

Predominance of Periodontal disease in adult population - A Cross-Sectional Study

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ABSTRACT

Purpose of this study is to determine the predominance of periodontal diseases in adult population visiting diagnostics department in Islam dental college, Sialkot. This was a cross-sectional study that was carried out on patients varying in age from 25-30years in the diagnostics department of Islam dental college from 6th October 2019 to 31st January 2020. Periodontal disease index (PDI) was used to assess the prevalence of gingivitis and periodontitis. The study revealed that 25.2% patients were having periodontitis and 70.4% were having gingivitis

Keywords: Gingivitis, periodontal disease index, periodontitis.

INTRODUCTION

Gingivitis is defined as the inflammation of the gingival tissue and clinically it is characterized with features like redness, inflammation and erythema of the gums along with bleeding on probing. If it is left untreated, it can progress to periodontitis which is characterized by destruction of PDL fibers, tooth mobility, bone loss and eventually loss of teeth.¹ The inflammatory response in the gingival tissue in adults is different as compared to that of children. In adults there is an increase in the gingival fluid along with increase in numbers of neutrophils in the connective tissue. However, in gingivitis the inflammation is limited to the free gingivae and does not progress to the periodontal tissues.^{1,3}

Many of the people in the world are affected with both the gingivitis and periodontitis and these conditions are more prevalent in older age groups as compared to the young counterparts.² Although these conditions are also found in younger adults as well. Furthermore, it has been reported that 50%-90% of the general population suffer from gingivitis. The goal of this study is to determine the predominance of periodontal diseases in patients visiting diagnostics department in Islam dental college, Sialkot.

MATERIALS & METHODS

This study was led at Diagnostics department of Islam dental college over a span of 4 months. A questionnaire was designed regarding the gingival health of the patient and was approved by ethical committee at Islam dental college, Sialkot. Periodontal disease index (PDI) given by Ramfjord, 1959 was used to evaluate the incidence of gingivitis and periodontitis in patients. Two demonstrators

were trained to use PDI to collect the data and fill the details in the questionnaire accordingly. The details of the PDI index are given in the table 1.

16	12	21	25
46	41	31	36

Followings are the eight indexed teeth selected as per Ramfjord, 1959. In the absence of any of the indexed teeth any other teeth were not considered in its place. PDI score is calculated as:

PDI Score: Total number of tooth scores/total number of teeth examined.

Gingivitis: PDI Score 1-3

Periodontitis: PDI Score 4-6

A total of 547 patients were examined without any gender assumption. Data was analyzed by using SPSS version 22 and frequency, cross tabulation and percentage was used as descriptive statistics. The level of significance was set < 0.05%.

Table:1: Periodontal disease index (PDI)

0	Healthy periodontium/Absence of inflammation
1	Mild to moderate gingival inflammatory changes, not extending all around the tooth
2	Mild to moderate gingival inflammatory changes, extending all around the tooth.
3	Severe gingivitis, characterized by marked redness, tendency to bleed and ulcerate.
4	Gingival crevices in any measured area of the tooth are extending apical to Cemento Enamel junction (CEJ) but not more than 3mm.
5	Gingival crevice in any measured area of the tooth are extending apical to Cemento-Enamel junction (CEJ) ranging from 3-6mm.
6	Gingival crevice in any measured area of the tooth are extending apical to Cemento-enamel junction (CEJ) more than 6mm.

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RESULTS

547 patients were examined .Out of which 340(62.2%) were males and 207(37.8%) were females with a gender predilection of 2:1. Table 2 is showing the distribution of patients on the basis of their age and gender. The age of the study population ranged from 25-30 years. It was seen that only 24(4.4%) patients have a healthy periodontium. 385(70.4%) patients were having gingivitis and among them 236(61.3%) were males and 149(38.7%) were females. Moreover, 138(25.2%) were having

periodontitis and among them 89(64%) were males and 49(36%) were females. Gingivitis was more common in male patients as compared to the females. Distribution of patients according to their gender and periodontal condition is shown in table 3. And distribution of patients according to their age and periodontal condition is shown in table 4. As the age advances the prevalence of both gingivitis and periodontitis get increased.

Table:2 Patient's distribution regarding their age and gender

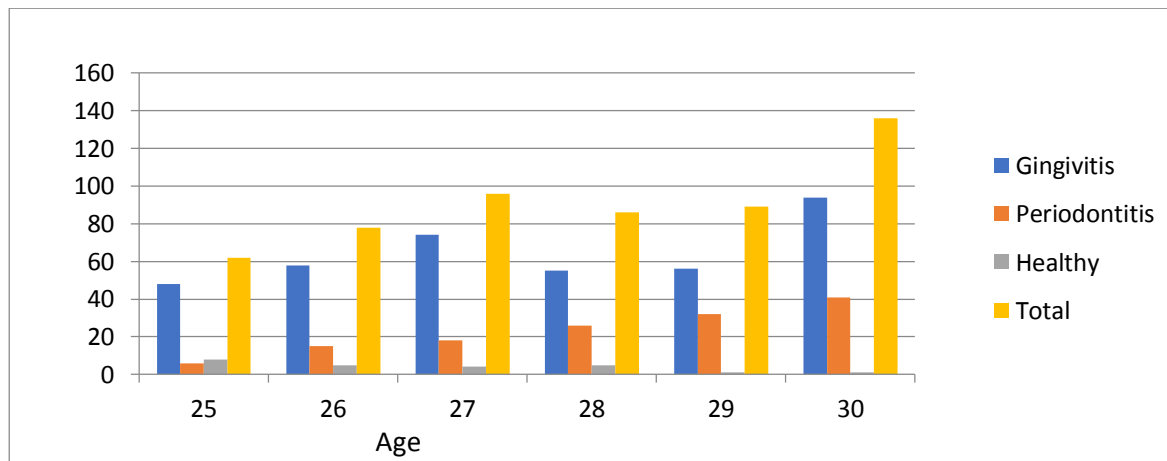
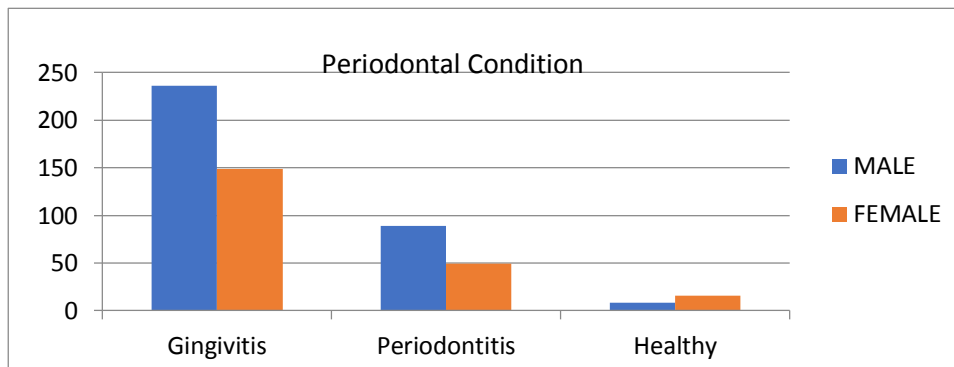
	25	26	27	28	29	30	Total
Male	40	35	37	72	77	79	340
Female	52	31	35	41	20	28	207

Table:3 Distribution of patients according to gender and periodontal condition

Gender	Gingivitis	Periodontitis	Healthy	Total
Male	236	89	08	333
Female	149	49	16	214
Total	385	138	24	547

Table:4 Distribution of patients according to age and their periodontal condition

Age	25	26	27	28	29	30	Total
Gingivitis	48	58	74	55	56	94	385
Periodontitis	06	15	18	26	32	41	138
Healthy	08	05	04	05	01	01	24
Total	62	78	96	86	89	136	547



DISCUSSION

Many etiological factors have been found associated with the gingivitis but poor oral hygiene is considered to be the main causative factor. Periodontitis is marked by a chronic inflammatory process which destroys tooth supporting structures. However, along with tooth and alveolar bone loss, it has been shown in other studies that it contributes to disease and pathologies at distant sites as well. Epidemiological and experimental studies have found association of periodontitis to the onset and/or exacerbation of other chronic inflammatory diseases ranging from rheumatoid arthritis to Alzheimer's disease⁵

WHO conducted a National Oral Health Survey in 2003 in 21 districts of Pakistan. One of the minor constituents of the survey was periodontal health status. Although this survey was not meant for periodontal disease evaluation but it revealed that periodontal health status of the population in Pakistan is not so well as 90% of 65-year-old population have periodontal diseases and only 28% of 12-year-old population have healthy gingivae. This result shows that periodontal diseases including gingivitis and periodontitis are prevalent in Pakistan¹.

This study was conducted at Islam dental college Sialkot to check the prevalence of gingivitis and periodontitis in patients visiting the diagnostics department. This is a pilot study conducted in this region. According to the data collected 70.4% of the study population suffered with gingivitis while 25.2% suffered with periodontitis. Gingivitis was seen to be more common among males (61.3%) as compared to the females (38.7%). Similarly, periodontitis was also more common among males (64%) as compared to females (36%). These results were in contrast to the studies conducted in China where it has been shown that there is no gender predilection in Predominance of periodontal disease is high among the population having prevalence of gingival recession and is strongly associated with supragingival calculus and cigarette smoking. This advocates a need to improve their periodontal condition through education, self-motivation, and improving their periodontal condition².

In another study conducted in Nepal they found almost 40% of the females of childbearing age having signs of gingivitis. Oral hygiene instructions were less followed among those females and access to dental health services was uncommon. According to that study both the age as

well as early motherly status were among the risk factors for gingivitis³.

In another study conducted by Handleman and colleagues stated that Gingival recession had been detected in adult age groups otherwise free of periodontal disease with a high average of oral hygiene maintenance. Gingival Recession is of concern to the patients who understand the attachment loss as a health issue as well as an esthetic concern⁴.

In another study conducted on patients with cardiovascular diseases the conclusion was that Gum disease can prevail and get worsen without any evident clinical features, especially if the patient is in habit of smoking. So, if patient is having no clinical features now, even then he should get regular oral checkups as part of managing his cardiovascular disease. Patient's dentist will be able to pick up early signs of gum disease⁶.

CONCLUSION

Prevalence of gingivitis and periodontitis in patients visiting Diagnostics department of Islam dental college was found to be very high. Only 4.4% of the patients were healthy while 70.4% had gingivitis and 25.2% were having periodontitis.

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