact, Loe has identified periodontal disease as the sixth complication of diabetes along with the classic complications. In patients with diabetes and poor glycemic control the periodontium is more susceptible to infection, which increases the risk of periodontal disease, as Campus et al found in their case-control study.¹⁷ Periodontal disease in turn can exacerbate the glycemic control in patients with diabetes due to the inflammation of the periodontal tissues. This is believed to be a result of the inflammatory response to periodontal disease. Proinflammatory cytokines produced by periodontal disease aggravate the ability of the body to use insulin and can therefore disrupt the regulation of glycemic levels.¹⁸ According to Taylor and colleagues, subjects with diabetes and periodontal disease have a 6-fold higher risk for worsening of glycemic control over time compared to patients with diabetes who do not have periodontal disease.¹⁹ Collin and colleagues studied the periodontal status of elderly patients with Type II diabetes compared to patients without diabetes.²⁰

MATERIAL AND METHODS

A cross sectional questionnaire survey was carried out among 130 randomly selected medical doctors from two medical colleges of Bhopal including 65 Post graduate as well as 65 undergraduate. Out of which 60 post graduate and 42 undergraduate student responded (n=102).

Among all respondents 92 were male and 10 were female. Questionnaire included 15 Likert scale close ended questions.²¹ Questions were mainly

aimed to assess their knowledge and attitude towards link between diabetes and periodontal disease. The questionnaire was distributed by the investigator and it was verbally communicated that responses would remain confidential. The filled questionnaire were immediately collected after answering and analyzed through SPSS 20.0 software and Pearson's chi-square test was used to find the statistical significance among two medical practitioners.

Inclusion criteria:

1. Post graduate degree holder associated with medical colleges of Bhopal.
2. In Undergraduate students only Interns were included from medical colleges of Bhopal.

RESULT

Of the 130 questionnaires distributed, 102 completed replies were received, which is a 78% response rate. Based on their qualification 60 (58.8%) were post graduate degree holder and 42 (41.1%) were undergraduates. Among the study subjects about 97% (n=99) agreed that good periodontal health is important to overall health and 57.84% (n=59) agreed that there is strong research regarding the relationship between periodontal disease and systemic health. Based on the qualification 40% (n=24) PG doctors and 52.38% (n=22) believed that research evidence is strong in association between periodontal disease and diabetes. Among the study subjects 34.13% (n=35) among which 40% (n=24) PG doctors and 50% UG doctors believed that they are knowledgeable regarding the studies linking periodontal disease and diabetes. The differences noted were found to be statistically significant ($P < 0.05$).

Responses of the study subjects based on their attitude

Among the study subjects 91.1% (n=93) among which 85% (n=51) PG doctors and 100% (n=42) UG doctors think that physicians should be taught about periodontal disease. Among the study subjects 59.8%

(n=61) and based on qualification 63.3% (n=38 PG) doctors and 54.7% (n=23) UG doctors believed themselves confident that they can provide an oral health screening for their patients with diabetes.

DISCUSSION

Results of the present study showed that the medical practitioners had good knowledge about periodontal disease and diabetes as 62.7% doctors agreed that Patients with diabetes are at increased risk for severe periodontal disease. Most of the respondents agreed that good periodontal health is important to overall health. This could be because the MBBS curriculum in India includes a dental posting in which they have an exposure to dental health aspects which improves their awareness, knowledge and attitude towards oral health. Campaigns conducted by many dental product manufacturers being focused in cities which further tends to enhance their knowledge. A number of continuing medical education programs which are being conducted in Bhopal for the general medical practitioners is a great source to update their knowledge on various aspects of health.

Several studies have shown that periodontal treatment may improve glycemic control.²²⁻²⁵ In the present study 56.86 % (n=58) were unaware of the fact that periodontal treatment may improve glycemic control. Diabetic patients generally visit to a physician for treatment so they should be acquainted about the importance of periodontal treatment effect on diabetes. Periodontal surgeons are responsible to make medical practitioners aware regarding this which can be done with continuing medical educations, webinar, and interdisciplinary conferences.

Attitude of medical doctors was found positive and they believed that they should be taught about periodontal disease. Most of them agreed to collaborate with dental professionals to reduce their patient's risk for developing periodontal disease.

Conclusion

The present study found that Bhopal post graduate physicians and interns have some

knowledge about oral health and think there is a link between periodontal health and Diabetes; however, majority do not have knowledge about the studies that link PD and DM. They believe physicians should be taught about Periodontal Disease and how to screen for Periodontal disease. They also agree that there should be collaboration between medical and dental professionals to jointly educate and treat individuals with diabetes who are at risk for developing Periodontal Disease. Hopefully, one of several outcomes from this collaboration would be a decrease in Periodontal Disease for individuals with diabetes. The time may be right for implementing strategies in medical and dental curricula to increase inter professional education and collaboration to prepare physicians and dentists to better care for patients with diabetes and address their treatment needs.

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