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PREVALENCE OF BLEEDING GUMS;

IN ASSOCIATION WITH ORAL HEALTH PRACTICES IN PATIENTS VISITING NISHTAR INSTITUTE OF DENTISTRY, MULTAN, PAKISTAN

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ABSTRACT… Objectives: To evaluate the prevalence of bleeding gums in association with oral health practices. **Study Design:** Descriptive cross sectional. **Setting:** Main Diagnostic Department NID, Multan, Pakistan. **Materials and Methods: Period:** 1st January 2017 to 31st March 2017. 1000 patients of either gender or age who came to main diagnostic department, NID, Multan, Pakistan for treatment purpose. A Questionnaire was designed. After getting consent, questions were asked and clinical examination was done to assess the frequency, accuracy of brushing technique, prevalence of calculus deposition and bleeding gums. Patients were asked about the devices they used for oral Hygiene practices. **Result:** Result showed that out of total sample 92.3% of patients were Brushing. 90% of them were using improper Brushing technique. 81.4% showed calculus deposits and 40.6% bleeding gums. Higher prevalence of bleeding gums and calculus deposits were in 26-30years old age groups and 21-25 years old individuals respectively. 92% of the patient with bleeding gums had associated calculus.98% of patients with bleeding gums had improper brushing technique.98% of the patients with calculus had improper brushing technique.1.2% of the patients were flossing. **Conclusion:** Improper brushing technique is the main factor for calculus deposits that is the leading cause for bleeding gums.

Key words: Bleeding Gums; Calculus Deposition; Proper Way of brushing; Flossing, Age Groups; Gender; Frequency and Timings of Brushing.

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INTRODUCTION

Oral health is considered as an integral part of general health which is achieved by good oral hygiene.[1-2] Oral diseases qualify as one of the foremost public health dilemma owing to their higher prevalence in general population.[3]

Poor oral hygiene is the main leading cause for the development of oral diseases which heavily affect general health.[4] Other etiological factors include age, gender, genetic predispositions, certain systemic conditions like hormonal changes, puberty, pregnancy, menopause and diabetes mellitus.[5]

Poor oral health may initiate and potentiate certain systemic problems like stress, cardiovascular diseases, diabetes mellitus, rheumatoid arthritis and low birth weight babies etc.[6-8] Most common oral disease is gingivitis and its primary etiological factor is plaque and calculus deposition leading to bleeding gums.[9-14] Three out of four people may suffer from gum diseases during their life time.[15] Gingivitis represents as red, painful, swollen inflamed bleeding gums. If gingivitis is left untreated it can lead to periodontal problems.[16] Bleeding on probing and bleeding on brushing now have become a gold standard measure of gingivitis.[17] Bleeding gums and other oral diseases are more common in people with low socio-economic status having poor oral hygiene and unawareness about oral health.[18]

Bleeding gums can be minimized by providing oral health education to the general population.[19] Self care is the best care for everything. Internal motivation is the main factor to maintain oral health and prevent plaque and calculus.[20] Cleaning teeth with brush is common practice in Pakistan however floss, miswak, dandasa and

manjan are also in use for the same purpose.[21] A national health survey in Pakistan showed that 36% of Pakistani population cleaned their teeth once a day and 54% cleaned their teeth on alternative days/ weekly or monthly.[22] Although there are different mechanical and chemical methods recommended for the improvement of oral health but tooth brush and floss is widely accepted primary method for removing plaque and calculus.[23] Tooth brush removes plaque from buccal and lingual surfaces while dental floss is use for interdental areas.[24] Effective plaque control can facilitate improvement in gingival and periodontal health and prevents tooth damage.[25] Brushing efficacy depends upon different factors like type of brush either hard or soft, effective technique, time of brush and frequency.[26] Keeping in view the importance of good oral hygiene by proper way of brushing and flossing, the present study was carried out to evaluate the prevalence of bleeding gums in association with awareness regarding oral hygiene measures.

MATERIALS AND METHODS

This descriptive cross sectional study was carried out from 1st January to 31st March 2017 on 1000 patients of either gender or gender who came to main diagnostic department NID, Multan, Pakistan for treatment. A questionnaire was used and approval was taken from concerned authorities of NID, Multan, Pakistan regarding this study. Getting consent, demographic details (age, gender, address, occupation, marital status and medical history) were asked from the patients. Patients were asked about devices they used for oral hygiene practices, its time and frequency. For the assessment of proper way of brushing[26], patients were asked to suppose their index finger as tooth brush then how would they brush their teeth. Patients were asked about the use of floss and bleeding on brushing. After getting complete information regarding oral hygiene practices, clinical examination was done to check the presence of calculus and bleeding on probing. The observations were entered in the perform. The data was analyzed by using SPSS version 20.

RESULTS

Out of 1000 patients, 40.6% (male 17.7% Female 22.9%) had bleeding gums. Out of total sample 44% of males and 56% of females were suffered from bleeding gums. Out of 487 male patients 36.3% were suffering from bleeding gums compared to 45% of females out of total sample of 513 females (Table-I). Out of total sample 814(81.4%) had calculus deposits, 496(49.6%) of them were males and 503(50.3%) were females. Out of 487 male patients 82.9% had calculus deposits as compared to 79.9% females out of total sample of 513 females (Table-II). Out of total participants 92.3% were using brush as a cleansing device for their teeth (Table-III) but 90% of the patients were using improper brushing technique. It was found that maximum of the individuals were brushed their teeth at morning (56.7) (Table-IV) and once a day (55.5%) (Table-V). 98% of the patients with calculus had improper brushing technique (Table-VI) 98% of patients with bleeding gums had improper brushing technique. (Table-VII). It was found that 92% of the patients with bleeding gums had associated calculus. 1.2% of the patients were flossing. It was found that higher prevalence of bleeding gums and calculus deposits were in 26-30 years old age groups and 21-25 years old individuals respectively. Below 10 years old and above 50 years old individuals did not have any significant percentage of bleeding gums as compare to calculus (Table-VIII).

Gender	Bleeding Gums		Total
	Yes	No	
Male	177	310	487
Female	229	284	513
Grand Total:	406	594	1000

Table-I. Gender wise cross tabulation of bleeding gums

Gender	Calculus Deposits		Total
	Yes	No	
Male	404	83	487
Female	410	103	513
Grand Total:	814	186	1000

Table-II. Gender wise cross tabulation of calculus deposits

Device	Frequency	Percent%
Brush	856	85.6
Brush + Manjan	3	0.3
Miswak	39	3.9
Dandasa	10	1.0
Manjan	12	1.2
Brush & Miswak	55	5.5
Brush + Miswak + Dandasa	3	0.3
Brush + Dandasa	6	0.6
Miswak + Dandasa	5	0.5
None	11	1.1
Total:	1000	100.0

Table-III. Devices used for cleaning teeth

	Frequency	Percent%
Morning	567	56.7
Evening	48	4.8
After noon	65	6.5
Morning & evening	308	30.8
None	12	1.2

Table-IV. Timings of Brushing

	Frequency	Percent%
1 time	555	55.5
2 times	297	29.7
More than 2 times	9	0.9
Off & on	127	12.7
None	12	1.2
Total:	1000	100.0

Table-V. Frequency of teeth cleaning

Proper Brushing	Calculus		Total
	Yes	No	
Yes	16	7	23
No	798	179	977
Grand Total:	814	186	1000

Table-VI. Cross tabulation between proper brushing& calculus

Proper Brushing	Bleeding Gums		Total
	Yes	No	
Yes	5	18	23
No	401	576	977
Grand Total:	406	594	1000

Table-VII. Proper brushing & Bleeding gums Cross tubulation

Age Groups	Calculus	Bleeding gums
1 – 5	0 (0.0%)	1(0.2%)
6 – 10	13 (1.6%)	11 (2.7%)
11 – 15	36 (4.4%)	32 (7.9%)
16 – 20	79 (9.7%)	43 (10.6%)
21 – 25	127 (15.6%)	63 (15.5%)
26 – 30	125 (15.4%)	69 (17%)
31 – 35	93 (11.4%)	50 (12.3%)
36 – 40	115 (14.1%)	58 (14.3%)
41 – 45	71 (8.7%)	31 (7.6%)
46 – 50	55 (6.8%)	19 (4.7%)
51 – 55	35 (4.3%)	11 (2.7%)
56 – 60	23 (2.8%)	5 (1.2%)
61 – 65	22 (2.7%)	8 (2.0%)
66 – 70	14 (1.7%)	4 (1.0%)
71 – 75	6 (0.7%)	1 (0.2%)
Total	814 (100.0)	406 (100.0)

Table-VIII. Frequency & percentage of calculus & Bleeding gums among different Age groups

P Value for bleeding gums = 0.000

P Value for calculus = 0.000

DISCUSSION

Present study showed that 92% patients with bleeding gums had associated calculus deposits. These findings were not consistent with the findings of Sarah Ali et Al[27] and Gilani Syed Imran et Al.[28] These results showed that females suffered more from bleeding gums and males had more calculus deposits. The results of this study are in contrast to a study of Chinese population which showed that there are no difference between gender based distribution of bleeding gums.[29] Another American study proved that males were affected more than females.[30] The results of present study showed that age and gender based distribution had significant role in bleeding gums and calculus deposits. 55.5% of patients were used to brush their teeth once a time & 29.9% twice a day which was not consistent with the findings of Parveen N et Al where it was 46.2% & 38.9% respectively.[31] Practice of dental floss (1.2%) was found to be less which was similar to study by Al- omiri et Al[32] and different from a study conducted in Nishtar institute of dentistry Multan, Pakistan by Parveen N et Al[31] where the use of dental floss was 15.4%. In present study 92.3% patients were brushing. The findings were similar to a Japanese[33] study and Normark S et

Al.[34] 8.6% of the patients using improper brushing technique did not develop calculus deposits because of other oral hygiene practices e.g. increased frequency of brushing, flossing, mouth rinses and high socio-economic status. Bleeding gums in 40.6% of the population was persistent with certain factors such as female gender, 21-30 years old age group and low socio-economic status.

CONCLUSION

Improper brushing technique is the main factor for calculus deposits that is the leading cause for bleeding gums.

RECOMMENDATION

All the patients coming to the dentist should not only be educated about proper way of brushing to improve oral health but also guided them about other additional oral hygiene practices like flossing, mouth rinses and early treatment of any dental or periodontal diseases.

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