

A knowledge, attitude, and practices survey on periodontal awareness and knowledge among the orthodontic patients

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ABSTRACT

Aims: The aim of this study was to provide baseline data on periodontal awareness and health knowledge and to assess the patterns of dental attendance behaviors among the patients under orthodontic treatment. **Materials and Methods:** A 100 questionnaires were distributed among adults undergoing orthodontic treatment to evaluate the knowledge and awareness on periodontal health. **Results:** A total of 100 questionnaires were completed and statistically analyzed. About one-quarter of adults reported “gum bleeding” on brushing, but more subjects (40.4%) believed that they had periodontal disease. Furthermore, 47% of the participants thought that they had a “rough tooth surface,” 16% had “gum irritation,” and 25% had “bad breath.” The majority of adults incorrectly defined the meaning of dental plaque and did not know its role in the etiology of gingival disease. Conversely, the majority of participants (60.8%) were aware that gingival bleeding on brushing indicated the presence of periodontal disease that can be prevented by brushing and flossing (63.4%), mainly before going to bed (73.9%). The overwhelming majority of subjects (81.4%) were irregular attenders. “Hard to get an appointment” and “no time available” were found to be the common barriers for regular orthodontic attendance. Most people think that orthodontic treatment is the cause for poor oral hygiene. **Conclusion:** Knowledge and awareness concerning periodontal disease are still poor in Jordan; therefore, more dental health education is needed to improve oral health.

KEY WORDS: Orthodontic review, Periodontal awareness, Periodontal knowledge

INTRODUCTION

Previous studies have indicated that the level of knowledge and attitudes toward dental health might be a potential barrier for effective oral preventive efforts. Periodontal awareness alone seems not to result in appropriate periodontal health habits. Therefore, behavioral changes require understanding, retention, and utilization of periodontal knowledge.^[1] Oral health education works better when it is customized to the level of knowledge and concerns of the recipients. School-based dental health education programs focus on the psychological factors affecting individuals’ behaviour, such as knowledge, attitudes, and beliefs. When such programs are based and found on the principle of community development approach, they hold the promise of improvement in the health behavior.^[2] A MEDLINE search on dental or

periodontal awareness and health knowledge among adults in the past decade revealed that there are only few studies in the literature.^[3] At present, there is no information available on the level of oral health or periodontal knowledge. Furthermore, the pattern of the use of dental services and the factors affecting their regular usage are not known.^[4] Therefore, the aims of this study were to provide baseline data on periodontal awareness and health knowledge of both male and female adults and to assess the pattern of attendance and reasons for irregular orthodontic attendance among the orthodontic patients.^[5]

MATERIALS AND METHODS

A cross-sectional questionnaire survey with a convenience sampling technique was used in this study. 100 questionnaires were distributed to patients who were scheduled for orthodontic treatment at Students’ Clinics, Saveetha Dental College. A self-administered, structured questionnaire was completed by the participants in the waiting areas of students’ clinics.

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The questionnaire includes items related to personal and sociodemographic data, periodontal awareness and knowledge, and self-reported behaviors and barriers to orthodontic review attendance. The first two questions are about orthodontic attendance and barriers to regular attendance. The further five questions dealt with periodontal awareness including gingival bleeding on brushing, irritation and disease, rough tooth surface, and bad breath. The level of periodontal knowledge was measured through a series of five questions aimed to find out if the subject could deline dental plaque correctly, recognize the effect of plaque on gingival tissues, and identify the early signs of periodontal disease and its prevention. The questionnaire took 15–20 min to be completed by the majority of the participants.

RESULTS

Of the 100 questionnaires distributed, all 100 subjects responded. Approximately one-quarter of the responding adults stated that they currently had “gum bleeding” after brushing and “bad breath” while only 16% had “gum irritation.” However, higher proportions of those adults believed that they had “rough tooth surface” (47.1%) or gum disease (40.4%). The responses of participants to the knowledge questions showed that a minority of them had knowledge or ability in defining plaque (15.6%) and what it caused (14.3%). Conversely, a high proportion of subjects (60.8%) were aware that “bleeding gums” on brushing indicated the presence of periodontal disease which could be prevented by brushing and flossing (63.4%), mainly before going to bed (73.9%). The reasons given for irregular orthodontic visits were “difficult to get appointment” by 33.5% and “no time available” by 21.5% of the participants. The very least barriers were “fear of pain” and “laziness” (12.7 and 13.7%, respectively) [Table 1].

DISCUSSION

The overall low awareness of periodontal conditions in the present study indicates that the concept of periodontal disease is vague since subjects tend not to understand the connection between gum bleeding and gum disease.^[6] For example, only 25.6% of the subjects in this study reported having bleeding gums after brushing, while 40.4% claimed to have “gum disease.” 73% of patients with periodontal disease did not know that they had it. 42% have bleeding gums, a figure higher than that found in this study, but observed that 35% had pain due to periodontal disease. However, Khawamura and Iwamoto “found that three-quarters of Japanese employees had bleeding gums. To prevent the development of periodontal problems, the public needs guidance in connecting gingival bleeding. This could be achieved by improving the knowledge

Table 1: Survey questionnaire

1. How often do you go for orthodontic review?
 - (a) Every week, (b) 15 days once,
 - (c) monthly once, (d) 2 months once
2. If you are not visiting orthodontist regularly what is the reason?
 - (a) No time available, (b) fear of pain,
 - (c) hard to get an appointment, (d) laziness
3. Do you have gum bleeding on brushing?
 - (a) Yes, (b) No, (c) Don't know
4. Do you have gum irritation?
 - (a) Yes, (b) No, (c) Don't know
5. Do you have bad breath?
 - (a) Yes, (b) No, (c) Don't know
6. What do you know about plaque?
 - (a) Soft deposits on teeth,
 - (b) Hard deposits on teeth,
 - (c) Staining on teeth,
 - (d) Don't know
7. What do you think would be the cause for plaque formation?
 - (a) Malformation, (b) Gum diseases,
 - (c) Discoloration, (d) Don't know
8. What do you think bleeding gums means?
 - (a) Healthy gingiva, (b) Inflamed gingiva,
 - (c) Gingival recession, (d) Don't know
9. How can you prevent gum disease?
 - (a) By brushing and flossing, (b) Taking soft diet,
 - (c) Taking Vitamin C, (d) Don't know
10. When do you think brushing is more important?
 - (a) Morning, (b) Midday,
 - (c) Before going to bed, (d) Don't know
11. Do you think brushing will improve your periodontal status?
 - (a) Yes, (b) No, (c) Don't know
12. Do you think your poor oral hygiene was caused due to orthodontic treatment?
 - (a) Yes, (b) No, (c) Don't know

How often do you go for orthodontic review?	%
Every week	8.2
15 days once	12.5
Monthly once	60.7
2 months once	18.6

If you are not visiting orthodontist properly what is the reason?	%
No time available	21.5
Fear of pain	12.7
Hard to get appointment	33.5
Laziness	13.7

Oral hygiene status	Yes (%)	No (%)	Don't know (%)
Do you have gum bleeding on brushing	25.6	70.9	3.5
Do you have gum irritation	16.0	76.6	7.4

Do you have bad breath	25.0	68.4	6.6
Do you think brushing will improve your periodontal status	70.9	25.6	3.5
Do you think your poor oral hygiene was caused due to orthodontic treatment	76.6	16.0	7.4

What do you know about plaque	%
(a) Soft deposits on teeth	15.6
(b) Hard deposits on teeth	35.1
(c) Staining on teeth	11.2
(d) Don't know	38.1
What do you think would be cause plaque formation	
(a) Malformation of teeth	14.3
(b) Gum disease	20.7
(c) Discoloration of teeth	26.8
(d) Don't know	28.2
What do you think bleeding gums means	
(a) Healthy gingiva	1.9
(b) Inflamed gingiva	60.8
(c) Gingival recession	21.9
(d) Don't know	15.3
How can you prevent gum disease	
(a) By brushing and flossing	63.4
(b) By taking soft diet	4.2
(c) By taking Vitamin c	14.4
(d) Don't know	18.0
When do you think brushing is more important	
(a) Morning	20.1
(b) Mid day	2.2
(c) Before going to bed	73.9
(d) Don't know	3.9

and awareness of periodontal conditions by dental health education.^{9,17} The results of the present study highlighted the limited periodontal health knowledge of the test subjects in regard to the definition and role of plaque in periodontal disease. However, the reported periodontal disease by 40.4% of the subjects was found to be related to the etiological factors deposited on the tooth surface of 47.1% of the participants. Such findings may be real or might be related to interpretation errors in this survey. For example, subjects have knowledge of plaque from television and dental products' advertisements as a collection of bacteria rather than as soft deposits. The majority of subjects answered the rest of the knowledge questions correctly. The majority of subjects in this study reported to be irregular orthodontic review attenders. This result is in agreement with a recent finding

from neighboring Saudi Arabia.¹⁸ Similar findings were reported in Japan and Nigeria with a minority of subjects visiting the orthodontics regularly, while the majority of them delayed their orthodontic visit. "Difficulty in getting appointment" and "fear of pain" were the major barriers, preventing these subjects from using orthodontic services regularly.¹⁹ The comparison of the present findings with previous results is limited because very little information in regard to periodontal knowledge and awareness is available in the literature. Long-term awareness programs are needed to improve oral health knowledge and behavior and to change attitudes toward dental diseases.¹¹⁰

CONCLUSION

Periodontal disease progresses unnoticed, and most people probably recognize it only when it reaches an advanced state. Therefore, patients should be educated on the knowledge and awareness adequately of such periodontal disease.

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