

The effect of gingival bleeding on oral home care practices in Saudi Arabia

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ABSTRACT

Aim: The aim of this study was to determine the relationship between self-reported gingival bleeding, oral health perception, practices, and concerns. **Materials and Methods:** This cross-sectional survey among undergraduates of University of Prince Sattam Bin Abdulaziz, Al-Kharj, Saudi Arabia using a self-administered item structured questionnaire. Data analysis was done using Statistical Packages for the Social Sciences and $P < 0.05$ was considered significant. **Results:** The response rate was 96.3%. The prevalence of self-reported gingival bleeding among respondents was 48.79%. Individuals with gingival bleeding were significantly more likely to rate their dental and gingival health as fair/poor, use of strong brushing stroke during tooth brushing and worsening condition of teeth despite daily tooth brushing. They also expressed worry about the gingival color and less likely to be satisfied about the appearance of their teeth and to have received professional instruction on tooth brushing. **Conclusion:** Data from this survey revealed an established relationship between gingival bleeding, perceived dental and gingival health, worry about the color of gingiva, satisfaction with the appearance of the teeth, and visiting dental office because of gingival bleeding.

Keywords: Gingival bleeding, gingival color, perceived dental health, perceived gingival health, teeth appearance, tooth brushing

Introduction

Gingival bleeding is associated with various forms of periodontal diseases^[1] and also results from direct trauma, viral, fungal or bacterial infection, drugs, pregnancy, dermatoses, and systemic conditions.^[2,3] However, persistent gingival bleeding may be due to serious medical conditions such as leukemia and bleeding and platelet disorders.^[4,5]

Gingiva is pink and firm, tapered, contoured tissue surrounding the teeth which in health does not bleed on probing and tooth brushing. Gingival bleeding occurs mainly due to inadequate plaque removal which results in the thinning, ulceration, necrosis

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of gingival epithelia coupled with engorgement of blood vessel. Gingival bleeding on tooth brushing is a form of provoked gingival bleeding, a vital feature and probably one of the most frequent complaints among patients with periodontal disease. Gingival bleeding occurs alongside other manifestations of periodontal diseases like gingival swelling, halitosis, food packing, pain, gingival recession, and tooth mobility.^[3]

Maintenance of good oral hygiene helps to prevent dental problems mainly periodontal disease and dental caries. Poor oral hygiene and frequent consumption of sugars is known for many years as key behavioral risk factors for these two oral diseases.^[6] Daily oral self-care to control the supragingival plaque may assist in slowing or reducing the shift to a pathogenic environment.^[7]

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Plaque removal from all tooth surfaces through regular oral self-care, including tooth brushing and flossing, is essential to prevent the onset or development of inflammatory periodontal diseases and dental caries.^[8]

As a result of tooth brushing some people may traumatize the gingival tissues, which can in time lead to gingival recession.^[9] Several experimental and clinical studies support the assumption that excessive force in brushing is partly responsible for the origin of toothbrush trauma.^[10] Hence, the aim of this study is to determine the awareness of people about the periodontal health, to investigate if gingival bleeding prevent patients from oral home care practices and to determine the relationship between self-reported gingival bleeding, oral health perception, practices, and concerns.

Materials and Methods

Cross-sectional survey was performed to assess the effect of gingival bleeding on usage of oral home care practices in Saudi Arabia. The study was carried out on Prince Sattam Bin Abdulaziz University Students in Al-Kharj, Saudi Arabia.

A self-administered questionnaire was used for data collection. Study was subject 18 years old and older who haven't been diagnosed with any systematic diseases or medications that can affect the bleeding status.

The questionnaire had questions related to personal and socio-demographic background, experience of gingival bleeding during brushing, smoking behavior, awareness of bad breath, and awareness regarding proper way of tooth brushing.

Result

Out of the 300 questionnaires, 289 were returned filled giving a retrieval rate of 96.3%. The prevalence of gingival bleeding among respondents in this study was 48.79% [Table 1]. 72.7% of participants who evaluated their gums health as poor or fair also suffered from bleeding gums when brushing teeth, while only 34.1% from those who evaluated their gums health as good or excellent reported suffering from bleeding gums when brushing teeth [Table 2]. Totally, 58.9% of participants who suffer from bleeding gums when brushing teeth were also upset about the color of their gums, compared to only 41.9% among those who do not suffer from bleeding gums when brushing teeth [Table 3]. 56.7% of participants who suffered from bleeding gums when brushing teeth were also upset about the color of their teeth, compared to only 43.3% of those who do not suffer from bleeding gums when brushing teeth [Table 4]. 57.7% of participants who suffered from bleeding gums while brushing didn't think that this problem requires dental visit, while 60.3% of those who didn't suffer from bleeding gums thought it is important to visit the dentist for such a problem [Table 5].

Table 1: Prevalence of gingival bleeding when brushing among the respondents

Question	Response	
	Yes n (%)	No n (%)
Suffer from bleeding gum when brushing the teeth?	141 (48.8%)	148 (51.2%)

Table 2: Perceived oral health status and gingival bleeding experience among the respondents

Suffer from bleeding gum when brushing teeth	Personal evaluation of state of gums in two groups		Total
	Poor/Fair	Good/Excellent	
No	30 27.27%	118 65.92%	148 51.21%
Yes	80 72.73%	61 34.08%	141 48.79%
Total	110 100.00%	179 100.00%	289 100.00%

Pearson chi² (1) = 40.7325 Pr <0.001

Table 3: Relationship between satisfaction with the color of the gum and gingival bleeding experience among the respondents

Suffer from bleeding gum when brushing teeth	Upset because of the color of the gum		Total
	No	Yes	
No	109 55.61%	39 41.94%	148 51.21%
Yes	87 44.39%	54 58.06%	141 48.79%
Total	196 100.00%	93 100.00%	289 100.00%

Pearson chi² (1)=4.7220 Pr=0.030

Table 4: Relationship between satisfaction with appearance of teeth and gingival bleeding experience among the respondents

Suffer from bleeding gum when brushing teeth	Upset because of the color of the teeth		Total
	No	Yes	
No	70 64.22%	78 43.33%	148 51.21%
Yes	39 35.78%	102 56.67%	141 48.79%
Total	109 100.00%	180 100.00%	289 100.00%

Pearson chi² (1) = 11.8539 Pr=0.001

Discussion

In this study, the prevalence of gingival bleeding was 48.79% which is higher than the findings reported among dental students from King Saud University, College of Dentistry, Riyadh, Saudi Arabia (19.2%),^[11] adults in Kuwait 27.9%,^[12] secondary school students in Ethiopia (17.4%)^[13] and patients attending a tertiary Hospital in South-West^[14] and South-East regions of Nigeria^[15]

Table 5: Relationship between respondents opinions about visiting dental office because of gingival bleeding and gingival bleeding experience

Suffer from bleeding gum when brushing teeth	Think bleeding gums requires visiting the dentist		Total
	No	Yes	
No	60 42.25%	88 60.27%	148 51.39%
Yes	82 57.75%	58 39.73%	140 48.61%
Total	142 100.00%	146 100.00%	288 100.00%

Pearson chi2 (1) = 9.3578 Pr=0.002

respectively. The higher prevalence recorded in this study may be connected with the fact that the study respondents did not educate well about the daily home care practices.

In this study, individuals with gingival bleeding were significantly more likely to rate their dental and gingival health as fair/poor, upset about the color of their gums, didn't think that bleeding gum problems require visiting the dentist. The gingival bleeding which occurs in conjunction with other features of periodontal disease may have influenced the sufferers about their dental and gingival health.

The higher non receipt of professional instruction on tooth brushing among individuals with gingival bleeding may explain the inadequate tooth brushing technique such as use of excessive force during tooth brushing and also the perceived worsening condition of teeth despite daily tooth brushing. Individuals with gingival bleeding were also more likely to express worry about the color of their gingiva and less likely to be satisfied about the appearance of their teeth. This may be hinged on the fact that gingival bleeding exerts unfavorable effect on esthetics and self-esteem,^[16] self-control,^[17] oral health-related quality of life,^[18] and occurs with other indicator of poor oral health like poor oral hygiene, altered gingival appearance, halitosis, toothache, gingival recession, and tooth mobility.

Conclusion

Data from this survey showed some relationship between gingival bleeding, perceived dental and gingival health, worry about the color of gingiva, satisfaction with the appearance of the teeth, and visiting dental office because of the gingival bleeding. More longitudinal studies are needed to evaluate the specificity and sensitivity of this survey.

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Conflicts of interest

There are no conflicts of interest.

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