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Original Research Article

Prevalence of Different Types of Gingivitis and Periodontitis in Patients Who Attended Periodontal Clinic in ArAr Specialist Dental Centre, a Clinical Survey Study

Dr. Abdulaziz Sarhan Alshammari
Resident Dentist, Periodontics Department, Prince Abdullah Dental Center, ArAr City, Ministry of Health, KSA

***Corresponding Author:**
Dr. Abdulaziz Sarhan Alshammari
Email: dentist7668@gmail.com

Abstract: The aim of this study is to evaluate the prevalence of different types of gingivitis and periodontitis and their distribution in males and females for patients attended to periodontal clinic over 15 months from October, 2015 to December, 2016.1)To evaluate the severity and incidence of those disease among group sexes and how specifically affect each sex group.2)To estimate the periodontal health condition of the community from the study sample.3)To instruct them about the importance of periodontal health and good oral hygiene.4)To make this study a reference study for comparison for other studies. The study was conducted on 1273 patients who attended periodontics clinic, ArAr dental center over 15 months from October, 2015 to December 2016. The sample consisted of 748 male patients and 525 female patients with age vary from 15 to 69. Information on sex, age, systemic diseases, medical history, dental history and periodontal status were obtained (probing, radiographs, plaque and gingival indices). According to data analyzed, gingivitis was more predominant than periodontitis and males are more affected by both gingivitis and periodontitis.
Keywords: Gingivitis, Periodontitis, Papillary, Aggressive Periodontitis, Williams Probe

INTRODUCTION

The most common forms of human periodontal disease are gingivitis and periodontitis. Gingivitis is defined as an inflammation of the gingiva. The gingiva is all soft tissue surrounding the tooth coronal to the crest of alveolar bone and to a varying extent lateral to the bone, extending to the mucogingival junction. On the other hand, the definition of periodontium includes cementum, periodontal ligament, alveolar bone, and the gingiva; and periodontitis includes loss of attachment of periodontal tissues from the tooth and net loss of alveolar bone height [1]. Gingivitis is reversible, while regeneration after the destruction during periodontitis is not predictably achievable. Periodontitis in healthy children is not an extremely frequent occurrence. The most frequent periodontal disease in children, by far, is gingivitis [2].

Inflammation of the periodontium may result from many causes (eg, bacteria, trauma). However, most forms of gingivitis and periodontitis result from the accumulation of tooth adherent microorganisms.

Prominent risk factors for development of chronic periodontitis include the presence of specific sub-gingival bacteria, tobacco use, diabetes, age and gender [3]. Furthermore, there is evidence that other factors can contribute to periodontal disease pathogenesis: environmental, genetic, and systemic (eg, diabetes) [4-5].

Periodontal diseases are becoming a great concern in different communities, where patients are developing so many types of periodontal problems and left untreated due to lack of adequate periodontal clinics. The aim of This paper is to discuss the prevalence of specific type of each gingival and periodontal disease for those patients who attended for treatment in periodontal clinic.

MATERIALS AND METHODS

A clinical examination of 1273 patients who attended to periodontics clinic, ArAr dental center over 15 months from October,2015 to December 2016. The sample consisted of 748 male patients and 525 female patients with age vary from 15 to 69. Information on sex, age, systemic diseases, medical history, dental history and periodontal status were obtained (probing, radiographs, plaque and gingival indices).

Panoramic X-ray was taken for that patient who needed e.g. periodontitis cases, to evaluate the generalized condition of the bone. Williams periodontal probe was used to measure the pocket depth and Nabers furcation probe was used, too. Mobility test (Grace & Smales Mobility Index) was conducted for patients who had

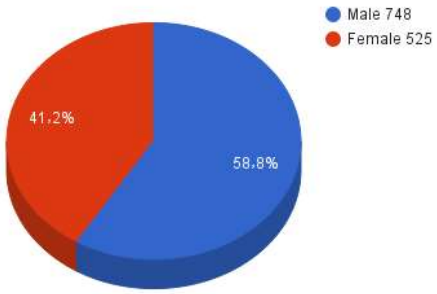
moderate to severe form of chronic localized and generalized periodontitis as well as cases of aggressive periodontitis. Calculus was recorded as present or absent. Bleeding on probing was recorded as present or absent and pocket depth was measured from the free gingival margin to the base of the sulcus. The Findings from the screening examination were recorded in the patient's e-files and then were shifted to a specially prepared sheet during data collection. Then, the collected data were interpreted into graphs and charts using Google Drive Sheet™. The data then were analyzed using statistical package for social sciences (SPSS) version 16.0.

RESULTS

A total of 1273 patients aged from 15 to 69, were examined which consisted of 748 male patients and 525 Female patients (Pie 1).

Table-1

Male	**748**
Female	**525**
Total	**1273**



(Pie-1)

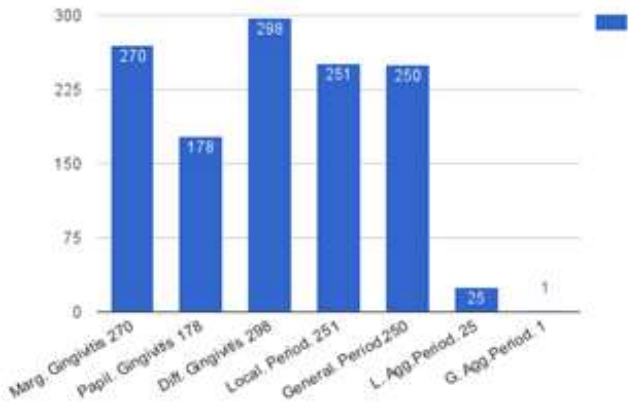
The gingivitis (746 cases) and periodontitis (527 cases) were classified intoa: 1- Marginal gingivitis (270), 2- papillary gingivitis (178), 3- diffuse gingivitis (298), 4- localized periodontitis (251), 5- generalized periodontitis (250). 6- Localized aggressive periodontitis (25). 7- Generalized aggressive periodontitis (1).

Table-2

Gingivitis	**746**
Periodontitis	**527**
Total	**1273**

Table-3

Type	Number
Marginal Gingivitis	**270**
Papillary Gingivitis	**178**
Diffuse Gingivitis	**298**
Localized Periodontitis	**251**
Generalized Periodontitis	**250**
Localized Aggressive Periodontitis	**25**
Generalized Aggressive Periodontitis	**1**

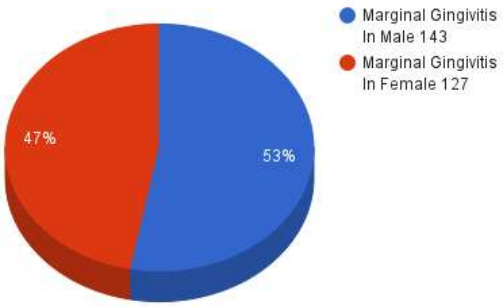


(Graph 1)

For marginal gingivitis (pie 2), it affects more males (143 male patients – 53%) than females (127 female patients -47%).

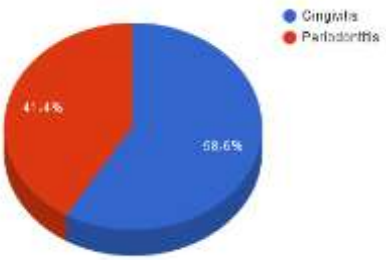
Table-4

Type	Male	Female	Total
Marginal Gingivitis	**143 (53%)**	**127 (47%)**	**270**



(Pie 2)

But, papillary gingivitis (pie 3) seems to be equally affects both sexes with slight increase in females (90 patients -50.6%) while males (88 patients – 49.4%).

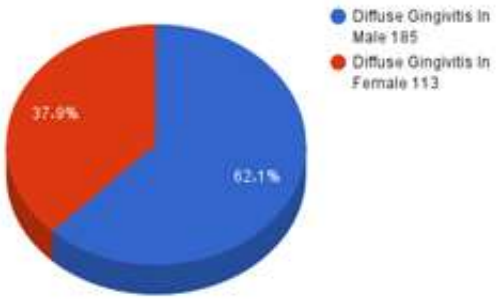


(Pie 3)

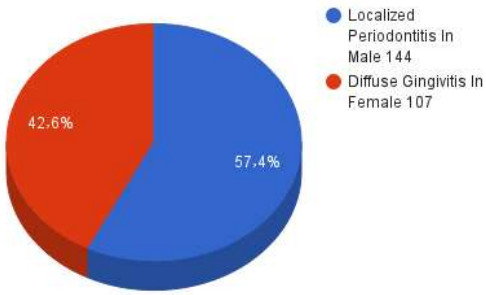
Table-5

Disease	Male	Female	Total
Papillary Gingivitis	**90 (50.6%)**	**88 (49.4%)**	**270**

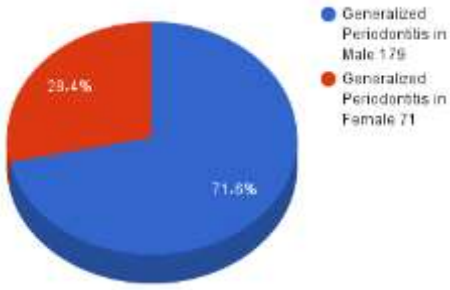
Periodontitis cases (either localized or generalized) seem to be more prevalent in males than females. To put that in figure, localized periodontitis (pie 5) in males occupies more than a half of the cases (144 males – 57.4%) while in females are less than a half (107 patients – 42.6%). Generalized periodontitis cases (pie 6), as well are much more prominent in males (179 patients-71.6%) than females (71 patients – 28.4%).



Pie 4



Pie 5



Pie 6

Table-6

Disease	Male	Female	Total
localized periodontitis	**144 (57.4%)**	**107 (42.6%)**	**251**
Generalized periodontitis	**179 (71.6%)**	**71 (28.4%)**	**250**

However, aggressive periodontitis (localized and generalized) are the least observes cases. Where localized aggressive periodontitis cases were found to be 25 cases, 8 male cases (32%) and 17 female cases (68%). And only one case for generalized aggressive periodontitis for a 27 years old male patient with diabetes and hypothyroidism.

Table-7

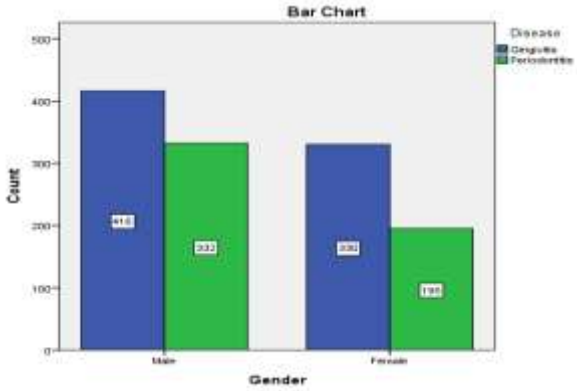
Disease	Male	Female	Total
localized Aggressive periodontitis	**8 (32 %)**	**17 (68%)**	**25**
Generalized Aggressive periodontitis	**1**	**0**	**0**

Data Analysis

After data analysis, It was found that **there is a statistically** significant difference in **(Gingivitis and Periodontitis)** between Gender in favor of male which has the highest mean (1.44); since T = 2.587 with **P-value = 0.010 < 0.05**.

Table-8

Gingivitis and Periodontitis	N	Mean (S.D)	T	P-value
Male	748	1.44(0.497)	2.587	0.010
Female	525	1.37 (0.484)		

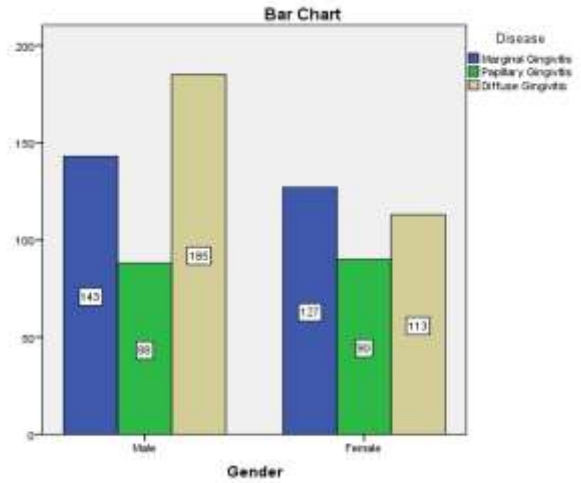


Graph-2

For vaiant types of gingivitis , It was found that there is a statistically significant difference in **Gingivitis types** between Gender in favor of male which has the highest mean (2.10); since T = 2.236 with P-value = 0.026 < 0.05.

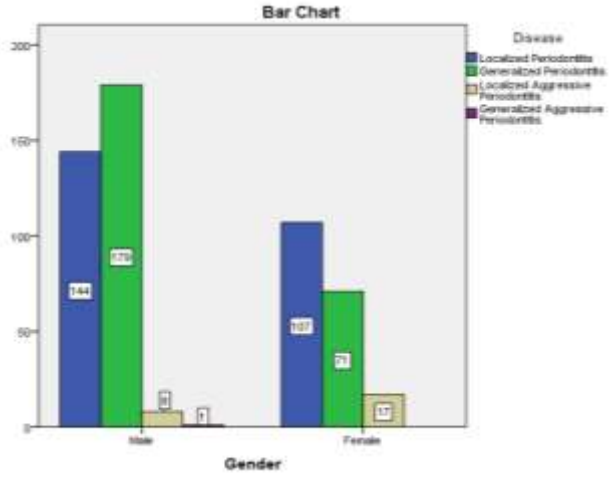
Table-7

Types of Gingivitis	N	Mean (S.D)	T	P-value
Male	416	2.10 (0.883)	2.236	0.026
Female	330	1.96 (0.853)		



Graph-3

It was found that there is **no statistically significant difference** in Periodontitis types between Gender; since T = 1.083 with **P-value = 0.279 > 0.05.**



Graph-4

DISCUSSION

The present study was conducted to make comparisons between variant types of gingivitis and periodontitis in one hand, and the distribution of the inflammation in both genders, on the other hand. The prevalence of gingivitis and periodontitis and their types, and its distribution among males and females have been described in several review articles. According to those articles, the overall prevalence of periodontal diseases was shown to be high in several studies [6, 7]. Those studies justify that due to many reasons including a- lack of enough periodontists in a specific area, b- insufficient education about consequences of gingival and periodontal diseases [8], c- systemic diseases etc. [9].

The foundation for current concepts of pathogenesis of gingivitis lies in the now classic experimental gingivitis studies of Loe and coworkers [10]. The central observations that cessation of oral hygiene results gingivitis, and that resumption of oral hygiene reverts gingivitis to health, are critical indictments of the causative relationship of dental plaque to gingivitis. These observations have been confirmed repeatedly [8].

Gingivitis and periodontitis are usually found to be more prevalent in males than females in different studies. In this study, Gingivitis in male is 55.8%, in female is 44.2%. And for periodontitis, 63% in male and 37% in female. To compare that with other studies, according to Majdy M. Idrees *et al*, [11], male subjects had more severe signs of gingival inflammation compared with females in sample composed of 385 subjects, where the severity of gingivitis was 55.9% in male and 44.1% in female. As well for periodontitis, 51.4% male have periodontitis and 49.6 % female with that.

However, Periodontitis form prevalence (Localized or generalized) is different from a study to another. In the present study, localized periodontitis (47.6%) is found to be less than generalized periodontitis (52.4%). Unlike a study for Rajkarnikar *et al*. [12], who found that the prevalence of localized periodontitis (28.3%) is more than generalized periodontitis 18.2% of periodontitis cases in a sample size 417 subjects.

To sum up what is discussed above, the prevalence of both gingivitis and periodontitis and their sub-types as well, are considered high in this area and need further management to be controlled.

CONCLUSION

The prevalence of gingivitis and periodontitis in ArAr city is considered high. Gingivitis cases are more than of those periodontitis cases and more in males than females as well. For gingivitis, diffuse gingivitis is more prevalent type of gingivitis with male favor followed by marginal gingivitis with male favor as well; papillary gingivitis is the least with female favor.

For periodontitis cases, Localized periodontitis is more prevalent in males followed immediately by generalized periodontitis with male favor. Follower by localized aggressive periodontitis which is much more prevalent in females than males. Only one generalized aggressive periodontitis case was observed in male patient.

Patient education, motivation and management are critical key factors to control the periodontal diseases in the community.

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