

Awareness Regarding Oral Hygiene Practises Among Patients Undergoing Active Orthodontic Therapy

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ABSTRACT

Introduction: Periodontal health is important during orthodontic therapy, so this study looked into how patients with orthodontic treatment understand and know about teeth brushing practices, as well as factors that influence periodontal health.

Materials and Methods: A survey was conducted among 206 patients. The study was divided based on age and gender randomly. A close-ended questionnaire was prepared consisting of questions regarding their knowledge, attitude, and practice regarding oral hygiene practises to maintain periodontal health from the start of orthodontic treatment and Chi square analysis using SPSS software.

Results: Majority of study participants (30.24%) were between the age group of 30-40 years. Among all study participants, females (64.39%) were in majority than males. 45.8% of the patients responded that they brushed after every meal, 25.85% brushed once a day and 28.29% of the patients brushed twice a day. The chi square analysis was found to be statistically significant with P value 0.000 (<0.05).

Conclusion: The majority of research participants receiving orthodontic care had a limited awareness and equal practice when it came to performing oral hygiene measures to maintain periodontal health.

Keywords: Awareness, Dentistry, Innovative survey, Orthodontic treatment, Perception, Periodontal health

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INTRODUCTION

Orthodontics is a specialty of dentistry that deals with the diagnosis, prevention, and correction of malposition teeth and jaws, and misaligned bite patterns. In addition, orthodontic instruments impair the efficacy of oral hygiene and improve the formation of plaque. Any dental or facial anomaly impacts oral well-being [1]. Malocclusion of teeth (swarming, turning of teeth, cross bite, open chomp, dividing, affected teeth, and constricted arches) is a notable inclination of plaque accumulation [2]. In subgingival periodontal pockets, plaque deposition can make the transition of microbial biofilm into more aggressive periodontal pathogenesis flora [3]. Several researches have shown a substantial increase in dental plaque and the prevalence of inflammation and pathological phenomena such as gingivitis, gingival swelling, gingival enlargement, and increased gingival pocket width [4] In addition, microbiological experiments

have shown substantial improvements in the bacterial composition of the subgingival dental plaque, so orthodontic treatment can influence the balance of oral microflora and improve the retention of bacteria [5].

Maintaining oral hygiene during orthodontic therapy helps to maintain proper gingival health, which is reflected in the final orthodontic treatment outcome [6]. However, the degree of gingival health information among orthodontic patients is not sufficient. Poor management of oral hygiene is due to a lack of training or incompetence on the part of the patients themselves [7]. Patients should be informed about the necessity of keeping regular dental hygiene before beginning orthodontic treatment. Patients must be taught the proper method and regularity of teeth brushing. They must learn about the proper toothbrushes, interdental, and orthodontic brushes, as well as other oral hygiene tools [7-8]. Our team has extensive knowledge and research experience that has translate into high quality publications [9].

The aim of our present study is to evaluate the awareness regarding oral hygiene practises among the patients undergoing active orthodontic therapy.

MATERIALS AND METHODS

Study design, Area and study population: A survey was conducted among dental students about knowledge, attitude and practice regarding tooth brushing among patients undergoing orthodontic therapy. The sample size of this survey is a total of 206 people. Participation in this study was voluntary and no incentives were provided to the participants. The survey was conducted in the month of February 2021.

Study instruments: A questionnaire was prepared after extensive review of the existing literature. The questionnaire was reviewed and amendments were made to improve clarity of pertinent questions and eliminate ambiguous responses. The survey instrument was a structured questionnaire with close ended questions. It consists of a brief introduction regarding the purpose of the study, questions pertaining to demographic data and questions regarding research objective 10 questions were circulated to the participants in a google form. The method of representation of the data is as pie chart.

Data analysis: Only completely filled online forms were included in the study. The full response was verified by two reviewers and the controlled data was entered on the same day. The entered data were analysed using SPSS. Descriptive analysis was performed to calculate frequencies of categorical variables. Chi square analysis was used to determine the association. The level of significance was set at $p < 0.05$. The independent variables are age, sex.

RESULTS AND DISCUSSION

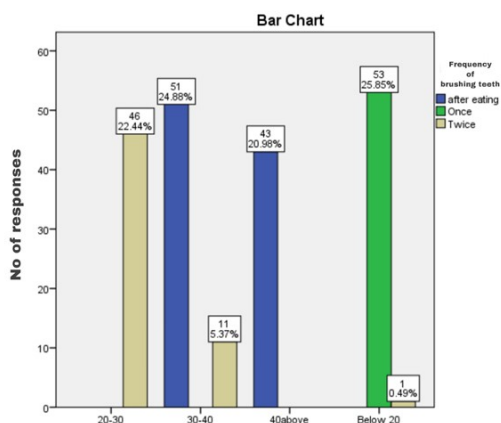


Figure 1: Bar chart showing the association between the age and the number of respondents of the frequency of brushing teeth. X axis represents the age group and Y axis represents the frequency of brushing teeth where blue represents after eating, green represents once daily, ivory colour represents twice daily. Patients of age group 20-30 compared to other age groups in this study population *Chi square test: P value is 0.000 (<0.05)* which is statistically significant.

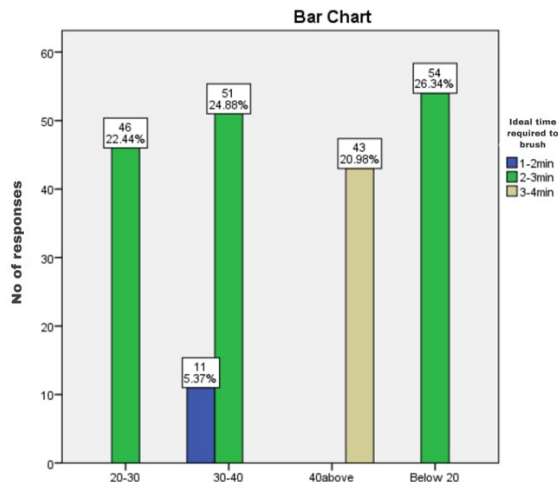


Figure 2: Bar chart showing the association between the age group and the number of respondents reporting the ideal time for brushing. X axis represents the age group and Y axis represents ideal time taken for brushing, where blue represents 1-2 min, green represents 2-3 min, yellow represents 3-4 min respectively. Patients of the age group 30-40 brush their teeth for 2-3 min compared to other age groups. *Chi square test: P value is 0.000 (<0.05)* which is statistically significant.

DISCUSSION

This study was conducted to explore perception, awareness, and practice of patients seeking orthodontic treatment. In this study, the majority of patients seeking orthodontic treatment were between the ages of 30 and 40 years. Also, in the present study female participants were more than male participants; the same results were seen in study by Sharma [10,11]. Majority of the participants, 45.8% brushed after every meal similar to the study done by Alhajja in which females were more than males to take up orthodontic treatment. Contrast findings were seen in a study by Shah [12] in which males requiring orthodontic therapy were more than females. Also, in another study done by Faragalla [13] the majority of patients followed circular motion but in Sayin study [14] reported that bass technique as the majority followed. According to the study by kadu [15] brushing teeth takes about 2-3 minutes, similar to the present study where the majority responded the same.

In this study, 72.20% noticed bleeding gums which stands as a contradiction to another study done by Zaani [7]. Also, in this present study, about 68.75% of study participants noticed plaque formation on the surface of their tooth similar to research done by Borg [16]. Similarly 52.68% in our study reported that orthodontic therapy causes periodontal problems whereas in the study done by Melsen 23.5% agreed [17]. From the present study, 47.32% reported that they were not educated by their dentists about the oral hygiene measurements. In this study, there was moderate awareness, negative perception, and fair practice of the majority of study participants seeking orthodontic

treatment toward maintenance of periodontal health. In the present study, patients of the age group 20-30 years brush their teeth once compared to other age groups in this study population (Figure 1) and also patients of the age group 30-40 years brush their teeth for 2-3 mins compared to other age groups (Figure 2). Thus, the patients were aware about the oral hygiene measures, and the results of the present study were comparable to other studies [18-20]. The study's limitations include a lack of information and awareness among the rural people, and can be conducted entirely online. The research population is also exact, and it must be disseminated widely. The population size that has to be discussed and worked on for improved outcomes, as well as the restrictions that have been mentioned, should be investigated and sorted out. Periodontal well-being during orthodontic treatment is of the most extreme importance as it also counteracts backsliding and dental life. Sufficient knowledge, perception and practise of orthodontic treatment prevent complexities and improve the life span of the teeth.

CONCLUSION

According to the results of the current study, the majority of the patients were between the ages of 30 and 40 years and after each meal, many of the patients brushed their teeth. There was a naive awareness of periodontal hygiene preservation, as well as a negative attitude toward it. The level of education of the participants in the study was substantially linked to their success in maintaining in good oral hygiene.

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CONFLICT OF INTEREST

There was no potential conflict of interest.

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