

Factors Motivating Patients to Undertake Orthodontic Treatment

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ABSTRACT

Aim: To assess various factors which motivate patients to seek orthodontic treatment.

Methods: The cross sectional study was conducted through convenient sampling. A survey was carried out on 200 patients seeking orthodontic treatment at the department of orthodontics, LMDC through a structured questionnaire. SPSS version 20 was used to enter and analyze the data.

Results: Data of 200 patients was collected, out of which 120 were females and 80 males. OHIP-14 was employed to study the reasons for seeking orthodontic treatment. The Questionnaire consisted of questions related to aesthetics, functional and psychological concerns. It was observed that 80% of the cases seek orthodontic treatment for aesthetic improvement. Whereas, the prime concern of 72.5% of the cases was functional and 54.5% of the cases presented to the orthodontic department for psychological requirements.

Conclusion: Majority of the cases visited orthodontic department for aesthetic concerns. This was followed by functional and psychological concerns respectively. Most patients were found to be interested in orthodontic treatment for two different concerns.

Keywords: Aesthetics, Functional concern, Psychological concern, Motivating factors, Orthodontics, Malocclusion

INTRODUCTION

Edward Angle, the father of modern orthodontics, postulated that an ideal occlusion results in a balanced facial profile. He considered maxillary first molar as the key to normal occlusion, and proposed that normal occlusion is characterized by class I molar and canine relationship. In addition, the midline of the face should coincide with the line between maxillary and mandibular central incisors. Molars are classified as having class I relationship when the mesio-buccal cusp of the maxillary first molar occludes with the buccal groove of mandibular first molar. Similarly, the cusp tip of the maxillary canine should lie between the mandibular canine and the first premolar to be termed as class I canine relationship¹. Any deviation from the above mentioned indicators of normal occlusion is considered as malocclusion. Gender, age, intellectual level, social class, psychological factors, severity of malocclusion, dental care and self perception of facial esthetics are found to be associated with the desire to seek orthodontic treatment².

Reasons and factors which influence orthodontic treatment cannot be ignored. Although the major impact of malocclusion is on the aesthetics, it can also affect the psychological and functional well being of the individual. Social and psychological impact of malocclusion can either be noticed by the patient himself or by other people resulting in low self-esteem, bullying experiences and dissatisfaction of appearance. Self-confidence and higher self esteem are expressed by the people who are satisfied with their teeth³. For this reason, the orthodontic treatment is primarily focused to achieve patient satisfaction and attainment of an occlusion that is able to meet its functional and aesthetic demands.⁴ Social psychology is affected by a number of factors, it includes the physical outlook, self concept and society's social acceptance of individuals. It is a known fact that one of the major constituents of self concept is self esteem. Self esteem can be understood as the sum of one's self worth, self respect and self confidence. The individual's health along with other important factors play a pivotal role in building up one's self confidence and high esteem. Oral health being a fundamental part of general health can also influence the degree of self esteem. All these factors can affect the oral health related quality of life (OHRQoL), and the patient may seek orthodontic treatment to enhance dentofacial aesthetics and gain self confidence⁵.

The measurement of OHRQoL provides not only the treatment need and outcome but also provides the relevant data which can help the health planners, researchers and oral healthcare providers to plan appropriate preventive and management services in the field of Orthodontics⁵. Oral health impact profile (OHIP) is used to assess OHRQoL of the patients and its shortened version, OHIP -14 has been successfully utilized to study the quality of life in patients presenting with malocclusion⁶. An OHIP-14 (Oral Health Impact Profile-14) questionnaire, is the most valid tool to evaluate OHQoL in all the age groups. This questionnaire was filled out in the form of an interview for all the study parts in one session⁶. There is a limited data available on the factors that compel Pakistani patients to undertake orthodontic treatment. Therefore, the purpose of the study is to analyze the factors that motivate members of local community to seek Orthodontic treatment by using OHIP -14.

The results of the study will be utilized to set up a clinical environment with multidisciplinary facilities that should be able to meet diverse requirements of all patients.

MATERIAL & METHODS

This cross sectional study was conducted at the Orthodontic Department of the College of Dentistry, Lahore Medical & Dental College using OHIP-14 after permission from ethical committee. This questionnaire includes questions relating to factors which motivate patients to undertake orthodontic treatment (Table 1). The sample was selected conveniently. 200 patients between the ages of 16 to 31 and were either awaiting orthodontic treatment or undergoing it. The purpose of study was explained to them and participation in the survey was subject to their consent. The questions of the survey were divided into three main groups based on aesthetics, functional & psychological needs. Question number 5,6,10 & 11 were categorized into aesthetic need, question number 1,2,3,4,7,8 were categorized into functional needs and question number 9,12,13,14 were categorized into psychological needs. This survey was based on multiple response questionnaire items and the respondents had the choice to select all possible options that were true for them. The purpose of multiple response questions was to assess the number and combination of treatment needs that were selected instead of assessing the number of patients selecting a given choice. The data was recorded in multiple column schemes. Frequency distribution of factors that motivated patients to undertake orthodontic treatment was calculated using SPSS version 20.

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Table 1: Oral health impact profile-14 (OHIP-14)

1	Have you had trouble pronouncing any words because of problems with your teeth , mouth or denture?
2	Have you felt that your taste of sense has worsened because of problems with your teeth , mouth or denture?
3	Have you had painful aching in your mouth?
4	Have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures?
5	Have you been self conscious because of your teeth, mouth or dentures?
6	Have you felt tense because of problems with your teeth , mouth or denture?
7	Has your diet been unsatisfactory because of problems with your teeth , mouth or denture?
8	Have you had to interrupt meals because of problems with your teeth, mouth or dentures?
9	Have you had found it difficult to relax because of problems with your teeth , mouth or denture?
10	Have you been a bit embarrassed because of problems with your teeth, mouth or denture?
11	Have you been a bit irritable with other people because of problems with your teeth , mouth or denture?
12	Have you had difficulty doing your usual jobs because of problems with your teeth , mouth or denture?
13	Have you felt that life in general was less satisfying because of problems with your teeth, mouth or denture?
14	Have you been totally unable to function because of problems with your teeth , mouth or dentures

RESULT

The study was conducted to assess the perceived needs for seeking orthodontic treatment among patients visiting the orthodontics department. There were 200 patients (120 females & 80 males) with an age range of 16-31 years. The data was transformed and age was recorded into different variables to get the frequency of patients falling from 16-22 and 23-31. It was observed that the majority of males and females patients seeking orthodontic treatment were in the age range of 16-23 (Table 2).

Table 2: Age group, gender and treatment need frequency distribution

Age	Gender		Number of needs		
	F	M	1	2	3
16-23 years	90	62	41	63	48
23-31 years	30	18	10	21	17
Total	120	80	51	84	65

Most females and males visited the orthodontics department for two different needs. This suggests that gender has no relation with the number of concerns a patient may have for seeking orthodontic treatment. Overall, the number of patients seeking treatment for only one need was the least of all. Similarly, patients of both age groups visited the orthodontics department for mostly two different needs. This shows that the increasing age has no influence on the number of reasons for seeking orthodontic treatment.

Table 3: Percentage of responses given for each question related to treatment needs

Treatment need	%age of Cases	Questions	Response
Aesthetics	80%	OHIP 5	77.2%
		OHIP 6	66%
		OHIP 10	65.5%
		OHIP 11	64.5%
Functional	72.5%	OHIP 1	41.4%
		OHIP 2	33.9%
		OHIP 3	48.4%
		OHIP 4	61.3%
		OHIP 7	47.8%
		OHIP 8	47.3%
		OHIP 9	66.3%
Psychological	54.5%	OHIP 12	46.5%
		OHIP 13	53.5%
		OHIP 14	23.3%

Aesthetic, functional & psychological needs were defined as multiple response variables and frequency distribution of multiple

response sets was calculated. It was observed that the major concern of 80% of the cases was aesthetics. Out of 4 questions related to the aesthetic need, question number 5 of OHIP 14 was answered by 77.2% of cases which was about self consciousness. The primary concern of 72.5% of cases was functional, where 61.3% of respondents had difficulty in eating as they chose to opt for OHIP 4. Similarly, 54.5% of the cases had psychological problems and OHIP 13 was selected by maximum cases (Table 3).

DISCUSSION

Malocclusion is not an uncommon oral disorder, although treatment needs and demands vary. In a number of populations, the malalignment of teeth is not considered a serious problem to necessitate orthodontic treatment^{7,8} whereas, in other populations, the need for the treatment of malaligned teeth may increasingly be high^{9,10}. Ever since patients have become more aware about their dental appearance, malocclusion of teeth has become a major issue for many countries. Psychological factors are responsible for the success and failure of the treatment as a result of which the need for the physical and psychological aspects of evaluation in orthodontic treatment is now widely being discussed. There are a vast number of psychological factors affecting treatment needs. One of the factors includes the patients' motivation and ability to handle the pain and discomfort during the Orthodontic treatment. Patients' motivation comes from their own desires as well as peer pressure. Daniels et al carried out a research based on the patient's motivation and reported the key motivational factor to undergo orthodontic treatment to be the esthetic concerns. Other studies have reported different results, with improved smile appearance and the desire to have the teeth aligned as the main factors¹¹. Furthermore, some other factors that encourage treatment include speech problems, bullying and dentist's recommendation. Furthermore, Health has failed to be recognized as a motivational factor for seeking orthodontic treatment. A study was conducted with regard to patients' attitude toward orthodontic treatment, it reported that the patients believed the treatment could improve the quality of life of an individual, it could also ensure a more prosperous and appealing career, and improve the chances of finding a more compatible and romantic partner .Likewise , another study proved that the orthodontic correction of tooth malalignment can offer more opportunities at work, improve their dental health and their social life¹².

Hafeez A and colleagues reported that malocclusion was found to be present in 74.57% of the Malaysian population¹³. Dental malocclusion not only interferes with the dental appearance and normal function but also social life of an individual. Thus, it has a big impact on an individual's social, physical and psychological well-being.¹³ Therefore negative physical, psychological and social impacts of malocclusion and functional problems become some of the major reasons for people to seek orthodontic treatment.

Aesthetic concern: Dento-facial attractiveness is a major determinant of overall physical attractiveness¹⁴. Individuals mainly seek orthodontic treatment with the primary concern of esthetic enhancement and achieving harmony and balance of the oral and facial soft tissues is considered one of the major goals of treatment in the field of orthodontics. Dental aesthetic and glamor is an individual matter, which varies from patient to patient. It may relate to the alignment and orderly arrangement of teeth, color and shape of teeth according to the individual likings, cultural and socio-demographic factors¹⁵. Well aligned teeth also reflect friendliness, intelligence, social class, popularity than others who have malaligned dentition¹⁶. The main motivational factor for undergoing orthodontic treatment in the present study is the improvement of the dental aesthetics. This is especially true for females who are more concerned about their outlook. Out of 200 respondents 80% of the respondents' primary concern to undertake orthodontic treatment was aesthetic concern. Out of the 5 questions related to esthetic concern, OHIP 5 was selected by 77% of the respondents which was about self consciousness. Out of 200 respondents 120

were female respondents; the majority were in the 16-23 age group, and they were mostly self-conscious of their appearance. This result is similar to other studies where females and young adults make the most majority as they are more concerned regarding their dental appearance^{17,18,19}.

Functional concern: Masticatory system defects have a huge impact on various aspects of life in patients. Functional problems also affect the masticatory system. The problems include pain in the temporomandibular joint, toothache, bruxism, or the correct chewing mechanism²¹. Much attention is paid to these functional problems. In the present study 72.5% respondents chose functional problems as the reason to seek orthodontic treatment. OHIP 14 had 6 questions of Functional concern; OHIP1, OHIP2, OHIP3, OHIP4, OHIP7 & OHIP8. Out of these 6 questions OHIP4 was selected by most of the respondents which shows that patients had difficulty in eating and became uncomfortable while having food of their choice. Therefore they opted for orthodontic treatment to correct their malocclusion and enjoy their food. In a similar study functional concern was felt by 36% of the respondents. However, respondents had the option to choose multiple options in the questionnaire so it can be inferred that different respondents may have more than one concern²².

Psychological concern: Psychological concern is also an important factor for patients seeking orthodontic treatment. However, in the current study conducted psychological concern was the least bothering factor for patients seeking orthodontic treatment. 54.5% of the respondents were reported to have psychological needs as one of the reasons to undertake orthodontic treatment. OHIP9, OHIP12, OHIP 13, OHIP14 were related to psychological concern. Out of these OHIP9 was selected by most of the respondents which states that respondents found it difficult to relax.

CONCLUSION

- Most patients seek orthodontic treatment for two different concerns.
- Gender and age has no relation with the number of concerns for seeking orthodontic treatment.
- Aesthetic concern is the most frequent reason for seeking orthodontic treatment. This is followed by functional and psychological concerns respectively.

Conflict of interest: Nil

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