

A questionnaire study on the knowledge, attitude and practice among dental practitioners towards periodontal disease & systemic health.

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Abstract

Aim: The goal of this study was to evaluate dental physicians' knowledge, attitudes, and practises about the impact of periodontal disorders on systemic health issues.

Materials and Methods: This is a cross sectional survey done among dental practitioners using a self-administered questionnaire about the possible influence of Periodontal disease on systemic health. Patients were given a questionnaire with 15 items on it, including a general question concerning periodontitis and its effects on overall health.

They could answer yes, no, or don't know. Later, Descriptive analysis was done on the data collected.

Individuals' levels of awareness were divided into groups according to their educational background, age, and gender.

Result: A total of 50 dental practitioners participated in the study. 100 % of the participants responded that they had awareness about gum disease.

There was no significant association between knowledge on oral health and the knowledge regarding relationship between Gum disease and sugar level, smoking as well as coronary heart diseases (P value >0.05)

Conclusion: Dentists had ample knowledge about the causes of periodontitis, but they lacked expertise about how to treat the condition and how it affected underlying conditions.

As a result, emphasis should be placed on educating medical professionals on the systemic effects of periodontal disease as well as the illness's systemic impacts and potential remedies.

Keywords: Periodontal Disease, periodontitis, Systemic disease, Systemic health

Introduction

The complicated aetiology of periodontal disease and its connection to the condition's expanding incidence have raised concerns about oral health treatment. It's crucial to control this infection on both a public and individual level.

Utilizing scientific data is essential to demonstrating the need for an increase in oral health behaviours and an improvement in oral health. The common people need to be more aware of the association between periodontitis and general health, as well as the need of treating periodontal disease.

Furthermore, there is noticeable evidence linking systemic diseases like diabetes, peripheral vascular disease, cardiovascular disease, and stroke to unfavourable pregnancy outcomes.¹

One universal human need is for health, regardless of social background. Maintaining overall health requires having good oral health. The oral cavity is viewed as the entrance to the body and works as a mirror to reflect general health.²

The maintenance of overall health depends on preserving dental health. 3 There is evidence that social, biological, and environmental factors all affect dental health. 4 A comprehensive analysis of the literature reveals a strong connection between overall health and the effects of persistent mouth inflammation.

Periodontal diseases and systemic illnesses have been linked, and vice versa; systemic illnesses can also have an effect on dental health.

A person's whole wellbeing is inevitably and crucially dependent on their oral health. The maintenance of one's dental hygiene has an impact on their general health.⁵

According to a literature assessment of various epidemiological studies, periodontitis occurs and is very common all over the world.

6 It is alarming that the incidence of periodontal disease has been rising. In terms of prevalence, severe periodontitis is the sixth most prevalent disease in the world.⁷

It's crucial to have access to dental care for both illness prevention and disease management. Due to the resources available there, the health care system is now accessible to this demographic in high-income countries but not in low- or middle-income ones. Most people who can afford it are offered the technique to prevent periodontal disease.

Therefore, in these circumstances, having the right knowledge and attitude about these diseases is essential for promoting health and preventing disease. Understanding the theories and beliefs surrounding periodontal health and disease is essential.

Therefore, the current study's objectives were to investigate dental professionals' perceptions of periodontal health and illness as well as their attitudes and beliefs towards periodontal disease prevention.

Here fore, the purpose of this study was to gather data on the level of periodontal health and disease awareness in that segment of society that is thought to be more knowledgeable and educated than the general population.

Material and Method

Study Design: Cross sectional survey

Method

The dental professionals at Malabar Dental College in Kerala, including general practitioners and specialists,

participated in this cross-sectional study by completing a self-administered questionnaire. In this study, dentists who worked in private practices, hospitals, and corporate clinics were also included. A questionnaire with 15 multiple-choice questions was used to gather information about their knowledge, attitudes, and practices about periodontal health.

Questionnaire design

The principal investigator designed some of the knowledge-related questions about periodontal diseases based on his or her understanding of the disorders, while others were based on items already reported in various research and the results of a pilot study.

Patients were given a questionnaire including questions about oral health and periodontitis and how it affects general health. They could answer the question with a yes, no, or don't know response.

Individuals' levels of awareness were divided into groups according to their educational background, age, and gender.

Statistical analysis

$P < 0.05$ was regarded as statistically significant when data were analysed using SPSS Version 11.5 software (Free Online version of software was used, Chicago, North America, USA).

Frequency and percentage descriptive data were calculated. To assess the results, the chi-square test was used for each individual question.

Results

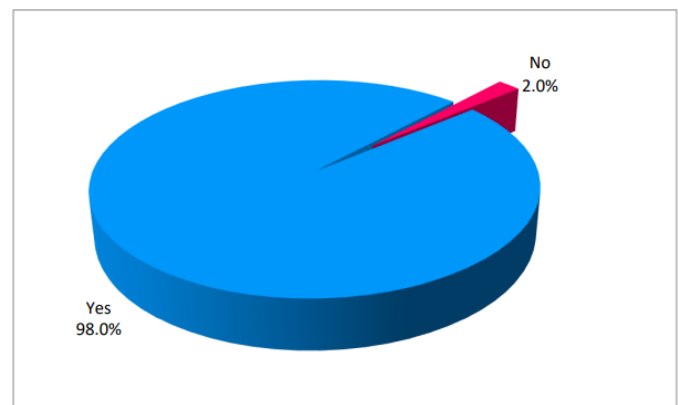
Out of the total study participants, 100 % of the participants responded that they had awareness about gum disease which means that most of the dental doctors have knowledge regarding periodontitis.

When it comes to the association between periodontitis and systemic health, responses are mixed. when we asked about whether gum disease can affect blood glucose level in a sugar patient, 92% responded yes (graph :1).

Similarly around 98% of the study participants had knowledge about pregnancy outcomes of periodontitis (Graph :2).



Graph 1: Response to question whether Gum disease can affect blood glucose level in a sugar patient.



Graph 2: Response to the question whether Gum disease can cause premature deliveries, low birth weight babies. There was no significant association between knowledge on oral health and the severity of gum disease among smokers ($p > 0.05$). (Table 1).

Table 1: Comparison of the response to question about oral health and association between smoking and periodontitis.

Majority of smokers have severe gum disease	Good oral health can lead to improvement in overall health of an individual				Total		χ^2	P
	Don't Know		Yes					
	N	%	N	%	N	%		
Don't Know	0	0	1	2	1	2	0.043	0.979
Yes	1	100	47	95.9	48	96		
No	0	0	1	2	1	2		
Total	1	100	49	100	50	100		

Test Applied : Chi-Square test

P value <0.05 statistically significant

QUESTIONNAIRE, KNOWLEDGE, ATTITUDE AND PRACTICE STUDY ON RELATIONSHIP OF PERIODONTAL & SYSTEMIC HEALTH AMONG THE DENTAL PRACTITIONERS OF MALABAR DENTAL COLLEGE, EDAPPAL

1 Are you aware of disease affecting the gums known as gum disease (or) periodontitis?

- ☐ yes
☐ no
☐ Don't know

2 Are you aware about the symptoms of gum disease like bleeding gums, loose teeth and pus discharge?

- ☐ yes
☐ no
☐ Don't know

3 Do you think gum diseases are preventable?

- ☐ yes
☐ no
☐ Don't know

4 Do you think gum diseases are hereditary?

- ☐ yes
☐ no
☐ Don't know

5 Do you know that gum disease is one of the main reason for causing bad breath?

- ☐ yes
☐ no
☐ Don't know

6 Are you aware that good oral health can lead to improvement in overall health of an individual?

- ☐ yes
☐ no
☐ Don't know

7 Are you aware that a majority of smokers have severe gum disease?

- ☐ yes
☐ no
☐ Don't know

8 Are you aware that nutritional deficiencies (vitamins) in the diet can lead to oral ulcers and bleeding gums?

- ☐ yes
☐ no
☐ Don't know

9 Did you know patients with high sugar level have higher incidence of tooth loss?

- ☐ yes
☐ no
☐ Don't know

10 Did you know that high blood sugar level can increase the risk of infection in the oral cavity?

- ☐ yes
☐ no
☐ Don't know

11 Do you think gum disease can affect blood glucose level in a sugar patient?

- ☐ yes
☐ no
☐ Don't know

12 Were you aware that microbes causing gum disease can lead to narrowing of the blood vessel supplying the heart, leading to various heart diseases?

- ☐ yes
☐ no
☐ Don't know

13 Did you know certain tablets given for blood pressure can increase the size of the gums?

- ☐ yes
☐ no
☐ Don't know

14 Do you know that there is an increased tendency for bleeding gums and enlargement of gums during pregnancy?

- ☐ yes
☐ no
☐ Don't know

15 Are you aware that gum disease can cause premature deliveries, low birth weight babies?

- ☐ yes
☐ no
☐ Don't know

There was no significant association between knowledge on oral health and the knowledge regarding relationship between Gum disease and sugar level with p value >0.05. (Table 2)

Table 2: Comparison of the response to question about oral health and association between blood glucose level and periodontitis.

Gum disease affect blood glucose level	Good oral health can lead to improvement in overall health of an individual				Total		χ^2	P
	Don't Know		Yes					
	N	%	N	%	N	%		
Don't Know	0	0.0	2	4.1	2	4.0	0.089	0.957
Yes	1	100.0	45	91.8	46	92.0		
No	0	0.0	2	4.1	2	4.0		
Total	1	100.0	49	100.0	50	100.0		

Test Applied : Chi-Square test

P value <0.05 statistically significant

There was no significant association between knowledge on oral health and the knowledge regarding relationship between coronary artery disease and microbes causing gum disease with a p value >0.05. (Table 3)

Table 3: Comparison of the response to question about oral health and association between CAD and periodontitis.

Microbes causing gum disease can lead to Heart disease	Good oral health can lead to improvement in overall health of an individual				Total		χ^2	P
	Don't Know		Yes					
	N	%	N	%	N	%		
Don't know	0	0	1	2	1	2	0.043	0.979
Yes	1	100	47	95.9	48	96		
No	0	0	1	2	1	2		
Total	1	100	49	100	50	100		

Test Applied : Chi-Square test

P value <0.05 statistically significant

FFFF DISCUSSION The way periodontal disease is perceived by the public improves overall health. Urgent preventive periodontal treatment may be motivated by the conviction and acceptance that periodontal care benefits general health. Additionally, it has been noted that informed patients have higher levels of compliance with their dental hygiene routines.⁸

Periodontal disease can increase the risk of systemic illness. Certain misconceptions or incorrect information about oral health conditions like periodontal disease may lead to harmful measures.⁹

An individual's socioeconomic status, attitude, Periodontal knowledge, habits, and oral health behaviour all affect their level of periodontal and oral health. The models for health behaviours are very complex and include a wide range of elements, such as self-efficacy expectations, decisional balance, perceived vulnerability, and normative belief.⁹

One of the elements influencing these issues is knowledge. However, it might be viewed as one of the conditions for further actions to enhance oral hygiene

routines. Due to this, the bulk of oral health therapies also focus on raising awareness of oral health issues.¹¹

Periodontitis is a chronic inflammatory disease initiated by biofilm that destroys the supporting tissues, including bone support of the teeth. Periodontal disease is diagnosed by clinical signs such as recession, clinical attachment loss, mobility of the tooth, probing pocket depth, and tooth loss.¹²

When Vellayappan et al. did a study in 2017 to evaluate doctors' knowledge, attitudes, and practises regarding systemic health and periodontitis, they discovered that clinicians were very aware of the link between periodontal disease and diabetes mellitus. Contrary to our findings, where the majority were unaware of systemic health and periodontitis, only 58% of the doctors had the practise of referring patients with systemic health difficulties to dentists.¹³

A study was done by Nagarkanthi et al in 2012 among medical practitioners to assess their knowledge about association between periodontal health and general health in which 100% of the participants reported to have an awareness about periodontal and general health whereas in our study only 59% has an awareness about periodontal and general health. This disparity may be because of the type of the study participants where in our study participants were dental doctors and the former has medical doctors as their participants.¹⁴

In contrast to 79% of dental professionals who check into medical disorders while assessing dental patients, a 2018 study by Mian et al. indicated that 59% of medical practitioners were in practise to look for dental conditions in medical patients. Postgraduate-educated medical and dental professionals had better awareness and were using their expertise in daily practise.¹⁵ According to a Sharma et al. study from 2018, dental students had average understanding of the link between

periodontal disease and coronary heart disease as well as a negative attitude toward it.¹⁶

Because of medical professionals' overall lack of understanding in this topic, it is necessary for the periodontal specialist to perform routine disease screenings. Our research suggests that dental schools should at the very least teach students more about periodontal and oral health. It is also vital to discuss the effects of periodontal disease and how these affect overall health and disease.

The length and different sorts of treatment modalities that are accessible for people with periodontal disease must also be explained. Our study's drawback was that it was self-reported, anonymous, conducted at a single Center, and that the results might not be generalizable.

Conclusion

Dentists had adequate knowledge of periodontitis' causes, but they lacked it when it came to understanding how the periodontal disease affects the general health as well as its influence on systemic illness. Therefore, there should be a focus on educating dental professionals on the systemic effects of periodontal disease as well as the illness's systemic effects and available therapies.

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