To Assess the Knowledge, Attitude and Practice of Oral Hygiene Protocols Among Patients Having Orthodontic Treatment

MANSIMRANJIT KAUR UPPAL*, KHATEEB KHAN*

INTRODUCTION: Orthodontic treatment is widely acknowledged and accepted in everyday dental practice due to the positive effects it has on the dentofacial complex. Importance of oral hygiene in orthodontic patients is also important to prevent any further oral diseases.

AIM: The aim of this study was to assess the knowledge, attitude, and practice of oral hygiene protocols among patients having orthodontic treatment.

MATERIALS AND METHOD: The sample consisted of 90 patients who had permanent dentition from the Department of Orthodontics and Dentofacial Orthopedics and various questions were asked regarding the knowledge, attitude and practice on oral hygiene during the time of orthodontic treatment. All the responses were analysed statistically.

RESULTS: The results of the study showed that nearly 40% of the patients were unaware about gingival health, 65% did not follow the oral hygiene instruction. Despite being given instructions, most of them were reluctant in practicing them strictly.

CONCLUSION: The knowledge, attitude, practice of oral hygiene among orthodontic patients were poor and showed the need of better education and motivation. Many factors may be responsible for the non-maintenance of gingival health practices. There is a need to incorporate and evaluate more intense oral hygiene programs in the future.

KEYWORDS: Gingiva, Oral Hygiene, Awareness, Orthodontic
collection for the study was collected through the self-administered questionnaire which consisted of close ended questions.

The questionnaire was pretested on 15 patients who were not included in the main study and comprised 16% of the study sample for reliability and validity. Reliability of the questionnaire was assessed using test-retest and internal consistency of the questionnaire was ascertained by Cronbach’s-Alpha (α). Construct validity of the questionnaire was assessed using Spearman’s correlation coefficient between individual parameter/construct and overall score of the construct.

The collected data were analysed using Statistical Package for Social Sciences (SPSS) 18.0 (SPSS Inc., Chicago, IL, USA) and descriptive and analytical tests, including mean, standard deviation, and Chi square test.

RESULTS
In the present study, 82 patients from the 90 answered to the questions which were asked during the study regarding oral hygiene instructions during the orthodontic treatment. Hence response rate of 91% was generated in the present study.

It was seen through this study that only few numbers of subjects were aware about the oral hygiene practices. The current study consisted of 45% of boys and 55% of girls. The mean age of boys was 9.87±3.079 whereas girls were having 6.87±2.079 of mean age.

It was seen in this study that majority of the subjects i.e. 48% were brushing their teeth in circular manner followed by vertical and horizontal strokes, which is generally a poor knowledge on brushing strokes and techniques. Circular brushing is commonly advisable in children and it’s the least effective brushing technique. Even the horizontal method should not include in regular manner for longer period of time as it can cause cervical abrasion. Ideally the most effective brushing stroke is the vertical stroke because it cleans the interproximal areas along with its usefulness nature in those who are undergoing orthodontic treatment.

Maintaining good oral hygiene procedures during fixed appliance therapy is important for gingival health. Along with good brushing technique, mouthwashes are often recommended to control plaque. But in the present study few number of subjects were into the habit of using mouthwashes i.e.45% and results are in agreement with the study done by Baheti and Toshniwal, where 57.4% of the population used mouthwash.

DISCUSSION
During the orthodontic treatment phase awareness regarding the oral hygiene is as important like the general health awareness. Active cooperation of orthodontic patients is also essential over a prolonged treatment along with the maintenance of an adequate level of oral hygiene through proper knowledge and positive attitude and practices.

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Table 1: Number of oral health related problems among the studied subjects

| TRAUMATIC INJURIES     | FREQUENCY | VALID PERCENT | CHISQUARE VALUE | P VALUE |
|------------------------|-----------|---------------|-----------------|---------|
| Bleeding gums          | 34        | 41.46 %       | 342.97          | 0.00*   |
| Gingival problems      | 29        | 35.26 %       |                 |         |
| Bad breath             | 09        | 10.97 %       |                 |         |
| Food accumulation       | 06        | 7.31 %        |                 |         |

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It’s been clearly said in many of the researches that fluoride is useful in prevention of tooth decay by giving the strength to the tooth enamel. But in our study only 37% of the population were aware about it and are into the usage of fluoridated toothpastes. While during the orthodontic treatment brushing twice a day is ideal and should be recommended.\textsuperscript{9,12,13} Unfortunately it’s been seen in this study that only few of the subjects were brushing twice a day and the results of our study are not comparable to the study done by Ajayi and Azodo, where 70.4% of females brushed twice a day, 7.4% brushed once a day, and 18.5% brushed thrice a day.\textsuperscript{9,10}

It is said by many of the studied that accumulation of plaque occurs in greater manner at orthodontic appliances at the gingival margins which further contributes to gingival inflammation and periodontal status of patients who are undergoing orthodontic treatment has been the focus of attention.\textsuperscript{6,9,14} Hence monitoring of oral health status was done in this study, where it was seen that around 90% of the studied population were suffering from various oral health related problems such as bleeding gums, bad breath, food accumulation, gingival problems etc. Therefore an orthodontist has to enforce the oral hygiene program into orthodontic treatment throughout the treatment period.

CONCLUSION

The final picture of this study gives inadequate awareness and inappropriate practice of oral hygiene among orthodontic patients. The knowledge, attitude, and practice of oral hygiene among orthodontic patients showed the need for better education and motivation. There is urgent need for educating and motivating the orthodontic patients on oral hygiene.

REFERENCES

1. Nadar S, Saravana Dinesh SP. A questionnaire study about oral hygiene awareness among orthodontic patients. Int J Orthod Rehabil 2016;7:97-100
2. Bimstein E, Becker A. Malocclusion, orthodontic intervention, and gingival and periodontal health. In: Van Dyke TE, editor. Periodontal and Gingival Health and Diseases. London: Martin Dunitz Ltd; 2001. p. 250-90.
3. Thornberg MJ, Riolo CS, Bayirli B, Riolo ML, Van Tubergen EA, Kulbersh R. Periodontal pathogen levels in adolescents before, during, and after fixed orthodontic appliance therapy. Am J Orthod Dentofacial Orthop 2009;135:95-8
4. Krishnan V, Ambili R, Davidovitch Z, Murphy NC. Gingiva and orthodontic treatment. Semin Orthod 2007;13:257-71.
5. Matić S, Ivanović M, Mandić J, Nikolić P. Possibilities to prevent gingivitis during fixed orthodontic appliance therapy. Stom Glas S 2008;55:122-32.
6. Becker A, Shapira J, Chaushu S. Orthodontic treatment for disabled children — A survey of patient and appliance management. J Orthod 2001;28:39-44.
7. Alstad S, Zachrisson BU. Longitudinal study of periodontal condition associated with orthodontic treatment in adolescents. Am J Orthod 1979;76:277-86.
8. Yeung SC, Howell S, Fahey P. Oral hygiene program for orthodontic patients. Am J Orthod Dentofacial Orthop 1989;96:208-13.
9. Sinclair PM, Berry CW, Bennett CL, Israelson H. Changes in gingiva and gingival flora with bonding and banding. Angle Orthod 1987;57: 271-8.
10. Ajayi EO, Azodo CC. Oral hygiene status among orthodontic patients. Benin city, Nigeria: University of Benin; 2014.
11. Baheti MJ, Toshniwal NG. Survey on Oral Hygiene Protocols among Orthodontic Correction Seeking Individuals. Pravara Institute of Medical Sciences; 20 April, 2016
12. Bimstein E, Becker A. Malocclusion, orthodontic intervention, and gingival and periodontal health. In: Van dyke TE, editor. Periodontal and Gingival Health and Diseases. London: Martin Dunitz Ltd.; 2001. p. 250-90.
13. Thornberg MJ, Riolo CS, Bayirli B, Riolo ML, Van Tubergen EA, Kulbersh R. Periodontal pathogen levels in adolescents before, during, and after fixed orthodontic appliance therapy. Am J Orthod Dentofacial Orthop 2009;135:95-8.
14. Krishnan V, Ambili R, Davidovitch Z, Murphy NC. Gingiva and orthodontic treatment. Semin Orthod 2007;13:257-71.
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