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ORIGINAL RESEARCH

Assessment of prevalence of periodontal diseases and its associated risk factors among 8 to 14 year aged individuals

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***ABSTRACT*:**
Background: Periodontal diseases are caused by pathogenic bacteria which results in destruction of the supporting structures of the teeth, including the periodontal ligament, bone, cementum and soft tissues. Plaque related periodontal diseases in children and adolescents have long been recognized, however very few studies have been conducted for the same. **Aim:** To assess periodontal disease prevalence and its associated risk factors among 8 to 14 year patients. **Method:** A semi structure questionnaires on socio demographics, oral health and behavior towards oral and general health was made to collect data. The samples were selected using stratified random sampling method. Study population consisted of 100 participants aged 8 to 14 years. Oral cleanliness, gingival and periodontal health were assessed using the Simplified oral health index and Gingival index. **Results:** In current study the prevalence of gingivitis was 89% where periodontitis was found to be 74%. 60% were males in present study. Toothbrush was the most common oral hygiene aid used. Dental visit was not very common among children. **Conclusion:** increased prevalence of periodontal disease was observed. Lack of awareness and knowledge was seen. Measures should be taken to educate children regarding correct method of oral hygiene.
Key words: Oral health, periodontal status, knowledge, risk factors.

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INTRODUCTION:

Periodontal diseases are not limited to adult they effect children and adolescents as well. The word periodontium comes from the Greek terms peri-, which means "around," and -odons, which means "tooth." Gingiva, cementum, periodontal ligaments, and alveolar bone are the tissues which surround and support tooth.[1,2] Specific gram negative microorganisms, their by products and the host-tissue response all together leads to the progressive destruction of the periodontal ligament and alveolar bone.[3,4]

According to the literature there are several difference in periodontium of primary and permanent dentition.[5] authors have suggested that the periodontal ligaments in children are wider and have less dense fibers and the alveolar bone in primary dentition has less trabecula and calcification, more marrow spaces, and greater blood supply and lymphatic drainage.[1,5,6] Aggressive periodontitis is more common in children.[7] The localized form of aggressive periodontitis affects incisors and first molars.[8] So in present study we aimed to study prevalence of periodontal disease among 8 to 14 years children.

MATERIAL AND METHOD:

A cross sectional study was planned. A total of 100 participants aged 8 to 14 years both males and females were selected for the study. Ethical clearance and prior informed consent was obtained from patients. Written informed consent was obtained from children/gaurdians.

Inclusion criteria:

1. Children aged 8 to 14 years
2. Patients in need of examination
3. Patients willing to participate

Exclusion criteria:

1. Patients with mental disorder were excluded from the study.
2. Patients with systemic disease,
3. Those not willing to participate.

Bilingual questionnaire consisting of questions based on type of diabetes, duration, brushing habits, oral hygiene practices used, visit to dentist were selected. The questionnaire prepared consisted of multiple choices. The validation of the questionnaire was done. Questionnaire was distributed among participants and importance of answering was explained. Patients were explained about the fact that there is no obligation in answering and they can discontinue whenever they wanted.

Stastical analysis:

Questionnaire was collected and data was obtained. Data were entered using SPSS package descriptive data were obtained. Chi-square test was used in statistical evaluation of bivariate frequency distributions.

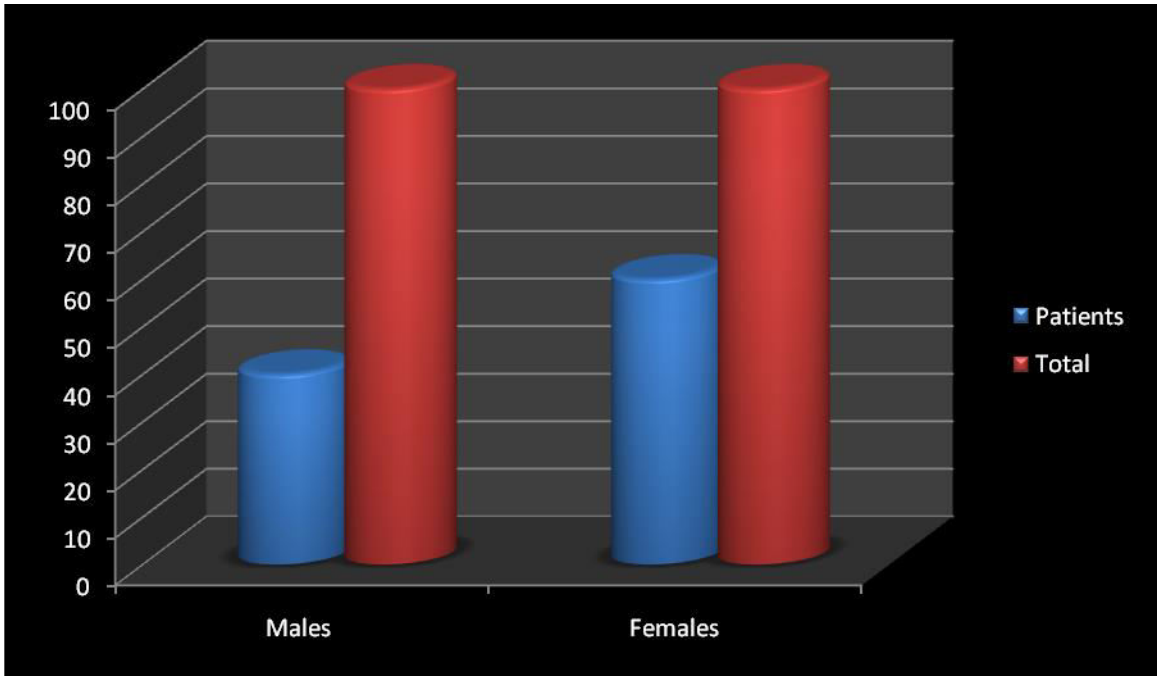
RESULTS:

A total of 100 patients who were suffering from diabetes were included in the study. Of the 100 patients 40 were females i.e. 40% and 60 males i.e. 60% (graph 1). Numbers of males were more in our study. Questionnaire containing 10 questions were equally distributed among participants. In present study we found that of the 100 patients 89/100 (89%) used toothbrush for brushing whereas 11 (11%) said they don't use toothbrush (graph 2).

In present study we found that of the 100 patients 69 brushed their teeth once daily using toothpaste i.e. 69%, 28 patients brushed twice daily i.e. 28% and 3 of them said they brushed once in a week i.e. 3% (Table 1). 86% patients said the prefer toothbrush along with toothpaste, 5% brushing with finger, 9% said they used other cleansing aids like floss, toothpicks, mouthwash. Dental visit was not found to be very common among patients in our study. Of the 100 patients 54 said that it was their first dental visit i.e. 54%, 5% said they visited dentist once in a year. 11% said they try to visit dentist once in 2 years whereas 30% of them don't remember about their last visit to dentist (table 2).

Oral hygiene index revealed that 30% of the patients had good oral hygiene, 66% had fair and 14% had poor oral hygiene. Gingival index showed that 19% had normal gingiva, 62% had mild inflammation, 13% had moderate inflammation whereas 6% had severe inflammation. CPITN index showed that 26% had score 1 and 74% had score 2 (Table 3, 4). In current study the prevalence of gingivitis was 89% where periodontitis was found to be 74%.

Graph 1: Gender distribution



GRAPH 2: Use of toothbrush among patients

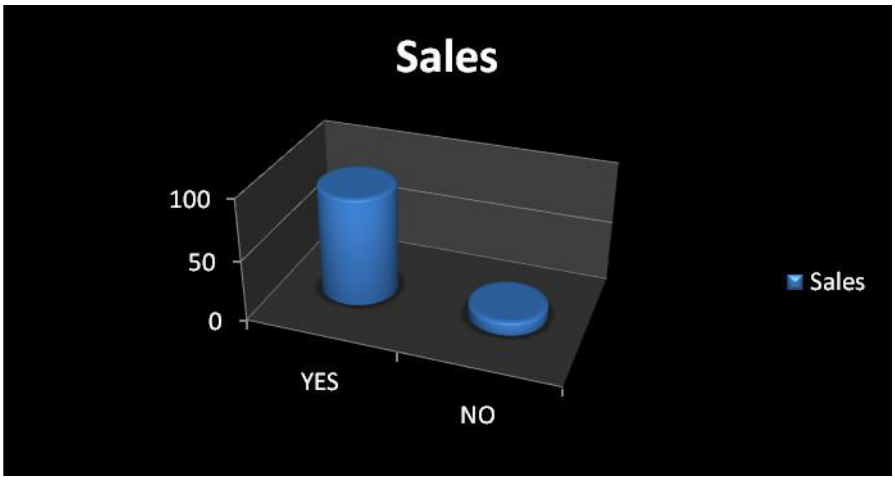


Table 1: Frequency of tooth brushing

FREQUENCY	Yes	Total Number	Percentage
Once a day	69	100	69%
Twice a day	28	100	28%
Once a week	3	100	3%

Graph 3: Frequency of dental visit

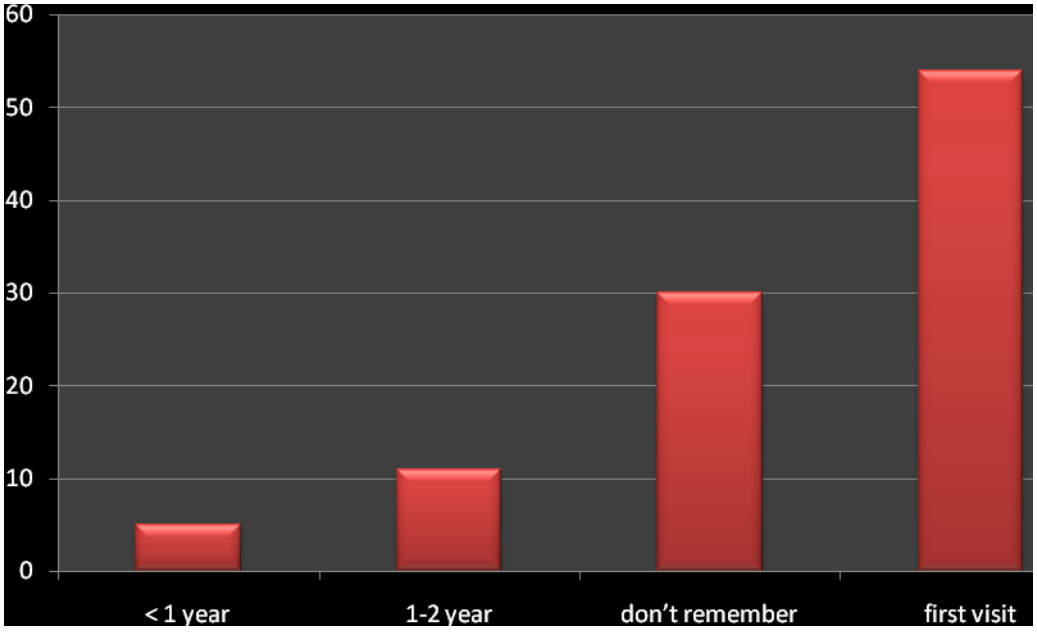


Table 3: Periodontal status of study participants using Simplified Oral Hygiene Score (S-OHI)

Variables	Frequency	Percent
Good	30	30%
Fair	66	66%
Poor	14	14%

Table 4: Gingival index and CPITN observed

Gingival index			CPITN		
Variables	**Frequency**	**Percent**			
Normal	19	19%	SCORE 1	26	26%
Mild	62	62%	SCORE 2	74	74%
Moderate	13	13%	TOTAL	100	100%
Severe	6	6%			

DISCUSSION:

Present study reports the periodontal status among children aged 8 to 14 years. Simplified oral hygiene index, gingival and community periodontal index was used. These indexes were used because it is simple, inexpensive and less time consuming. In current study the prevalence of periodontitis was found to be 74% and prevalence of gingivitis was found to be 89%. Chukwumah NM et al in their study reported that prevalence of gingivitis was 82.9% and periodontitis was 75.7%.[9] Kubota et al in their study reported a prevalence of 84.2% in Ile-Ife and 90% in Ibadan.[10] Yang et al reported in their study reported that 68% of 18 to 48 month old children were infected with P.gingivalis and 20% exhibited T. forsythus.[11] Study has suggested that gingivitis is the most common form of periodontal infection seen in children the expected reason behind it is the presence of P.gingivalis is most strongly associated with the progression of gingivitis and the onset of periodontitis in healthy children.[5]

Majority of the patients in our study were males. We found a statistically significant association between sex and cleaning agents use. In present study we observed that females use more cleaning agents as compared to males and are more likely to be concerned about their oral hygiene. Abid A et al mentioned that periodontal diseases are more common in males than females. Our study is in accordance with the author.[12] In present study we found that 89% used toothbrush for brushing whereas 11% said they don't use toothbrush. Al Subait in their study reported that majority of people said brushing their teeth is to have white and shiny teeth, to get rid of bad breath and to have healthy teeth.[13]

In present study we found that 69% brushed their teeth once daily using toothpaste 28% patients brushed twice daily and 3% of them said they brushed once in a week. 86% patients said the prefer toothbrush along with toothpaste, 5% brushing with finger, 9% said they used other cleansing aids like floss, toothpicks, mouthwash. Dental visit was not found to be very common among patients in our study. Of the 100 patients 54 said that it was their first dental visit i.e. 54%, 5% said they visited dentist once in a year. 11% said they try to visit dentist once in 2 years whereas 30% of them don't remember about their last visit to dentist. Similar result was reported by Chukwumah NM et al in their study.[9] Majority of the children belonged to low socioeconomic status that is the reason of less dental visit.

CONCLUSION:

Within the limits of our study we conclude that the prevalence of periodontal disease is high. In order minimize the risk of periodontitis we need to focus on increased need for professional cleaning and oral hygiene instructions. Children should be taught the importance of oral hygiene and should be demonstrated the correct method of brushing.

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