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## Periodontal Health Awareness among Medical Students - A Survey

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### Abstract

**Aim:** The aim of the present survey is to find the periodontal awareness among medical students and to correlate its importance in day-to-day medical practice.

**Materials and Methods:** A total of one-hundred and eighty seven medical students participated in this survey. Nine questions pertaining to oral health and its relation with systemic health were given. Based on their answers their knowledge related to periodontology was assessed.

**Results:** Only one-third of the students had awareness about periodontitis. Its importance in maintaining systemic health was not known by many of them. Majority of the students were eager know to the pathogenesis of periodontitis.

**Conclusion:** Periodontitis and periodontal medicine are subject to be known by both dental and medical professionals. It should be made a usual curriculum for all medical students.

**Keywords:** Periodontitis; Medical students; Oral-systemic health; Survey

### Introduction

The term periodontium refers to the supporting structures of the tooth. It includes two hard tissues namely cementum, alveolar bone and two soft tissue structures namely gingiva and periodontal ligament. The word periodontitis means inflammation affecting the supporting structures of the tooth resulting in bone loss and further tooth loss. Recent studies have shown that there is a strong association between periodontal and systemic disease [1]. Hence periodontal medicine is emerging as a new branch in the field of periodontia. Periodontitis seem to aggravate cardio-vascular, respiratory, cerebrovascular and other metabolic disorders. It is based on the focal-infection theory. Periodontitis act as a focus of infection and from there pathogenic bacterium metastases through blood stream to various vital organs like heart, lungs, joints and amniotic fluid [2]. It also down regulates blood sugar level [3]. Hence patients suffering from these metabolic disorders should maintain a healthy periodontium. It should be a regular protocol in treating these patients. Considering these facts, the present survey was conducted to know the periodontal awareness among medical students.

### Materials and Methods

The survey was conducted among the final year medical students and interns of medical colleges in and around salem district, Tamilnadu state, India. Each student was given a set of nine questions and was asked to mark the correct option. The answers sheets were collected immediately after they mark the option.

The following was the questionnaire

#### 1. How do you brush your teeth?

- Horizontal strokes (scrub technique)

- Vertical strokes (leonards technique)
- Back and forth motion (modified bass technique)
- Have not noticed.

#### 2. Frequency of changing your tooth brush

- Monthly once
- Two-months once
- Three months once
- When it is worn out

#### 3. Do you know about periodontitis?

- Yes
- No
- What is the importance of knowing periodontitis? It does not matter.

#### 4. Periodontal medicine means

- Oral-systemic drug relation
- Oral-systemic health relation
- Regarding drugs given for periodontal treatment
- No idea.

#### 5. Is there any relation between periodontal disease and systemic diseases

- Definitely yes
- May be
- No
- Don't know.

**6. Hyperlipidemia is associated with periodontitis. The statement is**

- a. True
- b. False
- c. May be
- d. Don't know

**7. Glycemic control of diabetic patients is influenced by periodontitis**

- a. No. how can it be?
- b. Yes.
- c. No idea.

**8. Should pathogenesis of periodontitis and its importance in treating patients with metabolic disorders are a topic to be known by all medical students?**

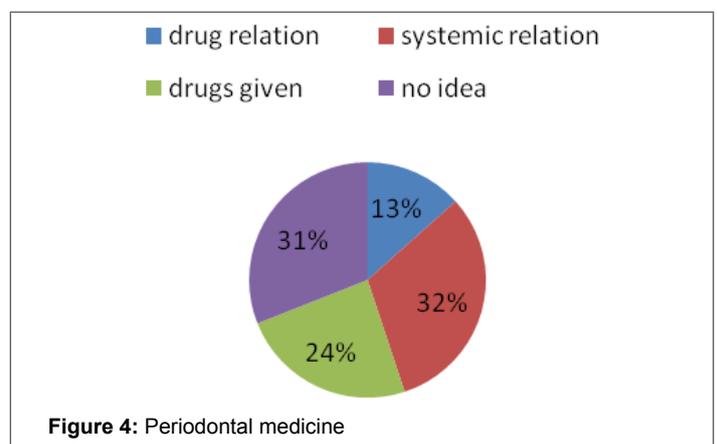
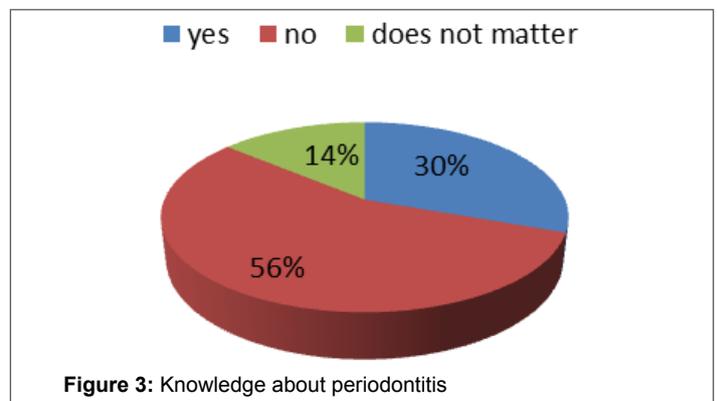
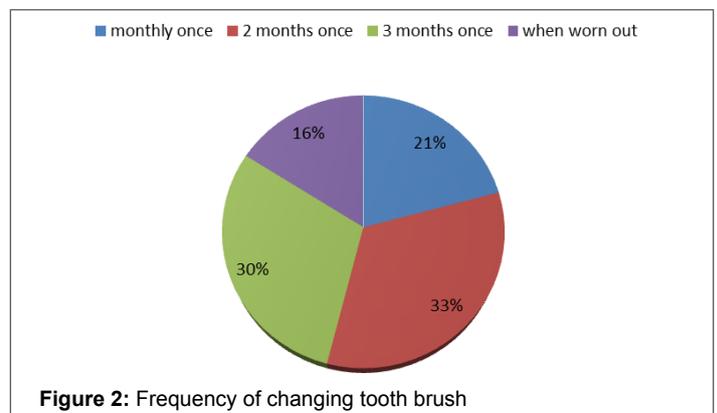
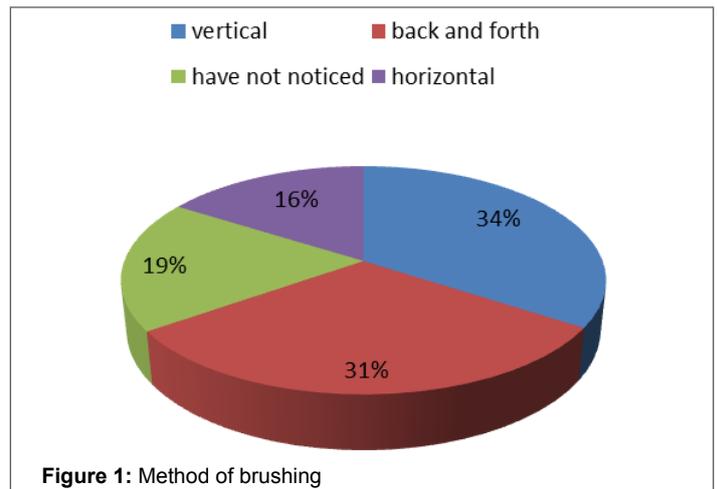
- a. Yes
- b. No. not required
- c. No idea

**Results**

After collecting all the necessary data, the percentage of answers was analyzed using pie diagram. The results are displayed using pie charts.

**Discussion**

The relationship between chronic periodontitis and systemic health is a matter of debate for the past fifty to seventy years. In fact, periodontal pathogens and their products, as well as inflammatory mediators produced in periodontal tissues, might enter the bloodstream, causing systemic effects and/or contributing to systemic diseases. On the basis of this mechanism, chronic periodontitis has been suggested as a risk factor for cardiovascular diseases associated with atherosclerosis, bacterial endocarditis, diabetes mellitus, respiratory disease, preterm delivery, rheumatoid arthritis, and, recently, osteoporosis, obesity, pancreatic cancer, metabolic syndrome, renal diseases and neurodegenerative diseases such as Alzheimer's disease [4-6]. This has led to the development of a new branch of periodontitis known as periodontal medicine. According to it there is a strong oral-systemic relation. Various hypotheses, including common susceptibility, systemic inflammation, direct bacterial infection and cross-reactivity, or molecular mimicry, between bacterial antigens and self-antigens, have been postulated to explain these relationships [7]. The idea of the present survey is to know the periodontal awareness among young medical students who would be future promising medical professionals. It was really upset to know that only one-third of the medical students knew the proper brushing technique and frequency of changing their tooth brush as shown in figures 1 and 2. In most of the countries, it is mandatory for the dental students to learn the basic medical sciences which include general physiology, anatomy, biochemistry, pathology, general medicine, surgery, pharmacology and so on. It is their basic curriculum apart from their dental subjects. The point which we would like to stress here is that mouth is a part of the human body and is not a separate entity. For the questions related to periodontitis and its relation with systemic health, most of the students were not aware about them (Figures 3-7). Chronic periodontitis is referred as the sixth complication of diabetes [8,9] and both diabetes and periodontitis confound the systemic effects of one another. Various studies have shown that periodontal management has shown an improvement in glycemic control [9,10] and lipid parameters. In our previous studies, we found a close relationship between obesity, metabolic syndrome and hyperlipidemia [10]. We found that the rate of tooth loss increased with an increase in metabolic components. Similarly



■ YES ■ MAY BE ■ NO ■ DON'T KNOW

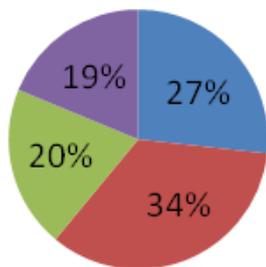


Figure 5: Association between PD and SD

■ NO ■ YES ■ NO IDEA

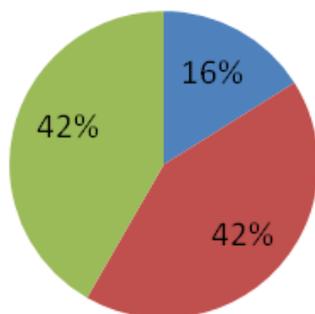


Figure 6: Diabetes and PD

■ TRUE  
■ FALSE  
■ MAY BE  
■ DON'T KNOW

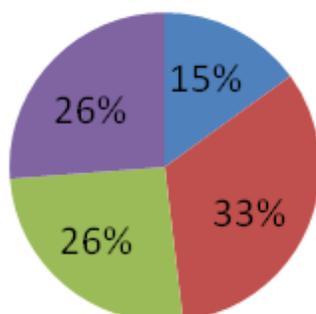


Figure 7: Hyperlipidemia and PD

■ YES ■ NO ■ NO IDEA

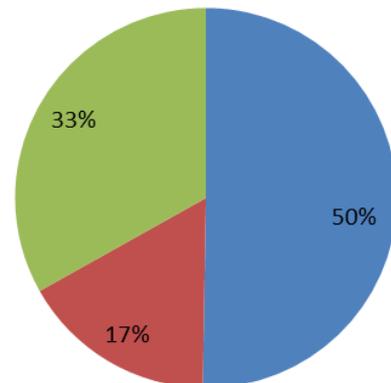


Figure 8: Include in curriculum

periodontal pathogens were isolated from the prosthetic valves [2] and respiratory tract [11,12] of medically compromised patients. Low-birth weight babies and pre-mature labors are at a higher rate in females affected with chronic periodontitis [13]. So it is a subject to be known by all medical students. It will lead to a quality patient care. For the question regarding the inclusion of periodontal medicine and pathogenesis of periodontitis as a part medical curriculum (Figure 8), most of the students accepted it. They were very eager to know more about it. It is really an appreciable one. Still a large level survey is being carried out among medical professionals and students in and around Tamilnadu, India for better analysis. It may be mile stone in linking medicine and dentistry.

### Conclusion

Within the limitations of the study, the study suggests a higher necessity for the medical schools to have a more comprehensive training in oral/ periodontal health. Various strategies that can be implemented to achieve this goal include inclusion of periodontal medicine in medical curriculum, having fixed dental postings ensuring adequate theoretical and practical knowledge regarding oral health, prevention counseling at the outpatient counter; which would improvise the future efforts of physicians' in contributing to the oral health. Both dentists and medical professionals should go hand in hand to give quality care.

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