



RESEARCH ARTICLE

A STUDY ON AWARENESS OF ORAL HYGIENE IN PATIENTS UNDERGOING ORTHODONTIC TREATMENT IN URBAN POPULATION – KANCHIPURAM DISTRICT

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ABSTRACT

Oral hygiene plays an important role in the quality and duration of the treatment which is controlled by the patients undergoing orthodontic treatment. A good oral hygiene needs a clear cut and proper professional instructions, necessary armamentarium and motivation of the patient in maintaining proper oral hygiene. A regular periodic check-up in evaluating the oral status and constant encouragement, reassurance to the patient regarding the oral hygiene will also significantly contribute to the better participation of patient in maintaining a good oral status. The study aimed at evaluating the oral hygiene awareness in orthodontic patients and also about the various oral hygiene aids used by them.

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INTRODUCTION

As man entered the modern era he has been exposed to newer life styles, lack of physical activity, stressful working conditions and pernicious habits like smoking, alcohol consumption, and changes in dietary habits leading to adverse effects on his general as well as oral health. Oral health contributes to personal well-being and quality of life. It plays an important role in the pursuit of health, health promotion of an individual and thus for the whole community.

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Oral diseases are not self – healing and cannot be cured by drugs or advice alone. Several conceptual models of varying complexity have been proposed in an attempt to explain oral diseases, particularly dental caries and periodontal diseases (Naveen, 2010). Orthodontics is a branch of dentistry concerned with prevention, interception and correction of malocclusion and other abnormalities of the dento – facial region (Bhalajhi Sundaresa Iyyer, 2003). Orthodontic treatment is necessary not only to restore the normal functions of the teeth but also to impart a pleasing appearance and to prevent or correct the sequelae of malocclusion. Thus orthodontic treatment is done to improve the aesthetics of an individual which results in a total change of personality from an introvert to a confident person. Orthodontic treatment is also done to correct the abnormal oral habits like thumb sucking, tongue thrusting, mouth breathing and others (Rani, 2014). A number of studies in recent years regarding the psychosocial problems

associated with malocclusion and dento facial abnormalities have confirmed what is intuitively obvious, that severe malocclusion is likely to be a social handicap. The impact of a physical defect on an individual also will be strongly influenced by that person’s self – esteem. The result is that the same degree of anatomic abnormality can be merely a condition of no great consequence to one individual but a genuinely severe problem to another. It seems clear that the major reason people seek orthodontic treatment is to minimize psychosocial problems related to their dental and facial appearance (William, R. Proffit, 2012). So maintaining good oral hygiene is a particular challenge for patients with fixed orthodontic appliances.

The presence of brackets, wires and bands make it particularly difficult to clean thoroughly and as a result it is common for plaque to accumulate on the buccal surface and around the base of the bracket. Retained plaque represents a considerable clinical risk that demineralization of the enamel will occur, resulting in white spot lesions. The development of gingivitis and hyper plastic gingiva is also a well recognized problem during orthodontic treatment with fixed appliances (Eser Tufekci, 2008). Oral cleaning becomes more difficult with the presence of the orthodontic appliances and their components. Thus, the elimination of plaque is the main target to prevent and/or overcome the problems (Zuhal Yetkin Aya, 2007). So the study aimed in finding out the oral hygiene awareness in patients undergoing orthodontic treatment and usage of various oral hygiene aids.

MATERIALS AND METHODS

Two hundred Indian subjects of 15 – 30 years of age were selected from various localities of Kanchipuram district in Tamil Nadu state for the study. Population group belongs to various sectors of occupation and middle income groups. Data regarding the oral hygiene awareness in patient undergoing orthodontic treatment were collected by providing questionnaire to the subjects. Questionnaire was distributed among the age group of 15 – 30 yrs which included questions relating to whether they are undergoing any orthodontic treatment, duration of the treatment, awareness and importance of oral hygiene during treatment, type of toothbrush used, frequency of changing the toothbrush, frequency of brushing, habit of flossing if yes then the types of floss used, halitosis, use of mouth wash and frequency of its usage and other problems regarding speech and food habits were also noted. Finally the overall awareness on oral hygiene in orthodontic patients was assessed from the study.

RESULTS

Study results focusing on frequency of brushing showed 147 subjects brush twice a day, 44 subjects once a day and 9 subjects brush thrice a day as shown in Table 1. Results focusing on the types of brush used for oral hygiene in orthodontic patients show 121 subject used orthodontic brush and 79 use normal brush as shown in Table 2.

QUESTIONNAIRE FOR STUDY ON AWARENESS ON ORAL HYGIENE
IN ORTHODONTIC PATIENTS

Date:

1. Name :
2. Age / Sex :
3. Occupation :
4. Are you undergoing orthodontic treatment – Yes / No
5. Duration of treatment – Past 6 months / 1 Yr / 1 ½ Yr / 2Yrs
6. Are you aware about the oral hygiene and its importance – Yes / No
7. What type of toothbrush you use – Orthodontic / Normal
8. When do you change your brush – Every one month / Every 2 month / Every 3 Month / Do not know
9. How many times you brush – Once / Twice / Thrice
10. Do you have the habit of flossing – Yes / No
11. If yes, What type of floss – Plain / Thread / Other
12. How many times you floss – Once / Twice
13. Do you have bad breath – Yes / No
14. If yes, do you use mouthwashes – Yes / No
15. If you use mouthwash, how many times a day you use – Once / Twice
16. General difficulties faced during treatment – Speech / Food habits / Other specify -

Fig 1. Questionnaire

Table 1. How many times a day do you brush

Crosstab

| | | How many times a day do you brush | | | Total | |
|-------|--------|-----------------------------------|-------|--------|-------|--------|
| | | Once | Twice | Thrice | | |
| Sex | Male | Count | 19 | 65 | 2 | 86 |
| | | % of Total | 9.5% | 32.5% | 1.0% | 43.0% |
| | Female | Count | 25 | 82 | 7 | 114 |
| | | % of Total | 12.5% | 41.0% | 3.5% | 57.0% |
| Total | | Count | 44 | 147 | 9 | 200 |
| | | % of Total | 22.0% | 73.5% | 4.5% | 100.0% |

Table 2. Which type of tooth brush do you use

Crosstab

| | | | Which type of tooth brush do you use | | Total |
|-------|--------|------------|--------------------------------------|--------|--------|
| | | | Orthodontic | Normal | |
| Sex | Male | Count | 53 | 33 | 86 |
| | | % of Total | 26.5% | 16.5% | 43.0% |
| | Female | Count | 68 | 46 | 114 |
| | | % of Total | 34.0% | 23.0% | 57.0% |
| Total | | Count | 121 | 79 | 200 |
| | | % of Total | 60.5% | 39.5% | 100.0% |

Table 3. Changing of tooth brush

| | | | When do you change your brush | | | | Total |
|-------|--------|------------|-------------------------------|---------------|---------------|-------------|--------|
| | | | One month | Every 2 month | Every 3 month | Do not know | |
| Sex | Male | Count | 7 | 53 | 23 | 3 | 86 |
| | | % of Total | 3.5% | 26.5% | 11.5% | 1.5% | 43.0% |
| | Female | Count | 11 | 44 | 55 | 4 | 114 |
| | | % of Total | 5.5% | 22.0% | 27.5% | 2.0% | 57.0% |
| Total | | Count | 18 | 97 | 78 | 7 | 200 |
| | | % of Total | 9.0% | 48.5% | 39.0% | 3.5% | 100.0% |

Table 4. Habit of using dental floss

| | | | Do you have a habit of flossing | | Total |
|-------|--------|------------|---------------------------------|-------|--------|
| | | | Yes | No | |
| Sex | Male | Count | 10 | 76 | 86 |
| | | % of Total | 5.0% | 38.0% | 43.0% |
| | Female | Count | 6 | 108 | 114 |
| | | % of Total | 3.0% | 54.0% | 57.0% |
| Total | | Count | 16 | 184 | 200 |
| | | % of Total | 8.0% | 92.0% | 100.0% |

Table 5. What type of floss

| | | | What type of floss | | | Total |
|-------|--------|------------|--------------------|--------|--------|--------|
| | | | Plain Floss | Thread | Others | |
| Sex | Male | Count | 2 | 7 | 1 | 10 |
| | | % of Total | 12.5% | 43.8% | 6.3% | 62.5% |
| | Female | Count | 2 | 3 | 1 | 6 |
| | | % of Total | 12.5% | 18.8% | 6.3% | 37.5% |
| Total | | Count | 4 | 10 | 2 | 16 |
| | | % of Total | 25.0% | 62.5% | 12.5% | 100.0% |

Table 6. History of halitosis

| | | | Do you have halitosis (Bad Breath) | | Total |
|-------|--------|------------|--------------------------------------|-------|--------|
| | | | Yes | No | |
| Sex | Male | Count | 18 | 68 | 86 |
| | | % of Total | 9.0% | 34.0% | 43.0% |
| | Female | Count | 31 | 83 | 114 |
| | | % of Total | 15.5% | 41.5% | 57.0% |
| Total | | Count | 49 | 151 | 200 |
| | | % of Total | 24.5% | 75.5% | 100.0% |

Table 7. Habit of using mouthwashes

| | | | Do you have a habit of using mouthwashes | | Total |
|-------|--------|------------|--|-------|--------|
| | | | Yes | No | |
| Sex | Male | Count | 40 | 46 | 86 |
| | | % of Total | 20.0% | 23.0% | 43.0% |
| | Female | Count | 59 | 55 | 114 |
| | | % of Total | 29.5% | 27.5% | 57.0% |
| Total | | Count | 99 | 101 | 200 |
| | | % of Total | 49.5% | 50.5% | 100.0% |

- ONE MONTH
- EVERY 2 MONTH
- EVERY 3 MONTH
- DO NOT KNOW

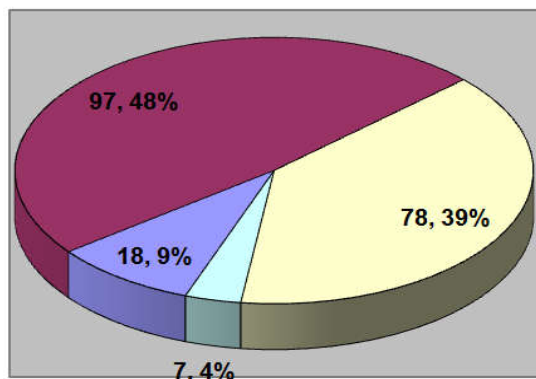


Chart 1. Changing of tooth brush

- PLAIN FLOSS
- THREAD
- OTHERS

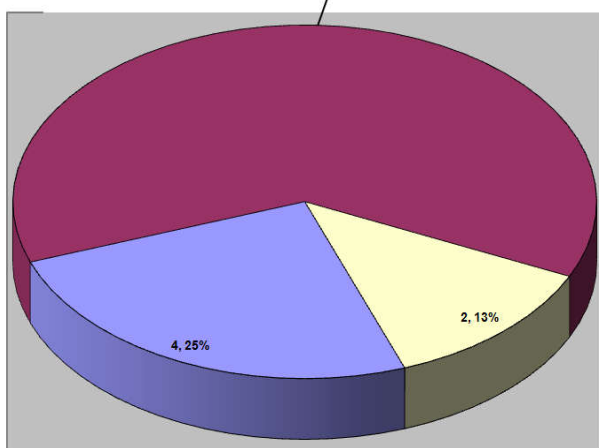


Chart 2. Type of floss

- YES
- NO

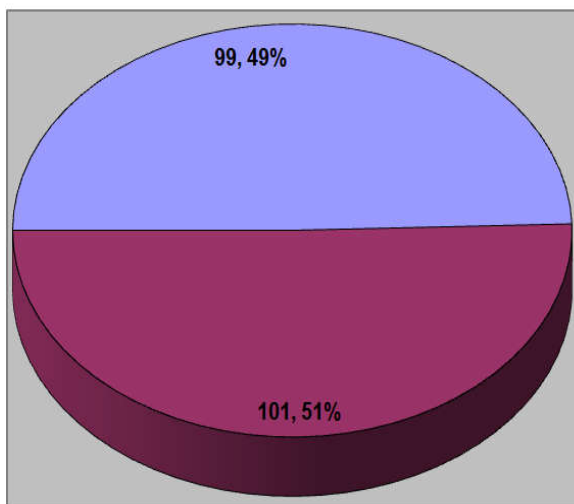


Chart 3. Habit of using mouthwashes

Results regarding changing of tooth brush show that 18 subjects changed tooth brush once a month, 97 subjects every two month, 78 subjects every three month and 7 subjects do not know when they change the brush as shown in Table 3. Results pertaining to the habit of using dental floss showed that 16 subjects had the habit and 184 subjects did not have the habit of flossing as shown in Table 4. Analyzing results regarding the type of floss used, 4 subjects used plain floss, 10 subjects used thread floss and 2 subjects used other forms of floss as shown in Table 5. Results regarding the history of halitosis, showed that 49 subjects had history of halitosis and 151 subjects had no complaints of halitosis as shown in table 6. Based on usage of mouth wash, 99 subjects used mouth wash and 101 subjects did not use mouth wash in which 65 subjects used it once a day and 34 subjects used it twice a day as shown in Table 7.

DISCUSSION

A study was carried out in 200 Urban Indian subjects of 15 – 30 years of age were selected from various localities of Kanchipuram district in Tamil Nadu state for the study to find out the awareness of oral hygiene in patients undergoing orthodontic treatment and also to find out the usage of oral hygiene aids like interdental aids, mouth wash, orthodontic tooth brush and dental floss. The study signifies that the women population are more interested to correct their irregularly arranged teeth and also more concerned about the oral hygiene status than men who are less in number and give less importance to oral hygiene. The study also showed that the youngsters are more interested in maintaining a good oral hygiene apart from undergoing orthodontic treatment and aesthetic dental procedures. Proper oral hygiene maintenance is an important habit that should be followed during an orthodontic treatment. The frequency of brushing can be seen in about 147 subjects did once daily, 44 subjects brushed twice daily and only 9 subjects brushed thrice daily. So this study in regard to brushing habit showed that the importance of oral hygiene and brushing methods needs to be emphasized among the orthodontic patients. About 121 subjects undergoing orthodontic treatment used the specific orthodontic brush while 79 of them used normal tooth brush which showed that sufficient awareness was there regarding usage of specific tooth brush. Awareness on usage of dental floss for inter dental cleaning, 16 subjects had the habit and 184 subjects did not have the habit of flossing of which 12 did flossing once day and 4 subjects twice a day which shows that apart from general oral health maintenance, importance of hygiene of interdental area should be emphasized to the subjects. Halitosis is one issue of any person in public which might affect them in their general communication at the work place or public gathering. This was also studied which showed 49 subjects had the complaints of bad breath. Study on use of mouth wash gave a result of 99 subjects used mouth wash and 101 subjects did not use mouth wash in which 65 subjects used it once a day and 34 subjects used it twice a day.

Conclusion

The number of orthodontic treatments and among them the frequency of treatments with fixed appliances is increasing nowadays. In some cases orthodontic treatments mean caries preventive interventions when tooth movements may relieve crowding or other anomalies thus can contribute to the effectiveness of proper oral hygiene.

On the other hand these treatments may have causative effect on plaque induced oral diseases. For these patients effective preventive oral health care is needed and orthodontists have to be responsible for helping to keep proper oral hygiene in their patients. Entire oral hygiene procedure should be inducted by means of health education at school and college levels and all modes of health education should be utilized to deliver it to all people.

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