

COMMON MOTIVATIONAL FACTORS IN PATIENTS SEEKING ORTHODONTIC TREATMENT

*Manzar Anwar Khan, **Ghazala Yasmin, ***Babar Ahad *Zia ur Rahman, *Sumaira Noor

*Khyber College of Dentistry Peshawar

** Kabir Medical College, Peshawar

*** Sardar Begum Dental College Peshawar

ABSTRACT

Objective: *The aim of this study was to determine patients' motivation and their awareness regarding orthodontic treatment.*

Material and Methods: *This was a cross-sectional descriptive study. Two Hundred, male and female patients, reporting to outpatient department, Khyber College of Dentistry, Peshawar for orthodontic treatment, participated in this study. A semi structured questionnaire was used for the collection of data. Data was analyzed using statistical package for social sciences (SPSS) version 17.*

Results: *The study population consisted of patients with 10-41 years of age with a mean age of 19.97 years, mostly females (66%). In this study the ratio of illiterate to literate was 1:4.5 and 55% of the literates were highly educated. Out of total 49.5% were self motivated for the treatment, 40% by parents, family and friends and only 5% by dentists. The results of common motivating factors in this research came out to be enhancing facial appearance (52.5%), self esteem (26%), improve dental health (15%) and to correct speech and bite (6.5%).*

Conclusions: *It was concluded from the study that females in their teenage are more aware of their dental discrepancies and usually are self motivated and encouraged to seek treatment, as they are uncomfortable with their dental and facial esthetics. Facial appearance is a much more motivating factor to seek orthodontic treatment as compared to functional reasons, because it will have a positive impact on their social life, it increases their self confidence and will get a better job opportunities.*

Key words: *Motivational factors, Dental discrepancies, facial appearance*

INTRODUCTION

Motivation for seeking treatment can be internal or external. External motivation is the pressure from others. Internal motivation is provided by an individual's own desire for treatment to correct a defect that he perceives in himself¹. The importance of motivation for orthodontic therapy is for a better outcome and to achieve patient's cooperation because these factors might affect patient satisfaction and compliance with treatment^{2,3}.

Orthodontic treatment is the correction of

irregular teeth and jaws with certain appliances like braces. A large number of people of underdeveloped nations are ignorant about the causes, occurrence and prevention of most of the common oral diseases, like dental caries, gingival disease, dental fluorosis and malocclusion⁴.

Although the number of people going for orthodontic treatment is very low because of multiple factors but still the awareness is increasing leading to a large number of children and adult patients seeking expert advice to improve their facial appearance^{5,6,7}. Physical attractiveness has however played a part in how people are treated in a community but face is the stronger indicator of attractiveness than the whole body⁸. Generally people with a pretty face are considered more pleasant, clever, appealing, sociable, and with a more positive character by people around them^{9,10}.

Correspondence:

Dr. Manzar Anwar Khan

Associate Professor

Department of Community Dentistry,

Khyber College of Dentistry, Peshawar

Cell: 0300-5942007

Email address: drmanzar11@gmail.com

The quality of life and self self-confidence is significantly affected if the arrangement of the oral cavity and alignment of teeth is abnormal as the smile is affected leading to overall facial unattractiveness. These people have certain psychosocial problems like, they are usually introvert, have lower self esteem, socially incompetent, emotionally unstable and have weaker relationships with family, friends and others¹¹. In studies conducted in Africa and Britain the study subjects were mostly children and young adults. Children are negatively affected by their facial appearance as they are bullied and persecuted by family and friends and are called with mortifying and humiliating names^{12,13}. Same is the case with adolescents and adults with malocclusion and protruding teeth, they suffer prejudice and discrimination in different settings like career opportunities, finding a better job and working in offices¹⁴. Among the factors contributing to seeking expert advice are the worried parents about incorrect speech and bite, aesthetics and lower self-confidence of their child. Other factors are recommendation from a dentist or other health workers, and the impact of friends and family undergoing orthodontic treatment, while others seek advice to improve their facial look and dental health¹⁴.

METHODS AND MATERIALS

This was a cross-sectional descriptive study. The study population consisted of two hundred, male and female patients, attending the outpatient department of Khyber College of Dentistry, Peshawar, seeking advice for orthodontic treatment. First of all an approval of the institutional ethical committee was taken. A semi structured questionnaire was used for the collection of data and the data was analyzed by using statistical package for social sciences (SPSS) version 17. The duration of the study was six months from January to June 2014.

Patients seeking advice for orthodontic treatment between the ages of 10 to 45 years were included while those who have undergone orthodontic treatment, patients with traumatic injuries and degenerative diseases of the face were excluded from the study.

RESULTS

The age range of the study population was 10-41 years, with a mean age of 19.97 years \pm 5.74 SD. Most of the study subjects were Females (66%) with a Male: Female ratio of 1:1.94. It was found that out of the total 200 participants, most were in 16-20 years age

(33.5%) followed by 21-25 years (29.5%). The details are given in Table-1

Regarding level of education 25.5% were Graduates followed by Intermediate level education (21.5%). The detail of education level is given in Table-2.

The motivation for the orthodontic treatment was suggested by self (49.5%), parents (25%), relatives (10%), friends (5.5%) and only (5%) by dentist.

The results of motivating factors which were studied in this research were enhancing facial appearance in 52.5% patients followed by self-esteem (26%) improved dental health (15%), correct speech and bite (6.5%).

When the patients were asked if they were ever teased or harassed by others, 74% patients answered affirmatively. Out of these, 22% said that they were

Table-1: Age distribution

Age in years	n	%
10 – 15	49	24.5
16 – 20	67	33.5
21 – 25	59	29.5
26 – 30	8	4
31 – 35	15	7.5
36 – 41	2	1
Total	200	100

Table-2: Level of Education among Study Subjects

Level of education	Frequency	Percentage
Graduates	51	25.5
Intermediate	43	21.5
Illiterates	36	18.0
Masters	16	8.0
Primary	20	10.0
Secondary	34	17.0
Total	200	100.0

Table-3: Dental Discrepancy first observed by

Dental Discrepancy	Frequency	Percentage
Self	70	35 %
Father	11	5.5 %
Mother	31	15.5 %
Friends	19	9.5 %
Relatives	33	16.5 %
Family members	31	15.5 %
Others	5	2.5 %
Total	200	100 %

teased while 52% said that they were bullied. The remaining 26% reported no such problem.

The dental discrepancy was self observed for the first time by 35% of subjects, while 16.5% of the time by relatives. The detail is given in Table-3.

Out of all subjects 83% were aware of their dental discrepancy while (17%) were not aware.

DISCUSSION

Our study population were mostly teen age and young adults and females, and it is consistent with the studies carried out at Britain and Brazil, which suggest most of those who wish for and needs orthodontic treatment are in the age range of 18 years⁷. Similar results were found in another study¹⁵, that were (74.1%) women, mostly in the range of 18-21 years. The results are similar to our study and the reason is that, at this age the effects of friends and family, bullying, media portraying beauty and the urge to look nice and pretty is much more than at any other age.

Literature search has also shown that most of the adults opting for orthodontic treatment are females referred by their family dentist¹⁵. On the contrary, most of our subjects were females, most of these (49.5%) have self reported the problem but in contrast to other studies^{15,16} only about (5%) were referred by the dentist. The reason, our study was carried out in a public hospital and most of the people visiting were from middle and lower socioeconomic classes, who do not have and can't afford a family dentist and to that matter visit a hospital when they are in dire need for cost-effective treatment.

In this study parents role for noticing the irregularity in teeth is 20% as mothers are more involved in this respect. Earlier studies revealed that the effect of parents is helpful to encourage their children, and usually it is the parents who want them to look good and generally mothers are a leading factor for child's motivation^{17,18,19}.

There is increasing evidence from studies carried out in United States and Europe, in recent years about the adolescents and adults seeking corrective therapy for irregularities of teeth. This is because the knowledge about orthodontic treatment its pleasing and encouraging results has increased many folds²⁰. According to a study carried out at Brazil²¹ about 30% of the subjects' knowledge about orthodontic treatment

increased with age and the reason for no treatment at young age was mostly the financial constraints. And this is very similar to our study as the people seeking treatment are mostly young adults and belong to middle socioeconomic background. As the study is done in a teaching hospital most of those seeking treatment are from urban areas, educated with high awareness level and well motivated for different reasons. The main factors for motivation were to enhance facial appearance, self esteem, oro-dental health, correct speech and bite, social concerns and bullying by friends and family. Literature also suggest that the major motive behind young adults seeking orthodontic treatment is their displeasure and frustration with their facial and dental aesthetics^{22,23,24}.

A study conducted at Wenzhou Medical University, China²⁴ showed that both internal and external motivation factors are necessary for the decision to undergo orthodontic management. Protruding teeth were the main esthetic problem in females, leading to malocclusion and dysfunction (difficult chewing) also. But most females in this study do not consider the function of teeth more important rather they give importance to beauty only²⁵. In the same study the manners and opinion of their friends have a great impact on the study subjects and the same is true for our study, where the family and friends have been influential in seeking treatment. In a study conducted at South Bahia University²⁶ the main reason in 90% of the study population was esthetics, followed by occlusal disturbances and TMJ pain. Contrary to our results, in 66.7% of subjects the main reason was occlusal deviation and problematic biting and chewing^{26,27}. The reason behind this was that the study subjects were highly educated and they were well aware of the effects of malocclusion on their overall health. Better facial and dental esthetics plays an essential role for finding better jobs and social contacts²⁸. This is one of the reasons why educated people opt for orthodontic treatment as 82% of our study population is educated. But favoring our results, other studies suggest dental and facial esthetics as the chief reason in seeking orthodontic treatment²¹.

According to our results, the orthodontic treatment was suggested by a dentist (5%) while others were influenced by the recommendations of parents, relatives and family while most of them thought about it by themselves. But contrary to our results the study done at city of Goiania, Brazil²¹, 35.5% were recommended

by dentist, 27% self-advised, 22% by an orthodontist and 12% by relatives and friends. The differences are mainly due to a well devised health system where people visit their dentist regularly and act accordingly, while in our setup most of the people don't believe in and have less awareness regarding dental or medical visits for prevention. Others studies^{29,30} have also augmented that most people 66%, who sought treatment in adult age, the major causes were to beautify their smile and looks.

The other reasons for orthodontic treatment, in previous studies were, 15% had problems with chewing, 13.5% had tooth loss leading to empty spaces, 7% had periodontal diseases and 3% had difficulty in speaking²¹. These results are in accordance to our study where 15% desire to improve their dental health while 6.5% wanted to correct their speech and bite. These are some of the main reasons usually in males for seeking treatment other than aesthetics.

CONCLUSIONS

There were two peak ages where they wanted to change their facial appearance more, 14-18 years (44%) and 12-24 years (24%) of age in the teenager and youth adults became more conscious and dissatisfied with their look. It was concluded that apart from other reasons for orthodontic treatment, they were self motivated (49.57%) when they saw their malformed teeth to enhance their facial appearance (52.5%) improve self esteem (26%) and dental health (15%).

RECOMMENDATIONS

Malocclusion and other dental irregularities are a serious problem not only for their esthetic reasons but have many functional consequences as well, which needs to be treated at a younger age as the results of treatment would not be the same as in adults. Only few seek orthodontic treatment at young age as it is very lengthy and expensive treatment and it is not available everywhere. There is a large gap between actual needs for this treatment and its availability. This gap can be removed by providing health education not only regarding common oro-dental health problems but also about dental discrepancies and their treatment. People must be made aware and motivated at all levels to make their lives comfortable by alleviating their anxieties concerning dental and facial esthetics and increasing their future prospects. The government and health department must provide easily affordable

equipment and appliances needed for orthodontic treatment at least in teaching and district head quarter hospitals. The print and electronic media must play a role regarding awareness about the problem and its management. The health department must also conduct screening programs and surveys in schools to increase the number of children to seek orthodontic treatment by providing awareness to the parents and by giving certain incentives in the dental hospitals as well. Utilization of dental services is not proper and resources must be allocated appropriately so that the people will take extra advantage.

REFERENCES

1. Proffit WR, Fields HW, Ackerman JL, Sarver DM. Diagnosis and treatment Planning. Contemporary of Orthodontics. 4th revised color Ed. Canada. Linda Duncan Publisher. 2007.137-264.
2. Gross AM, Samson G, Dierkes M. Factors affecting patients cooperation during orthodontic treatment. Am J Orth.1985; 87(5):392-7.
3. Amoric MP, choukroun MG. Treatment with or without cooperation. orthodontic France. 2002; 73: 429-37.
4. 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; 25:103-5.
5. Buttke TM, Proffit WR. Referring adult patients for orthodontic treatment. J Am Dent Assoc. 1999; 130(1): 73-9.
6. Capelloza Filho L, Braga SA, Cavassan AO, Ozawa TO. Tratamento ortodôntico em adultos: uma abordagem direcionada. Rev Dental Press Ortod Ortop Facial. 2001; 6(5): 63-80.
7. Khan RS, Horrocks EN. A study of adult orthodontic patients and their treatment. Br J Orthod. 1990; 18(3): 183-94.
8. Ong E, Brown RA, Richmond S. "Peer assessment of dental attractiveness," American Journal of Orthodontics and Dentofacial Orthopedics, 2006; 130(2): 163-9.
9. Honn M, Goz G. "The ideal of facial beauty: a review. Journal of Orofacial Orthopedics, 2007; 68(1): 6-16.
10. Helm S, Kreiborg S, Solow B. "Psychosocial implications of malocclusion: a 15-year follow-up study in 30-year-old Danes. American Journal of Orthodontics, 1985; 87(2): 110-8.
11. Nanda SR, Ghosh J. "Facial soft tissue harmony and growth in orthodontic treatment," Seminars in Orthodontics. 1995; 1(2): 67-81.
12. Tung AW, Kiyak HA. "Psychological influences on the timing of orthodontic treatment. American Journal of Orthodontics and Dentofacial Orthopedics. 1998;

- 113(1): 29–39.
13. Shaw WC, Meek SC, Jones DS. “Nicknames, teasing, harassment and the salience of dental features among school children. *British Journal of Orthodontics*, 1980; 7(2): 75-80.
 14. Phillips C, Bennett ME, Broder HL. Dentofacial disharmony: psychological status of patients seeking treatment consultation. *The Angle Orthodontist*, 1998; 68(6): 547–56.
 15. Natrass C, Sandy JR. Adult orthodontics: a review. *Br J Orthod*. 1995;22(4):331-7.
 16. Bennett ME, Tulloch JF. Understanding orthodontic treatment satisfaction from the patients’ perspective: a qualitative approach. *Clin Orthod Res* 1999; 21(2): 53-61.
 17. Birkeland K, Boe OE, Wisth PJ. Orthodontic concern among 11-year-old children and their parents compared with orthodontic treatment need assessed by index of orthodontic treatment need. *Am J Orthod Dentofacial Orthop* 1996; 110(2):197-205.
 18. Pratelli P, Gelbier S, Gibbons DE. Parental perceptions and attitudes on orthodontic care. *Br J Orthod* 1998; 25: 41-6.
 19. Alves de Souza R, Frutuoso de Oliveira A, Santana Pinheiro SM, Cardoso JP, de Araujo MB. Expectations of orthodontic treatment in adults: the conduct in rthodontist/patient relationship” *Dental Press J.Orthod*. 2013; 18(2): 88-94.
 20. Patrícia Gomide de Souza Andrade OliveiraI; Rubens Rodrigues Tavares; Jairo Curado de Freitas. “Assessment of motivation, expectations and satisfaction of adult patients submitted to orthodontic treatment”, *Dental Press J. Orthod*. 2013; 18(2): 81-7 .
 21. Capelloza Filho L, Braga SA, Cavassan AO, Ozawa TO. Tratamento ortodôntico em adultos: uma abordagem direcionada. *Rev Dental Press Ortod Ortop Facial*. 2001;6(5):63-80.
 22. Carvalho KV, Miguel JAM, Carlini MG. Satisfação dos pacientes submetidos a tratamento ortocirúrgico. *Ortod Gaúch*. 2001; 5(1): 49-56.
 23. Moyers RE. *Ortodontia*. 4ª ed. Rio de Janeiro: Guanabara Koogan; 1999. 482 p.
 24. Tang X, Cai J, Lin B, Yao L, Lin F. “Motivation of adult female patients seeking orthodontic treatment: an application of Q-methodology”. 2015; 9: 249–56.
 25. Hoppenreijts TJ, Hakman EC, van’t Hof MA, Stoelinga PJ, Tuinzing DB, Freihofer HP. Psychologic implications of surgical-orthodontic treatment in patients with anterior open bite. *Int J Adult Orthodon Orthognath Surg*. 1999;14(2):101-12.
 26. Nurminen L, Pietilä T, Vinkka-Puhakka H. Motivation for and satisfaction with orthodontic-surgical treatment: a retrospective study of 28 patients. *Eur J Orthod*. 1999;21(1):79-87.
 27. Vellini-Ferreira F, Monteiro EB. Aspectos psicológicos do tratamento ortodôntico. *Rev Fac Odont*. 1989;1(1):21-8.
 28. Gosney MBE. An investigation some of the factors influencing the desire for orthodontic treatment. *Br J Orthod*. 1986;13(2):87-94.
 29. Hamdan AM. The relationship between patient, parent and clinician perceived need and normative orthodontic treatment need. *Eur J Orthod*. 2004;26(3):265-71.