

ORIGINAL ARTICLE

Awareness Regarding Oral Health among Orthodontic and Non-Orthodontic Patients Coming to Dental College

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ABSTRACT:

Objective: The study was planned to evaluate knowledge, attitude, and practice regarding oral health among orthodontic and non-orthodontic patients. **Methods:** The study included 350 participants (150 orthodontic and 200 non-orthodontic patients). A self-administered structured questionnaire was prepared including 17 items to recognize the knowledge, attitude and practices (KAP) regarding oral health care. Pearson's correlation was applied to evaluate the relation of oral health KAP. **Results:** The study showed that patients having orthodontic therapy had comparatively healthy habits as 95.7% brushed once and 66.3% did it twice in a day. However 72.5% of non orthodontic patients brush once daily and 25.8% brush twice a day. The usage of dental floss was less in all the patients and rarely non orthodontic patients clean their teeth with interdental brushes. The mean knowledge and attitude scores among orthodontic patients were significantly higher when compared to non orthodontic patients. A positive correlation was found between knowledge, attitude, and practices using Pearson's correlation coefficient. **Conclusion:** It was noticed that oral health awareness was more among orthodontic patients as they are more frequently visiting the dentist.

Keywords: Attitude, Knowledge, Practices, Orthodontic patients, Oral health.

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INTRODUCTION
Dental health is as important as general health. Oral diseases have been a persistent public health problem globally, with almost every individual experiencing poor oral health at least once in their lifetime. Oral health may be defined as health of the oral cavity and related tissues structures that permits an individual to chew and speak.^{1,2} Poor oral hygiene occurring due to increasing plaque and calculus deposits with increasing age have been reported among children and adolescents.^{3,4} Most commonly seen oral health problems are tooth decay, gum diseases; foul oral breath etc.⁵ The oral health concern of an individual is dependent on the awareness of a person. These attitudes logically imitate their own experiences, cultural perceptions and strongly influence the oral health.⁶ Information regarding the oral health knowledge, attitudes, and practices is still very limited among Indian population. Researchers have shown that only 56% of people brush their teeth once daily & around 32% have never gone to dental surgeon.⁷

Oral hygiene practices, such as brushing regularly, using fluoridated tooth paste, using aids, such as floss to clean

interdental spaces, avoiding in-between meals, changing toothbrush at regular intervals, visiting the dentist regularly, and avoiding tobacco products assist in accomplishing proper oral health.⁸

Especially concern should be taken among patients during the procedure of orthodontics. Patients undergoing orthodontic treatment with fixed appliances face invariably objective obstacles in performing adequate oral hygiene measures and as a result, have increase susceptibility to carious and gingival diseases.⁹

Therefore orthodontist repeatedly educate their patients regarding brushing their teeth with electrical toothbrush, manual toothbrush, triple headed brush, interproximal brush, mouth rinses etc.¹⁰ Significance of oral hygiene maintenance among orthodontic patients is always intensified to avoid any further dental diseases that reflect in final orthodontic treatment results.¹¹ However non orthodontic patients lacks such repeated doses of education as they are not going for multiple visits.

Evidence had showed that strong knowledge of general health demonstrates better lifestyle practices. Similarly for those with more positive attitude towards oral health are

influenced by better knowledge in taking care of their teeth. Studies have also showed that appropriate oral health education can help to cultivate healthy oral health practices.^{3,6}

The patients who have understood the knowledge of personal control over their dental health are more possible to accept self-care behavior.^{12,13} The present study is to assess knowledge, attitude and practice regarding oral health as to know the effect of repeated health education.

METHODS

Study population

In this descriptive study a number of 350 patients were assessed in a dental Institute. Among all the patients, 150 patients were undergoing orthodontic therapy and 250 were coming to department for treatments other than orthodontics.

Inclusion and exclusion criteria

All the study subjects willing to participate were included. For the orthodontics inclusion criteria, only patients coming after fourth visit were included so that they can explain the effect of repeated health education.

Proforma

A self-administered structured questionnaire validated through a pretested survey was used. Permission to carry out the survey was obtained. The questionnaire included 17 items to know the knowledge, attitude and practices regarding oral health.

Oral health knowledge questions included 8 items: the number of sets of dentition, number of permanent teeth, number of deciduous teeth, principle of tooth brushing, plaque’s effect on teeth, reasons of gum bleeding, effect of sweet retention, and effect of fluorides on teeth.

Oral health attitude questions included 4 items: regular visits to dentists, replacement of missing natural teeth with artificial, attitude towards oral health care and smoking habit.

Oral health practice’s questions included 5 items: frequency of brushing, material used for brushing, use of other oral hygiene aids, tongue cleaning, and frequency of sweet consumption.

Data analysis

The data was analyzed with Statistical Package for Social Science version 16.0. The difference in the oral health knowledge, attitude and behavior among orthodontic and non orthodontic patients was assessed by Student’s t-test. Pearson’s correlation was applied to evaluate the relation of oral health knowledge, attitude and practices.

RESULTS

The total study population was compromised of 350 patients including 150 orthodontic patients and 200 non-orthodontic patients. Further they were categorized according to gender as 162 were boys and 188 girls.

Concerning oral hygiene practices, orthodontic patients were mostly following healthy habits as 95.7% subjects brush once a day and 72.5% do it twice. However 66.3% non orthodontic patients brush once daily and 25.8% brush twice a day on regular basis. The habit of other oral hygiene aids like tongue cleaning, usage of mouthwash and interdental brushes were mentioned as 26.6%, 53.4%, and 66.0% among orthodontic patients respectively. Non orthodontic patients showed less frequency to the usage of these oral hygiene aids. The usage of electronic tooth brush was not at all seen in all the study subjects (Graph 1).

The mean knowledge and behavior scores of orthodontic patients were significantly higher if we compare them with non orthodontic patients respectively. But positive attitude were more commonly observed among non orthodontic patients (Table 1). Gender wise, boys showed positive scores of knowledge, but girls showed more response to attitude and practices as mentioned in Table 2. Overall a positive correlation was found between knowledge, attitude, and practices using Pearson’s correlation coefficient (Table 3).

Graph1: Frequency of oral hygiene practices among orthodontic and non orthodontic patients

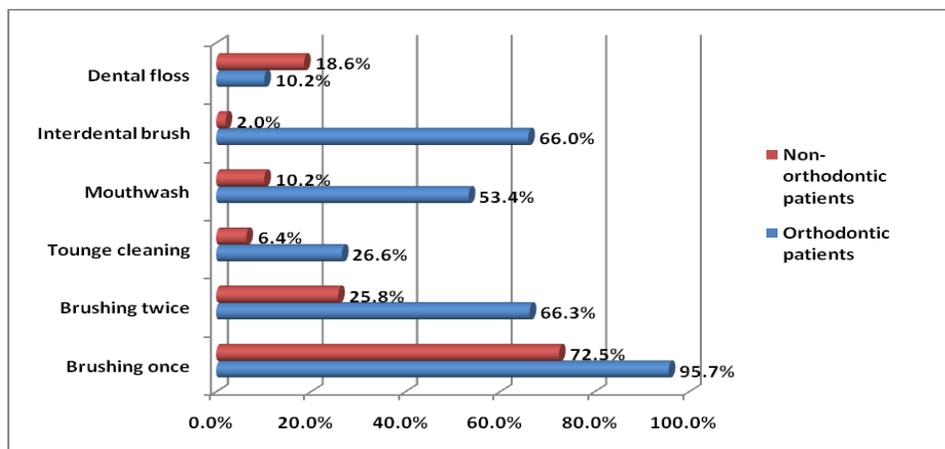


Table 1: Knowledge, attitude and practices scores among orthodontic and non orthodontic study subjects

	Subjects	No	Mean	SD	p-value
Knowledge	Orthodontic patients	150	5.22	1.435	0.001
	Non orthodontic patients	200	4.40	.687	
Attitude	Orthodontic patients	150	2.14	1.896	0.001
	Non orthodontic patients	200	2.46	.987	
Practices	Orthodontic patients	150	3.40	.245	0.040
	Non orthodontic patients	200	3.14	1.037	

Table 2: Knowledge, attitude and practices scores among study subjects according to gender

Scores	Gender	No	Mean	SD	p-value
Knowledge	Boys	162	5.18	1.654	0.016
	Girls	188	4.67	.875	
Attitude	Boys	162	2.17	.963	0.148
	Girls	188	2.36	1.267	
Practices	Boys	162	3.17	.864	0.005
	Girls	188	3.45	.838	

Table 3: Pearson’s coefficient showing correlation between knowledge, attitude and practices

Scores	Knowledge	Attitude	Practices
Knowledge	1	.231(*)	.279(*)
Attitude	.231(*)	1	.316(*)
Practices	.279(*)	.316(*)	1

* Correlation is significant at the 0.01 level

DISCUSSION

Health is a universal human need, and it has been proven that it cannot be achieved independent of oral health. As a part of behavioral modernity, from ages before, man started building up stone blocks of concepts about oral health and using various oral hygiene measures, which are changing till date.¹⁴

According to oral health experts, a lot of people suffer from poor oral health without being aware of it and at times it can impact a person’s quality of life. Poor oral health not only affects chewing and digestion of food but also the overall personality and confidence of the population.⁷

Many oral diseases can be prevented if proper education or awareness is provided such as tooth brushing and flossing which are useful for reducing the amount of bacterial plaque. Knowledge of oral health is considered to be a prerequisite for health related behaviour.¹⁵

The present study was done to assess the same among orthodontic and non orthodontic patients. It was found that brushing habits whether once or twice were more among orthodontic group compared to non orthodontic ones. The results were higher than the other studies done by Prasad et al¹⁶ among patients (44.4%) and Zhu et al¹⁷ found 30.7% among Chinese adults. The frequency of brushing was found to be higher in the present study it could be attributed to the repeatedly oral health education to the orthodontic patients.¹⁸

The usage of dental floss was seen among few participants in the study. In contrast to Hamilton found that 44% of the sample in north eastern Ontario used dental floss, motive for

this could be as the present sample was from rural population.¹⁹

The present study showed that girls better performed than boy’s performance in oral health practices and it was similar in study by Qaderi and Taani. This difference might be attributed to a more concern regarding personal hygiene maintenance and oral health care among females.²⁰ Another study by Kassak KM et al among undergraduate students in Lebanon observed that females brushed their teeth four times than males.²¹

The positive correlation coefficient of knowledge, attitude and practices, suggests that an increase in knowledge would lead to increase in the oral hygiene practices. These results are comparable to the established health education model (KAB model) which shows that acquiring more knowledge would change the attitudes that lead to a change in positive behavior.²² Overall; it was observed that oral health knowledge was changed in to oral health practices among the subjects and made them orally health.

CONCLUSION

The present data showed that the levels of knowledge, and oral hygiene practices regarding oral health among orthodontic patients were higher than non orthodontic patients. The oral health practices of the sample were dependent on attitude and knowledge that showed a linear correlation. In order to prevent oral diseases & to promote better oral health, the health authorities must give priority to community-oriented oral health programmes.

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