

**Why Patient Refuses Orthodontic Treatment?-Let's find out the reason...**Dr. Rashid Khan<sup>1</sup>, Dr. Tripti Tikku<sup>2</sup>, Dr. Rohit Khanna<sup>3</sup>, Dr. Sneh Lata Verma<sup>4</sup>, Dr. Rana P. Maurya<sup>5</sup>, Dr. Kamna Srivastava<sup>6</sup>, Dr. Anshul Srivastava<sup>7</sup><sup>1</sup>PG Student, <sup>2</sup>Professor & Head, <sup>3</sup>Professor, <sup>4,5,6</sup>Reader, <sup>7</sup>Sr. lecturer

Dept of Orthodontics and Dentofacial Orthopedics Babu Banarasi Das College of Dental Sciences (BBDCODS), Lucknow, India

**Original Research Article****\*Corresponding author**  
*Dr. Sneh Lata Verma***Article History***Received: 04.10.2017**Accepted: 12.10.2017**Published: 30.10.2017***DOI:**

10.21276/sjds.2017.4.10.3



**Abstract:** Majority of the population is unaware of the causes, occurrence and prevention of most of the common oral diseases which affect the general health, wellbeing and overall development of their children. A variety of social, cultural, psychological, and personal factors influences the perception of dental appearance. Despite of the need for Orthodontic treatment patients do not approach to a general dentist/Orthodontist for consultation and even if suggested they might refuse Orthodontic treatment. Thus aim of the study was to assess the awareness about Orthodontic treatment and to find out the reasons for refusal of Orthodontic treatment. A closed ended questionnaire type of survey was conducted among the 301 subjects (165 male and 136 female) between age group of 18-25yrs from various colleges of BBD University, Lucknow who had a need for Orthodontic treatment but had not undergone it. Questions in the questionnaire was regarding awareness of need for orthodontic treatment, regarding fear and perception about orthodontic treatment, regarding cost and time duration of orthodontic treatment, regarding myths and misconceptions for orthodontic treatment. Results of the study showed, fear of extraction, myths about incomplete closure of spaces after Orthodontic treatment and frequent visits to Orthodontic office were found to be a prevalent reason for refusal of Orthodontic treatment. Male subjects had more awareness about Orthodontic treatment whereas females had more fear, myths and misconceptions regarding Orthodontic treatment.

**Keywords:** Orthodontic treatment, oral diseases**INTRODUCTION**

Majority of the population is unaware of the causes, occurrence and prevention of most of the common oral diseases which affect the general health, wellbeing and overall development of their children. One of the most common dental problems along with dental caries, periodontal and gingival diseases, is malocclusion [1]. Malocclusion besides causing psychosocial problems related to impaired dentofacial aesthetics can also affect oral health by increasing the prevalence of dental caries and periodontal diseases as well as temporo-mandibular disorders[2]. The Orthodontic treatment can correct the malocclusion thereby reducing the chances of gum recession, trauma to the teeth, dental caries, gum diseases and possible loss of teeth in some individuals, most importantly it reduces social embarrassment[3].

A variety of social, cultural, psychological, and personal factors influences the perception of dental appearance [4-7]. Dissatisfaction with dental appearance is the main factor associated with the decision to undergo Orthodontic treatment[8]. It has

been estimated that 80% of orthodontic patients seek services out of a concern for aesthetics rather than for reasons related to health or function [8-14]. Despite of the need for Orthodontic treatment patients/subjects whose esthetics is not compromised, are not concerned with their functional problems. Hence they do not approach to a general dentist/Orthodontist for consultation and even if suggested they might refuse Orthodontic treatment. Thus aim of the study was to assess the awareness about Orthodontic treatment and to find out the reasons for refusal of Orthodontic treatment.

**SUBJECTS AND METHODS**

A closed ended questionnaire type of survey was conducted among the 301 subjects (165 male and 136 female) between age group of 18-25yrs from various colleges of BBD University, Lucknow who had a need for Orthodontic treatment but had not undergone it (Table 1). Questionnaire was structured in English and Hindi language to be clearly understood by the patients[15].

It consisted of 17 questions which were framed to elicit reasons for refusing Orthodontic treatment that included *need for Orthodontic treatment, fear and perception* about Orthodontic treatment, *cost and time duration, myths and misconceptions* regarding the treatment and procedural difficulties thought to be occur during treatment by the subjects (Table 2). Questionnaire was divided into four groups (TABLE 2)

- Group i: questionnaire regarding awareness of need for orthodontic treatment**
- Group ii: questionnaire regarding fear and perception about orthodontic treatment**
- Group iii: questionnaire regarding cost and time duration of orthodontic treatment**
- Group iv: questionnaire regarding myths and misconceptions for orthodontic treatment**

**Table-1: Sample Size and distribution of subjects.**

| GROUP          | N   | %     |
|----------------|-----|-------|
| <i>Females</i> | 136 | 45.2  |
| <i>Males</i>   | 165 | 54.8  |
| Total          | 301 | 100.0 |

The participants were explained about how to complete the questionnaire adequately and were offered immediate assistance during the completion of survey,

if required. The responses of the subjects to the questions were recorded on a 3 point Likert scale [a. yes, b. no, c. don't know].

**Table-2: Questionnaire designed to analyze the awareness of people towards Orthodontic treatment and reasons for refusal of Orthodontic treatment.**

| GROUP |  | QUESTIONS   |
|-------|--|---|
| I     | Questionnaire regarding awareness of need for orthodontic treatment        | <ul style="list-style-type: none"> <li>• Do you think braces/Orthodontic treatment is/are required for your teeth?</li> <li>• Do you agree that braces/ Orthodontic treatment help to change the life of patient and build confidence?</li> </ul>   |
| II    | Questionnaire regarding Fear and perception about orthodontic treatment    | <ul style="list-style-type: none"> <li>• Do you concerned with showing of braces in your mouth?</li> <li>• Do you think Metallic braces will spoil your looks??</li> <li>• Do you think you will experience the same problems as your friend/relative/colleagues had experienced during Orthodontic treatment?</li> <li>• Do you think Brushing after every meal is a difficult task for you?</li> <li>• Do you think Pain and discomfort (wire prick) during tooth movement makes you fearful for the Orthodontic treatment?</li> <li>• Are you afraid of removal of tooth for Orthodontic treatment?</li> <li>• Do you think closed extraction spaces can reopen after treatment and makes you feel fearful about treatment?</li> </ul> |
| III   | Questionnaire regarding cost and time duration of orthodontic treatment    | <ul style="list-style-type: none"> <li>• Is cost is a reason for not undergoing Orthodontic treatment?</li> <li>• Do you have problem with long time period of treatment?</li> <li>• Do you think visiting to your Orthodontist every month during treatment is difficult for you?</li> <li>• Do you think during the course of Orthodontic treatment your school/college performance will be affected?</li> </ul>  |
| IV    | Questionnaire Regarding Myths And misconceptions for orthodontic Treatment | <ul style="list-style-type: none"> <li>• Do you believe removal of tooth for Orthodontic treatment can affect your eye sight?</li> <li>• Do Teeth become loose/weak after treatment?</li> <li>• Do you think Braces lead to tooth decay?</li> <li>• Do you think extraction spaces will not be Filled completely by the treatment?</li> </ul>   |

**STATISTICAL ANALYSIS**

Data was coded and entered into excel sheet. To maintain the data quality (validity) rechecking and cross checking was done randomly during data entry

phase for 30 subjects of each group. Descriptive statistics was recorded and  $\chi^2$  tests was used to compare the means for two groups (male and female).

**RESULTS**

**Table-3:** Shows the results for the questions under four different categories (Group I, II, III, IV) respectively. The comparisons were done among males and females.

**Table-3: Results for the questions under four different categories**

**GROUP I**

| SR.NO. | QUESTIONS   |            | GROUP      |          | TOTAL % | TEST |
|--------|---|------------|------------|----------|---------|------|
|        |   |            | Females(%) | Males(%) |         |      |
| 1      | Do you think braces/orthodontic treatment is/are required for your teeth?<br><br><i>If No,</i><br>• I don't have any esthetic problem.<br>• I don't have functional problem like difficulty in chewing, drinking, breathing and talking.<br>• Both<br><br><i>If No,</i><br>Do your parents/guardian want your orthodontic treatment to be done? | Yes        | 58.8       | 59.4     | 59.1    | NS   |
|        |   | No         | 33.8       | 32.1     | 32.9    |      |
|        |   | Don't know | 7.4        | 8.5      | 8       |      |
|        |   |            | 41.30      | 67.92    | 55.55   |      |
|        |   |            | 32.60      | 7.5      | 19.1    |      |
|        |   |            | 26.08      | 24.52    | 25.25   |      |
|        |   | Yes        | 13.0       | 22.6     | 18.2    | NS   |
|        |   | No         | 87.0       | 77.4     | 81.8    |      |
| 2.     | Do you agree that braces/orthodontic treatment help to change the life of patient and build confidence?   | Yes        | 78.7       | 81.2     | 80.1    | NS   |
|        |   | No         | 8.1        | 4.8      | 6.3     |      |
|        |   | Don't know | 13.2       | 13.9     | 13.6    |      |

**GROUP II**

| SR.NO | QUESTIONS   |            | GROUP      |          | TOTAL % | TEST        |
|-------|---|------------|------------|----------|---------|-------------|
|       |   |            | Females(%) | Males(%) |         |             |
| 1     | Do you concerned with showing of braces in your mouth?  | Yes        | 66.1       | 58.8     | 62.8    | NS          |
|       |   | No         | 33.9       | 41.2     | 37.2    |             |
| 2     | Do you think Metallic braces will spoil your looks?   | Yes        | 49.7       | 47.1     | 48.5    | NS          |
|       |   | No         | 30.3       | 32.4     | 31.2    |             |
|       |   | Don't know | 20.0       | 20.6     | 20.3    |             |
| 3     | Do you think you will experience the same problems as your friend/relative/colleagues had experienced during orthodontic treatment? | Yes        | 44.1       | 27.9     | 35.2    | S (P=0.013) |
|       |   | No         | 31.6       | 40.0     | 36.2    |             |
|       |   | Don't know | 24.3       | 32.1     | 28.6    |             |
| 4     | Do you think Pain and discomfort (wire prick) during tooth movement makes you fearful for the orthodontic treatment?                | Yes        | 57.4       | 35.8     | 45.5    | S (P=0.001) |
|       |   | No         | 30.1       | 43.6     | 37.5    |             |
|       |   | Don't know | 12.5       | 20.6     | 16.9    |             |
| 5     | Are you afraid of removal of tooth for orthodontic treatment?   | Yes        | 70.3       | 66.2     | 68.4    | NS          |
|       |   | No         | 20.6       | 26.5     | 23.3    |             |
|       |   | Don't know | 9.1        | 7.4      | 8.3     |             |
| 6     | Do u think closed extraction spaces can reopen after treatment and makes you feel fearful about treatment?                          | Yes        | 37.5       | 46.7     | 42.5    | NS          |
|       |   | No         | 33.1       | 22.4     | 27.2    |             |
|       |   | Don't know | 29.4       | 30.9     | 30.2    |             |

**GROUP III**

| SR.NO. | QUESTIONS  |            | GROUP      |          | TOTAL % | TEST |
|--------|--|------------|------------|----------|---------|------|
|        |  |            | Females(%) | Males(%) |         |      |
| 1      | Do you think cost is a reason for not undergoing orthodontic treatment?                                  | Yes        | 44.1       | 37.6     | 40.5    | NS   |
|        |  | No         | 35.3       | 38.2     | 36.9    |      |
|        |  | Don't know | 20.6       | 24.2     | 22.6    |      |
| 2      | Do you have problem with long time period of treatment?  | Yes        | 50.0       | 43.6     | 46.5    | NS   |
|        |  | No         | 34.6       | 40.6     | 37.9    |      |
|        |  | Don't know | 15.4       | 15.8     | 15.6    |      |
| 3      | Do you think Brushing after every meal is a difficult task for you?                                      | Yes        | 61.8       | 50.9     | 55.8    | NS   |
|        |  | No         | 24.3       | 29.1     | 26.9    |      |
|        |  | Don't know | 14.0       | 20.0     | 17.3    |      |
| 4      | Do you think visiting to your orthodontist every month during treatment is difficult for you             | Yes        | 53.9       | 51.5     | 52.8    | NS   |
|        |  | No         | 46.1       | 48.5     | 47.2    |      |
| 5      | Do you think during the course of orthodontic treatment your school/college performance will be affected | Yes        | 32.4       | 41.8     | 37.5    | NS   |
|        |  | No         | 51.5       | 44.8     | 47.8    |      |
|        |  | Don't know | 16.2       | 13.3     | 14.6    |      |

**Group IV**

| SR.NO | QUESTIONS  |            | GROUP      |          | TOTAL % | TEST           |
|-------|--|------------|------------|----------|---------|----------------|
|       |  |            | Females(%) | Males(%) |         |                |
| 1.    | Do teeth become loose/weak after treatment?  | Yes        | 29.1       | 20.6     | 25.2    | S<br>(p=0.006) |
|       |  | No         | 33.9       | 52.2     | 42.2    |                |
|       |  | Don't know | 37.0       | 27.2     | 32.6    |                |
| 2.    | Do you believe removal of tooth for orthodontic treatment can effect your eye sight? | Yes        | 23.0       | 21.3     | 22.3    | NS             |
|       |  | No         | 44.2       | 55.9     | 49.5    |                |
|       |  | Don't know | 32.7       | 22.8     | 28.2    |                |
| 3     | Do you think Braces lead to tooth decay?   | Yes        | 24.3       | 19.4     | 21.6    | NS             |
|       |  | No         | 48.5       | 49.7     | 49.2    |                |
|       |  | Don't know | 27.2       | 30.9     | 29.2    |                |
| 4     | Do you think extraction spaces will not be filled completely by the treatment?       | Yes        | 27.9       | 43.0     | 36.2    | NS             |
|       |  | No         | 37.5       | 25.5     | 30.9    |                |
|       |  | Don't know | 34.6       | 31.5     | 32.9    |                |

**DISCUSSION**

Malocclusion is generally not considered to be a dental problem because more priority is given to treatment of dental caries and periodontal diseases due to pain experience by them. Attitudes and perceptions towards Orthodontic treatment differ among populations and among individuals. The level of dental health knowledge, positive dental health attitude, and

dental health behaviour are interlinked and associated with the level of education and income.

This study can give an indication of attitudes & awareness towards orthodontic treatment and study also compared the level of awareness between males and females. The present study has allowed for comparison between males and females awareness also. Regarding the Group I questionnaire in the present

study *awareness of need for orthodontic treatment*, it was found that most of the subjects (59.1%) mainly males (59.4%) although agree for Orthodontic treatment but not go for it due to various reasons and those who do not think they need Orthodontic treatment is mostly because they do not have esthetic problem (55.5%). Their Parents were also not able to convince them for Orthodontic treatment due to lack of awareness among them. Acc. to a survey done by Roopa Siddegowda [16] high school children exhibited more awareness towards orthodontic treatment and middle school children exhibited low awareness towards Orthodontic treatment.

Another study done by L.S. Marques *et al.* [17] showed that main factors influencing the self-perceived need for orthodontic treatment among schoolchildren with a very low socioeconomic level are dissatisfaction with the appearance of the mouth due to missing teeth or the alignment of the teeth as well as ridicule from other people regarding the appearance of the teeth. The results suggest that the development of public health policies that favour the access of the population to Orthodontic treatment should be considered.

Preventive programs, such as orientation given to parents, fluoridation of the public water supply and the use of fluoridated toothpaste, may favour the occlusal situation of young patients in a variety of ways. Furthermore, problems such as the early loss of primary or permanent teeth (which is very common among children with a very low socioeconomic level), open bite and crossbite may be intercepted or prevented.

*In our study* the most common fear for refusal of Orthodontic treatment was fear of extraction (68.4%) and it was more common in females (66.2%) as compared to males in group II questionnaire. Unesthetic appearance of braces (62.8%) mainly metal brackets was found next to fear of extraction to refuse the Orthodontic treatment was again more in females followed by "difficulty in brushing after every meal" (55.8%) and the ratio was more among females (61.8%). Pain and discomfort during tooth movement (45.5%) was also seemed a reason for refusal of Orthodontic treatment by many subjects mainly females (57.4%). This shows that subjects have lack of awareness of advancements in Orthodontic techniques (eg-lingual Orthodontics), materials and ceramic brackets. 44.1% females subjects believe that they might experience the same problems as their friend/relative/colleagues had experienced during Orthodontic treatment so refused Orthodontic treatment.

Proper motivation & educating the subjects about these newer technique and materials will definitely improve the knowledge and perception of subjects regarding Orthodontic treatment. Among the Group III questions "Problem with frequent visits to

Orthodontist during treatment (52.8%)" was most common among females (53.9%) as compared to males (51.5%) followed by problem with long time period of treatment (46.5%) which was more common among females (50%) as in males was 43.6%. In 40.5% cost of Orthodontic treatment was an issue for refusing Orthodontic treatment.

Females (44.1%) were found more concerned to cost factor as compared to males (37.6%). 37.5% subjects mainly males believe that school/college performance will be affected during the course of Orthodontic treatment which showed the unawareness of the subjects regarding Orthodontic treatment. In the Group IV questions the most common myth that may be a reason for refusal of Orthodontic treatment in males (43%) was incomplete closure of spaces after Orthodontic treatment and in females (29.1%) followed by teeth become loose after Orthodontic treatment (25.2%). Although other myths as effect on eye sight after extraction of teeth for Orthodontic purpose and Braces leads to tooth decay was also present in females but the percentage was less.

Beside all these factors, most of patients / subjects (80.1%) think that braces/Orthodontic treatment help to change the life of patient and build confidence in people. Explaining them about the long term benefits of treatment, improvement in life style and increase in self confidence after the treatment will definitely aid to improve the understanding the need of Orthodontic treatment. We can tell the patients to deposit the amount in installments regarding the increased cost issue. Regarding the refusal due to time duration of treatment we can educate and motivate them by explaining about the steps of procedure.

Patients can be told about that Orthodontic treatment charges can be deposited in instalments, so not putting any burden over them. These misconceptions regarding Orthodontic treatment can be sorted out by educating them by showing the models of treated cases, by using audio-visual aids and regularly organising camps on their respective areas

## CONCLUSION

Following conclusion was drawn from this survey:

- Fear of extraction, myth about incomplete closure of spaces after Orthodontic treatment and frequent visits to Orthodontic office were found to be a prevalent reason for refusal of Orthodontic treatment.
- Male subjects had more awareness about Orthodontic treatment whereas females had more fear, myths and misconceptions regarding Orthodontic treatment.
- Overall females were more unaware about the Orthodontic treatment as compared to males.

## REFERENCES

1. Dhar V, Jain A, Van Dyke T E , Kohli A. Prevalence of gingival diseases, malocclusion and fluorosis in school-going children of rural areas in Udaipur district . Journal of the Indian Society of Pedodontics and Preventive Dentistry 2007; 25:103 – 105.
2. Bhullar MK, Nirola A. Malocclusion Pattern in Orthodontic Patients. Indian Journal of Dental Sciences. 2012 Oct 2; 4.
3. Bhattarai P, Shrestha RM. Comparative Study of Duration of Orthodontic Treatment among Nepalese Adolescent and Adult Patients. Orthodontic Journal of Nepal. 2013 Dec 18; 1(1):28-30.
4. Lucker, GW, Graber, LW. Perceptions of dental attractiveness and friend selection in schoolchildren. *Am J Orthod.* 1978; 74:686–687.
5. Baldwin DC. Appearance and aesthetics in oral health. *Community Dent Oral Epidemiol.* 1980; 8:244–256.
6. Grzywacz I. The value of the aesthetic component of the Index of Orthodontic Treatment Need in the assessment of subjective orthodontic treatment need. The European Journal of Orthodontics. 2003 Feb 1;25(1):57-63.
7. Mugonzibwa EA, Kuijpers-Jagtman AM, Van't Hof MA, Kikwilu EN. Perceptions of dental attractiveness and orthodontic treatment need among Tanzanian children. *Am J Orthod Dentofacial Orthop* 2004; 125:426-33.
8. Bos A, Hoogstraten J, Prah-Andersen B. Expectations of treatment and satisfaction with dentofacial appearance in orthodontic patients, *American Journal of Orthodontics and Dentofacial Orthopedics*, 2003, vol.123(pg.127-132)
9. Albino JE, Cunat JJ, Fox RN, Lewis EA, Slakter MJ, Tedesco LA. Variables discriminating individuals who seek orthodontic treatment. *J Dent Res* 1981;60:1661-1667
10. Brook PH, Shaw WC. The development of an index of orthodontic treatment priority. *Eur J Orthod* 1989; 11:309-320.
11. Richmond S, Shaw WC, O'Brien KD, Buchanan IB, Stephens CD, Andrews M, Roberts CT. The relationship between the index of orthodontic treatment need and consensus opinion of a panel of 74 dentists. *Br Dent J* 1995;178:370-374
12. Tang EL, So LL. Correlation of orthodontic treatment demand with treatment need assessed using two indices. *Angle Orthod* 1995; 65:443-450.
13. Birkeland K, Katle A, Lovgreen S, Boe OE, Wisth PJ. Factors influencing the decision about orthodontic treatment. A longitudinal study among 11- and 15-year-olds and their parents. *J Orofac Orthop* 1999;60:292-307
14. De Oliveira CM, Sheiham A. Orthodontic treatment and its impact on oral health-related quality of life in Brazilian adolescents. *J Orthod* 2004; 31:20-27.
15. Darout IA. Knowledge and behavior related to oral health among Jimma University Health Sciences students, Jimma, Ethiopia. *European Journal of General Dentistry.* 2014 Sep 1; 3(3):185.
16. Siddegowda R. An Epidemiological Survey on the Awareness towards Orthodontic Treatment among Middle School and High School Children of Karnataka State. *Journal of Cell Science & Therapy.* 2015 Jan 1; 6(4):1.
17. Marques LS, Ramos-Jorge ML, Ramos-Jorge J, Pereira LJ, Paiva SM, Pordeus LA. Self-perception regarding the need for orthodontic treatment among impoverished schoolchildren in Brazil. *Eur J Paediatr Dent* 2009; 10:125-30.