PERIODONTAL DISEASE;

Knowledge, awareness and attitude of medical doctors. towards periodontal disease in Dar es Salaam, Tanzania

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ABSTRACT… Background: Periodontal disease and systemic diseases are inter-related, each influencing one another. Adequate knowledge on periodontal disease among medical doctors will enable them to refer their patients to dentists for timely management. This study aimed to assess knowledge, awareness and attitudes of medical doctors towards periodontal disease in Dar-es-Salaam, Tanzania. **Settings and design:** Cross sectional study on medical doctors working at Muhimbili National Hospital in Dar-es-Salaam, Tanzania. **Materials and methods:** The study involved 151 medical doctors drawn randomly and who are practicing at Muhimbili National Hospital in Dar-es-Salaam, Tanzania. Data were obtained via a structured questionnaire and included demographic information's, knowledge regarding periodontal disease, their awareness and their attitude towards periodontal disease. They were entered into the SPSS statistical software for analysis. Frequencies and percentages were calculated and association between variables was done using the chi-square test. **Results:** Of the 151 questionnaires administered, 124 were returned (response rate of 82.12%). One hundred and eleven (89.5%) medical doctors believed poor oral hygiene was the main cause of periodontal disease, only 49(39.5%) told their patients to brush properly, 47(37.9%) believed that there was a bidirectional relationship between periodontal disease and systemic disease and only 35(28.2%) referred all patients with systemic diseases to dentists. 34(27.4%) believed that medical doctors have adequate knowledge regarding periodontal disease and 18(14.5%) believed that the medical curriculum provides enough knowledge regarding periodontal disease. **Conclusions:** Medical doctors had inadequate information about periodontal disease and this should be addressed in the medical curriculum so as to enable proper patient management.

Key words: Medical doctor, Awareness, Attitude, Periodontal disease.

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INTRODUCTION

Periodontal disease has a proven relationship with several systemic diseases, including coronary artery disease, diabetes, and stroke, as well as delivery of low-birth-weight infants[1]. Oral disease is still a major public health problem in high income countries and the burden of oral disease is growing in many low- and middle income countries[2]. Research shows that oral diseases and conditions are not only markers for underlying health problems, but also important determinants influencing the development and management of adverse chronic health conditions[3]. In Tanzania, where the dentist/population ratio is 1:118,694[4], patients are more likely to seek medical care than dental, as such, medical doctors should be aware of the bilateral link between periodontal disease and systemic diseases so as to ensure timely patient management and thus improve quality of life. Several studies done in various countries to determine knowledge and awareness of medical doctors regarding systemic effects of periodontal disease revealed that they have limited knowledge regarding this association[5,6,7,8,9,10]. The data for the level of knowledge and awareness of medical doctors in Tanzania regarding periodontal disease was not known. And as such there was a need to conduct a study to determine this so as to generate data that will enable appropriate interventions to be planned in order to increase medical and dental interaction and co operation so as to promote effective patient management. Therefore, this study aimed to determine the knowledge, awareness and attitude of medical doctors towards periodontal disease in Dar-es-salaam, Tanzania.

MATERIAL AND METHODS

This was a cross sectional survey conducted on practicing medical doctors at the Muhimbili National

Hospital in Dar-es-Salaam, Tanzania. The sample size was computed to be 151 medical doctors using the formula ($n=(t^2 \times p(1-p))/d^2$) where n is the required sample size t = confidence level at 95% (standard value of 1.96) p = is the proportion of medical professionals who believed that periodontal disease and systemic diseases were inter related 11% (0.11) d = margin of error at 5% (standard value of 0.05). A structured questionnaire assessing the knowledge, awareness and attitude of medical doctors towards periodontal disease was handed to the medical doctors as and when they were encountered at the hospital until the sample size was realized. The questionnaire consisted of multiple choice questions and the respondents were required to circle their answer of choice. Thereafter the data was entered in the SPSS statistical software and analyzed using numbers and percentages.

RESULTS

Demographic particulars of participants

A total of 151 questionnaires were distributed to medical doctors and 124 were returned giving a response rate of 82.12%. Majority (74.2%) of respondents was doctors with undergraduate degrees in Medicine and 65.3% were male participants (Table-I).

Designation	Frequency		Total
	Males	Females	
Undergraduate doctors	55 (67.9%)	37 (86.0%)	92 (74.2%)
Postgraduate doctors	24 (29.6%)	5 (11.6%)	29 (23.4%)
Specialist doctors	2 (2.5%)	1 (2.3%)	3 (2.4%)
Total	81 (65.3%)	43 (34.7%)	124 (100%)

Table-I. Distribution of participants in relation to gender and level of education.

Responses of medical doctors based on their knowledge of periodontal disease

Of the total participants, 94.4% of the participants said they knew how periodontal disease presents in the oral cavity. It was found that 52.4%, 86.3%, 62.9%, 79.8%, 83.9% and 66.9% of the medical doctors believed that the effects of periodontal disease on the periodontium were alveolar bone loss, bleeding from the gums, gum recession, tooth mobility, tooth loss and halitosis respectively, 30.6% of respondents got all these answers correct.

Eighty nine point five percent of medical doctors knew that poor oral hygiene was the main cause of periodontal disease, 6.5%, 1.6% and 0.8% believed that systemic diseases, environmental factors like eating sugary foods and others respectively were the main cause of periodontal disease while 1.6% of respondents said they didn't know. Majority (61.3%) thought that the relationship between systemic diseases and periodontal disease was a one directional one (Table II).

	Frequency	%age
Periodontal disease is a risk factor for the enhancement/exacerbation of certain systemic diseases	50	40.3
Systemic diseases are a risk factor for the enhancement/exacerbation of periodontal disease	26	21.0
A bidirectional relationship exists between periodontal disease any systemic disease	47	37.9
No relationship exists between the two as the oral cavity is an isolated part of the oral cavity	1	0.8
Total	124	100.0

Table-II. Response of medical doctors regarding relationship of periodontal disease with systemic diseases

The knowledge that periodontal disease is a risk factor

for the enhancement and exacerbation of diabetes mellitus, coronary artery disease, pulmonary diseases, delivery of pre term and low birth weight infants and stroke was possessed by 46%, 31.5%, 22.6%, 15.3% and 20.2% of medical doctors respectively. Also, 47.6%, 42.7%, 21%, 21%, 45.2% and 21% of medical doctors believed that HIV/AIDS and other types of immunodeficiency, diabetes mellitus, hormonal imbalances, pregnancy, vitamin deficiency and stress influenced the enhancement and exacerbation of periodontal disease (Figure 1 & 2).

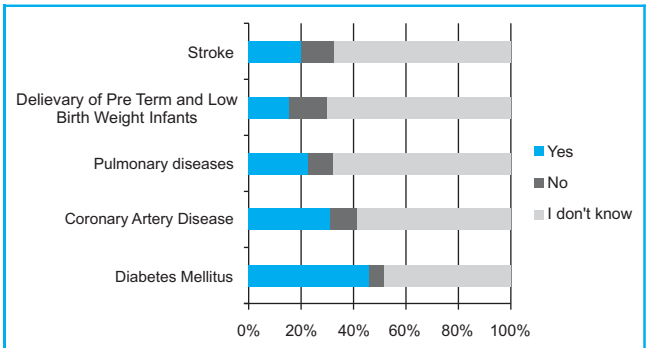

Figure-1. Showing distribution of correct responses regarding periodontal diseases as a risk factor for systemic disease

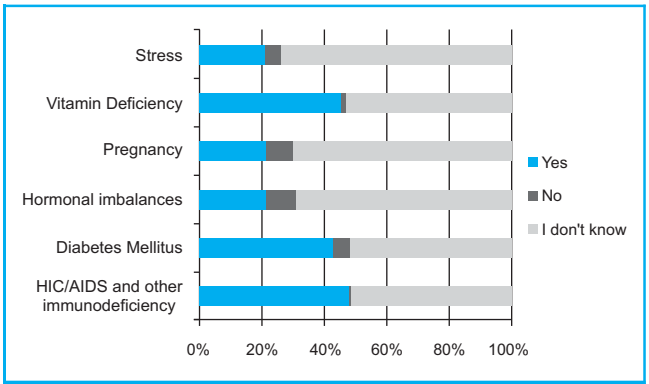

Figure-2. Showing distribution of correct responses regarding systemic diseases and conditions as a risk factor for periodontal disease

Responses of medical doctors based on their awareness of periodontal disease

Majority of the respondents (62.1%) said that they have had patients who have reported to them with periodontal disease either as a chief complaint or general complaint other than the chief complaint. Most frequent complaints were bleeding from gums which comprised 51.6% followed by tooth mobility (40.3%), halitosis (26.6%), gum recession (8.1%) and 7.3% reported other complaints which included ulcers, pus discharge and tooth pain.

Regarding their awareness on management, 39.5% said they advice their patients to brush their teeth properly and keep the oral cavity clean, 72% of respondents said that they generally examine the oral cavity of patients with chronic systemic diseases and 28.2% said they refer all their patients with chronic systemic diseases to dentists.

Responses of medical doctors based on their attitude towards periodontal disease

Majority (56.5%) agreed that medical doctors should refer all patients with chronic systemic diseases to dentists for an oral health check up. Twenty seven point four percent agreed that medical doctors have adequate knowledge about periodontal disease, 10.5% agreed that knowledge about periodontal disease is not important to medical doctors and 14.5% agreed that the medical curriculum provides enough information regarding basic dental health especially concerning periodontal disease.

DISCUSSION

The results of this study cannot be generalized to represent all doctors in Dar-es-salaam because it was conducted at one hospital only. Also, it was conducted in only the public sector and more doctors with undergraduate degrees participated and showed co operation and willingness to participate as opposed to post graduate doctors and specialists.

In this study, although 94.4% of the respondents said they knew how periodontal disease presents in the oral cavity, when asked about the specific presentation of periodontal disease however, only 30.6% got all

answers correct. This showed that the doctors thought they knew how periodontal disease presents but did not have the actual knowledge. This was almost similar to a study done in Nigeria, by Sofola OO et al[8] in which 61.7% of the physicians claimed to know what periodontal disease was but only 45.7% gave correct answers. The reason for this is probably because medical doctors' training does not address oral health to an appreciable extent. Therefore there is a need to revise the medical curriculum to include dental health as well.

Poor oral hygiene was regarded as the main cause for periodontal disease in this study by 89.5% of the participants. This showed that the doctors knew the importance of oral hygiene in prevention of periodontal disease. This is probably because it is general oral health knowledge which is known by most people through media and probably the basic dental knowledge provided in medical school. The study found that only 37.9% were aware of the bidirectional nature of the relationship of periodontal disease and systemic diseases. This showed that majority of the doctors were unaware of this bi directional link. It was two times more as that found in another study done by Gur et al[7] in which only 16% were aware of the bidirectional nature of this relationship. The difference could probably be attributed to the fact that in the study by Gur et al[7] the doctors were all general physicians whilst in this study there was a mixture of undergraduate, postgraduate and specialist doctors. The difference could also be due to different methodology used in these studies. Therefore there is a need to promote dental and medical programs and conferences as well as revise the medical syllabus to allow the two professions to be able to work together.

Only 46%, 31.5%, 22.6%, 15.3% and 20.2% of medical doctors believed that periodontal disease was a risk factor for the enhancement and exacerbation of diabetes mellitus, coronary artery disease, pulmonary diseases, the delivery of pre term and low birth weight infants and stroke respectively as opposed to 6%, 14%, 24%, 4% and 16% respectively found in a study by Gur et al[7]. The higher values obtained in this study could be because this study had a mixture of undergraduate, postgraduate and specialist doctors whilst the study by Gur et al[7] had just general physicians. Also, the higher values obtained by this study could imply that the population investigated was more aware of the association of periodontal disease and systemic conditions.

The study showed that 62.1% of medical doctors reported periodontal related complaints from their patients, this was less than a study done by Sofola et al[8] in which 95.1% reported oral complaints from their patients. The higher proportion in the study by Sofola et al[8] could however be because the study was assessing all oral complaints whilst this study just assessed the periodontal complaints. This shows that medical doctors need to be well informed about oral disease so that they are able to channel the patients in the correct direction.

Only 39.5% of medical doctors advised their patients who presented with periodontal related complaints to brush properly. This showed that although majority of the doctors knew that poor oral hygiene was the main cause of periodontal disease, less than half of them were willing to advice their patients on the importance of good oral hygiene probably because they felt that periodontal related complaints were not part of their work.

Majority (72.6%) agreed they had inadequate knowledge regarding periodontal disease. This shows that most doctors felt they did not have enough knowledge regarding periodontal disease. In a study done by Quijano et al[10] a nearly similar result was found. This is probably because very little training is provided to medical doctors during their training.Most doctors (85.5%) agreed that the medical curriculum does not provide enough information regarding basic

dental health especially periodontal disease. This is reflected in many studies; in a study by Owens et al[9]. 88% of the respondents agreed that physicians should be taught about periodontal disease. A study by Quijano et al[10] revealed that 90% of medical doctors said that they have not received any training about periodontal disease in medical school. This is probably because of the belief that oral health is the sole responsibility of dentists only.

CONCLUSIONS

The knowledge, awareness and attitude of medical doctors towards periodontal disease were seen to be average to poor. There seems to be a huge gap between medical doctors and dentists regarding their roles as health professionals and a tendency to isolate both professions whilst failing to recognize the intertwining tendencies of the two.

RECOMMENDATIONS

Oral health should be addressed in the medical curriculum to an appreciable extent to enable medical doctors to make appropriate decisions that will be of benefit to the patients.

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Too often we... enjoy the comfort of opinion without the discomfort of thought.

John F. Kennedy