FREQUENCY OF GINGIVITIS AMONG PATIENTS VISITING SARDAR BEGUM DENTAL COLLEGE (SBDC) AND HOSPITAL PESHAWAR

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ABSTRACT

Objective: *To determine the frequency of gingivitis among patients visiting Sardar Begum Dental College (SBDC) and Hospital Peshawar.*

Materials and Methods: *A Descriptive cross-sectional study was conducted in Sardar Begum Dental College and Hospital Peshawar, over a period of six month from March 219 to August 2019. Patients of both genders aged 16 to 60 years having all permeant teeth erupted were included in the study. The sample size for this study was three hundred eighty-four and method employed was consecutive sampling technique. The data were analyzed through SPSS version 24.*

Results: *In this study 384 patients were examined in which the number of males were 176 (45.80%) and females were 208 (54.20%). Two hundred and fifty (65.10%) subjects had gingivitis. 137 (65.86%) Females in comparison to 113 (64.20%) males having gingivitis. The study variables including age, gender, frequency of tooth brushing, regular dental checkups were strongly associated with the gingivitis (p value < 0.001). Educational status was also found to be associated with frequency of tooth brushing and dental checkups (p value < 0.01).*

Conclusion: *This study concluded that the gingivitis was highly prevalent among the patients visiting to SBDC& Hospital, Peshawar and various factors were strongly associated to its causation.*

Keywords: *Gums, Gingivitis, Periodontitis, Prevalence*

INTRODUCTION

Dental Caries (first cause for tooth loss) and periodontal disease (second cause for tooth loss),are most commonly evident dental issues.[1]The Periodontal diseases are cluster of bacterial infection and inflammatory condition which effect all the supporting structures of the tooth, including alveolar bone, gingiva, periodontal ligament (PDL) and cementum as well as the teeth themselves, which can ultimately cause loss of tooth. It affects both children and adolescents worldwide.[2] Gingivitis has been defined as the inflammatory condition of the gums. Pain, swelling of gums, bleeding on instrumentation are the signs and symptoms of gingivitis.[3] When the gums become infected it present with different colors such as red, black, blue, or brown.[4] Gingivitis is classified as plaque-induced gingivitis and non-plaque-induced gingivitis. Most common type of gingivitis is plaque-induced gingivitis.[5] Gingivitis is caused by accumulation of microbial plaque at or near the gingival sulcus. Many studies were carried out about gingivitis and they observed approximately higher rate of gingivitis in both children and adolescents. Gingivitis is a common problem in adult Puerto Ricans.[6]

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Results of a study carried out in Saudi Arabia reported gingivitis in 100% of the study participants of aged 18 to 40 years.[7] Another study projected the prevalence of mild (62%), moderate(33%) and severe gingivitis(5%) among the study subjects.[8] The prevalence of gingivitis was 69% in a study conducted in Islamic international dental hospital Islamabad, Pakistan.[9]

There exists a gap in the literature regarding the national level statistics about incidence and prevalence of periodontal disease in Pakistan. A National oral health survey was carried out in (2003) with partnership of World Health Organization (WHO) in 21 districts of Pakistan. The survey report showed that only 28% of 12 years old have healthy gums while 93% of the population above 65 years have gingival or periodontal problem which is alarmingly high.[9] This specific study was designed to find out the frequency of gingivitis among patients visiting SBDC & Hospital Peshawar with the sole aim to provides a complete picture of gingivitis prevailing among patients.

MATERIALS AND METHODS

This cross-sectional study was carried out over a period of six months from March 2019-August 2019 at SBDC and Hospital Peshawar. Ethical approval was taken from the ethical committee of SBDC & Hospital Peshawar (NCS/AHS/329/19). Both the male and female patients aged 16 to 60 years having all the permanent tooth erupted were included in this study. Patients undergoing radiotherapy or having any medical illness, pregnant females and patients in mixed dentition phase were excluded. The sample size for the study was 384 which was calculated using openepi.com with the 95% confidence level and 4% absolute precision and the anticipated frequency of mild gingivitis to be 83%. Consecutive sampling technique was incorporated, and informed consent was taken from all the study participants. Data was collected through questionnaire and full mouth examination of the subjects were done for the diagnosis of gingivitis. The questionnaire consisted of two parts; part one consisted of demographic information (Age, gender, and educational status etc.) and part 2 consisted of questions relating to oral hygiene practices like, routine of tooth brushing, gums bleeding. Examination included swollen gum, gums texture etc. Every patient was examined on dental chair by two House officers and using a mouth mirror and a calibrated periodontal probe. Following variables were studied; Age, gender, Educational status, regular dentist checkup, frequency of daily toothbrushing, Gum Swollen, Gums Bleeding etc. The collected data was entered and analyzed by using the software SPSS version 24. Descriptive statistics (frequencies & percentage and cross tabulation) were applied to analyze data.

RESULTS

In current study 384 patients were examined among which 208(54.20%) patients were females and 176(45.80%) were males. Two hundred and fifty study participants (65.10%) suffered from gingivitis (Figure 1).

Table -1 projects the data pertaining to status of gingivitis in relation to gender, age, educational status, tooth brushing patterns, and regular dental checkups. Furthermore, 65.05% patients in the age group 16 to 30 years (n=121) suffered from gingivitis, 71.42% in age group 31 to 45 years and 67.44% in age group 40 to 60 years had gingivitis. Gingivitis was prevalent in 65.86% (n=137) females and 64.20% (n=113) in males. As per the study results, gingivitis was more prevalent in uneducated (n=170). The frequency of gingivitis was more in study participants having poor brushing practices and who were not having regular dental checkups.

Educational status was found to be associated with the regular dental checkups and frequency of tooth brushing (p value < 0.001). Similarly, the age, gender, educational status, frequency of tooth brushing, regular dental checkups were also found to be associated with gingivitis (p value < 0.001).

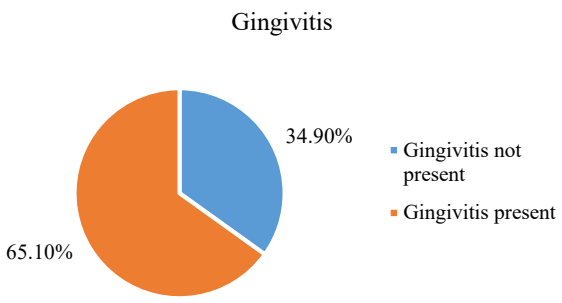

Fig 1: Frequency of Gingivitis

Table 1: Frequency of Gingivitis among Study Participants

Gingivitis		Present	Not present	Total
Gender	Male	113(64.2%)	63(35.7%)	176
	Female	137(64.4%)	71(34.1%)	208
Age category	16 to 30 years	121(65.05%)	65(34.94%)	186
	31 to 45 Years	80(71.42%)	32(28.57%)	112
	46 to 60 years	58(67.44%)	28(32.55%)	86
Educational status	Educated	80(57.55%)	59(42.44%)	139
	Non-educated	170(69.38%)	75(30.61%)	245
Frequency of brushing Teeth	Once	80 (70.79%)	33(29.20%)	113
	More than once	63(77.77%)	18(22.22%)	81
	No/sometimes	152(80%)	38(20%)	190
Regular Dentist-Checkup	Yes	46(75.40%)	15(24.59%)	61
	No	204(63.1%)	119(36.84%)	323
Bleeding while brushing/Chewing	Yes	153(79.68%)	39 (20.31%)	192
	No	97 (50.52)	95(49.47%)	192

Table 2: Association of educational status with dental checkups and frequency of tooth Brushing

		Educational status		Total	P value
		Non-Educated	Educated		
Gender	More than once	55	26	81	0.001
	once	0	113	113	
	No/Sometime	190	0	190	
Regular Dentist-check-up	No	245	78	323	0.001
	Yes	0	61	61	

Table 3: Association of Study Variables with Gingivitis

Gingivitis				Total	P value
		Not Present	Present		
Gender	Female	0	208	208	0.001
	Male	134	42	176	
age	31-45 years	0	112	112	
	16-30 years	134	52	186	
	46-60 years	0	86	86	
Educational status	Non-Educated	0	245	245	
	Educated	134	5	139	
Frequency of brushing	More than once	21	60	81	
	once	113	0	113	
	No/Sometimes	0	190	190	
Regular Dentist-check-up	No	73	250	323	
	Yes	61	0	61	

DISCUSSION

A cross-sectional study was conducted in SBDC and hospital Peshawar, Pakistan, in which 384 patients in the age range of 16 years to 60 years were examined in the study. 208 females and 176 males participated in the current study. It was noticed that

250 (65.35%) patients suffered from gingivitis. The results of this study are in line with those of another study where about 69% patients suffered from gingivitis (9). This is also similar to the findings of another study conducted in 2015 where 85% of the patients suffered from gingivitis (10). A study conducted by the University of Adelaide; showed that the frequency of gingivitis as seen in Australians population about (26.8%), and found lowest among insured people (15.9%), which is not comparable to current study findings. The reason may be that they follow more preventive tools or may be highly educated about oral health in Australian people(11). In current study we noticed gingivitis gender wise, which was seen similar in both male (64.20%) and female (65.67%). Study in Pakistan by Dr. Sarah Ali et al (2012), found gingivitis gender wise as gingivitis is found similar as of the current study female (75%) and males (64%) which is agreement with our study (9). Studies concluded that males are mostly affected by gingivitis, like a report of Bimala Dhakal et al (2015), in which it was investigated that gingivitis was higher in males (65.22%) than females (38.89%)(8). This study is in contrast to our study. This is due to lack of awareness about oral hygiene in females in our society. In this study the frequency of gingivitis was determined on basis of educational level which showed that (69.38%) patients had low level of education. In Nigeria Agnes O Umoh et. al. also found out that higher rate of gingivitis was present in non-educated subjects(12). Another study in Greece also showed that gingivitis was found (74.2%) in those patients having low level of education(13). In the current it was noticed that gingivitis was found in patients who did brushing once a day was about (70.80%), who did more than once was (77.77%) and who did sometimes or not brush was (80%). Anges. O. Umoh et.al, concluded in his study that gingivitis was (72.10%) in those who did brush their teeth (12). This study supports current study findings. Gingivitis is found to be higher in those patients, who were not visiting for regular dental checkup 204 (63.15%) patients out of 323 suffered from gingivitis. In Brazil the study conducted by Susin C et al (2005), reported that higher prevalence of gingivitis and Periodontitis was observed among patients who visits to dentist only when they had some sort of dental problem compared to patients visiting regularly to dentist as shown in this study (14). The study supports the current study findings. The frequency of gingivitis in those patients having bleeding during tooth brushing/Chewing, (79.68%) patients was suffered from gingivitis and (20.31%) patients having no gingivitis. A study conducted by Nikolaos Andreas Chrysanthakopoulos in Greece (2016), (75.10%) patients had suffering from gingivitis had bleeding during tooth brushing and (24.9%) patients having no gingivitis (13). This study was hospital based which did not correspond to the whole community, therefore community-based studies should be conducted to capture genuine picture of the population.

CONCLUSION

The current study reported that majority of the study participants were having gingivitis, and it was predominantly noted, that the higher proportion of gingivitis was reported in both female and male participants, but other factors are also strongly associated with gingivitis. This points to the in-depth probing into the dental hygiene status of individuals and at the same time require more vigilant policy regarding community awareness in this regard.

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