

Patient, Parental Motivations and Preferences in the Process of Choosing an Orthodontic Treatment



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OBJECTIVES: This study aimed to assess motivational factors and treatment preferences of seeking orthodontic treatment among orthodontic patients and their parents.

METHODOLOGY: This cross-sectional survey was conducted on the sample of 350 orthodontic patients along with their parents (n=350), collected from Orthodontic department of Dow university of health sciences via Convenience sampling technique. The study involved new orthodontic patients aged 7-17 and parents with the age 41-45 years. A structured questionnaire recorded responses of participant and parent regarding their motives to go for orthodontic treatment, decision-making process and treatment preferences of the patient.

RESULT: The sample consisted of female participants more than males (n=233/177). The highest percentage of age group recorded was 10-12 years in orthodontic patients and 41-45 years in parents. Approximately 74.5% of female patients were more likely to seek orthodontic treatment for esthetic reasons (n=105), whereas 49.0% of male patients had functional concerns (n=48) and 34.9% of participant parents were mostly concerned with the growth of their children (n=122). Female patients experienced higher parental influence than male patients, but this declined with age (p-value < 0.001). Concerning about the treatment preferences, both participants preferred clear aligners as the appliance of choice for orthodontic treatment. No significant difference was noted in terms of age and gender of patients when it comes to their treatment preferences (p-value 0.002 and 0.54 respectively).

CONCLUSION: The study concluded that motivating factors for female and male were esthetic and functional concerns respectively and aligner was considered or selected as the appliance of choice by patients and their parents.

KEYWORDS: Motivating factors, esthetics, orthodontics treatment, patient preferences.

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INTRODUCTION

A number of key factors including skeletal and functional developmental differences may result in the malocclusion emerging rational for the need of orthodontic treatment. Furthermore, the orthodontist should take in account the perceived psychological aspect

of facial esthetic and self-esteem of the individual with malocclusion.¹ The orthodontist needs to ascertain the main reason for seeking orthodontic treatment prior to treatment. There is a greater likelihood of a mutually satisfying outcome when this first step is taken. It has been discovered that patient motivation is a dynamic determinant of their engagement throughout the treatment which affirm the evidence that patient cooperation is crucial to the prompt and effective completion of orthodontic therapy.² Their participation has a major impact on how long the patient has to wear orthodontic appliances. The motivating factor directs the orthodontist how to approach the patient effectively and encourage the patient for cooperation during the treatment as both are interlinked and needed for the desired outcome

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of the treatment.³

The predicting factors influencing the desire of patient and their parent can be broadly categorized into esthetic, functional and social motives.⁴ On the top of the driving factors is the facial appearance (esthetic motive). Functional concerns that motivate the patient for the treatment are speech difficulties, chewing difficulties and pain in the temporomandibular joint. Among the social motives are social interactions, peer pressure, self-esteem, and issues related to one's professional career. Parental desire and recommendation from general dentist come under the umbrella of social motives. The involvement of parents or guardian is reported as a significant determinant for decision - making of orthodontic treatment whereas some studies suggested it as a strong factor for motivation of the patients.⁵ It has been stated that the concerns shown by parents are more likely to stem from the hope to conform their child to their and society ideals of facial beauty. Moreover, orthodontist can expect high patient's compliance with the help of parents. It is strongly believed that in contrast with the developed nations where children can freely make their own decision while in third world countries like in Pakistan, parents heavily influenced their child's health choices.⁶

The engagement of the patient and demand for orthodontic treatment have significantly increased over the past two decades. This shift is attributed to higher social acceptance, peer pressure, and bullying of the child. It is noteworthy that a "bio-psycho-social" approach that considers patients' subjective experiences and psychological problems is gradually replacing the present medical paradigm.⁷

Additionally, there is a noticeable growing trend to enhance patients' psychosocial status and quality of life. Therefore, it is generally acknowledged that orthodontic treatments should provide good psychological outcomes, such as increased self-esteem and improved emotional and social well-being, in addition to correcting any deviations from the ideal or normal occlusion (malocclusions).⁸

The advancement in esthetic appliances have expanded and continuous orthodontic awareness and advertisements make the choices difficult for the patients.⁹ Treatment preferences must be assessed before the commencement of the treatment planning by the orthodontist. In the comparison of conventional metallic buccal brackets, clear aligner, ceramic brackets and lingual brackets are available in the market.

The clear aligners are currently established as the most popular option, whereas some of the patients still appreciate the ceramic and the lingual braces. Assessing patient preference can be challenging because of both external and internal subjective factors influences, such as treatment-related beliefs, attitudes, and past experiences. Moreover,

some studies revealed that patients are more likely to accept appliance that they believe to be more esthetically pleasing.^{2,8,9} However, it's quite likely that their decisions are also influenced by other factors. Furthermore, recommendations given by orthodontists may be skewed due to their personal preferences and experience with particular devices, and they may not have given patients all the facts on the benefits and drawbacks of each alternative.¹⁰

It is essential to comprehend the motive of the patient for receiving the orthodontic treatment to set the realistic goals of the therapy. The subjective influence of the treatment choices may reflect in accomplishment of timely and effective orthodontic treatment. The gap originated because of the changing society norms make rationale for the need of this said study. As society norms are constantly changing, there was a need to conduct a study that would assess current preferences of patients as well as their parents regarding orthodontic treatment.

METHODOLOGY

The study was a cross-sectional survey based on validated questionnaire. The sample size was calculated using Openepi software. With a 95% confidence interval, 80% power, and a 5% of level of significance with the reference of study by Wedrychowska-Szulc B et. al.¹¹ the sample size was calculated 245; however, total collected sample was 350. This increased in sample size was done in order to compensate for any missing data. The sample size was attained separately for patients and their parents hence total seven hundred patient and parents were interviewed. Non- probability Convenience sampling technique was used to achieve the desired sample size. This study was completed in the accordance of Institute of Research Ethical Committee of Dow University of Medical and Health Sciences (Ref: IRB-3510/DUHS/Approval/2024/186). The inclusion criteria was new orthodontic patient aged 7-17 who were willing to participate in the study. The inclusion criteria for parents were whose children were new orthodontic patient. The exclusion criteria was patients with completed or ongoing orthodontic treatment, genetic syndromes or craniofacial abnormalities, any neurological or psychiatric disorder and any systemic conditions. Patients with cognitive impairments, as well as those with articulation or speech difficulties, were eliminated.

The data was collected from orthodontic department of Dr. Ishrat ul Ebad Khan Institute of Oral Health Sciences (DIKIOHS) Dow University of health sciences, in between July 2024 and November 2024. Written informed consent was taken from the parents prior to initiation of the study. The questionnaire was adopted from previous study and modified according to the objectives of the study.^{5,11} The

patients and parents were interviewed via structured questionnaire that consisted of three sections. Section one recorded the responses of the participant regarding their motives to go for orthodontic treatment. Section two contained questions about the decision-making process and the last section was about the treatment preferences. The questionnaire for parents contained the same above-mentioned sections. Translators were supposed to be used in case of any language barrier.

RESULTS

Table 1 summarizes age and gender distribution of the study participants. More females sought orthodontic treatment than males (n=233/177). The greatest percentages of male

Table 1: Demographic Details and Motives of the Respondents to seek orthodontic treatment

Age of Patients (years)	Gender of Patients n (%)		Total
	Male	Female	
8-9	36 (30.8)	51 (30.8)	87 (24.9)
10-12	58 (49.6)	132 (56.7)	190 (54.3)
13-15	23 (19.7)	50 (21.5)	73 (20.9)
Motives of Patients to seek Orthodontic treatment			
Esthetic motives	36 (25.5%)	105 (74.5%)	141 (40.3%)
Functional motives	48 (49.0%)	50 (51.0%)	98 (28%)
Social motives	33 (29.7%)	78 (70.3%)	111 (31.7%)
Motives of Parents to seek Orthodontic treatment			
To enhance my child's appearance	96 (27.4%)		
Functional concerns	17 (4.9%)		
Growth concerns	122 (34.9%)		
Peer pressure	44 (12.6%)		
Career concerns	71 (20.3%)		

and females participants presenting for orthodontic treatment were 10-12 years age group. The parents of age group 41-45 years were mostly reported in our sample.

Among the study participants female patients were more likely to seek orthodontic treatment for esthetic purpose while male patients had functional concerns. The participant parents were concerned predominantly more about growth of their children (Table 2). Responses of esthetic motives demonstrated that both gender wanted to enhance their appearance. Among the functional motives, both gender felt difficulties in speaking and eating. While social motives among female participants was mostly their parent wanted them to be treated and the reason behind to seek the

Table 2: Responses of decision-making process among patients and parents compared in age groups of the patients (n=350)

Age (years)	Parents only n (%)	Both Parents & Patients n (%)	p-value
8-9	138 (32.9)	36 (12.9)	<0.001
10-12	192 (50.5)	188 (49.5)	
13-15	23 (15.8)	123 (84.2)	
Total	353 (50.4)	347 (40.6)	
p-value calculated using χ^2 for categorical variables			

orthodontic treatment was parent pressure, on the other hand, male participants concerned about bullying regarding their appearance. Parent influence was seen more among female patients as compared to male.

Table 3 summarized responses of patients and parents participants regarding decision-making process. The patient participants were divided into age groups to assess the effect of parents on the decision making process. It was reported

Table 3: Responses of treatment preferences among patients compared in age and gender of the patients (n=350)

Age (years)	Aligners n (%)	Ceramic Braces n (%)	p-value
8-9	62 (73.1)	25 (28.7)	0.002
10-12	157 (82.6)	33 (17.4)	
13-15	68 (93.2)	5 (6.8)	
Total	287 (82.0)	63 (18.0)	
Gender			
Male	98 (83.8)	19 (16.2)	0.54
Female	189 (81.1)	44 (18.9)	
Total	287 (82.0)	62 (18.0)	
p-value calculated using χ^2 for categorical variables			

that parent influence was more pronounced in female participants while it diminished among the participants as age increased (p-value<0.001). The treatment choices of the patients predominately highlighted clear aligner across the age-wise and gender-wise distribution. The p-value of 0.002 indicated a statistically significant difference in the treatment choices among the age group. However, conversely, when it was compared by gender of participants, a p-value of 0.54 suggested no statistical difference in the treatment choices. Further, the result was the same for patient and parent preferences. Ceramic and lingual braces were selected by 144(20.6%) and 42(6%) research participants, respectively.

DISCUSSION

This qualitative study aimed to gain a better understanding of patient and their parent's motives for seeking orthodontic treatment and treatment choices. In general, dental esthetic and functional improvement were the topmost prospects

regarding orthodontic treatment outcomes. Psychological aspects, social norms and external influences have become more prominent motivating factors nowadays. It is imperative to state that patient participation has been demonstrated to be an important component in the timely and effective outcome of orthodontic treatment. The lengthy duration of orthodontic treatment significantly affect the compliance of patient throughout the treatment and in turn outcomes of the treatment. All of the individuals in this study were visiting the orthodontist for the first time to seek orthodontic treatment. Thus, the majority of their motivations derived from their internal driving force and were based on current knowledge or information, regardless of the source. Across all age groups in this study, females were more likely to receive orthodontic treatment than males. This gender distinction is noticeable, with 66.6% of females in sample, probably due to better appealing demands, cultural and societal pressure targeting more towards women's physical beauty and openness to treatment among this gender. This is in accordance with the studies which also reported the majority of the females sought the orthodontic treatment.^{3,11,12,13,14}

A notable data feature was that 54.3% of the sample was in between the age of 10-12 reported seeking orthodontic treatment, indicating a cultural norm of adopting these treatments early in life, presumably due to the increasing priority put on dental alignment and esthetics throughout formative years of the life. This age group's participation indicates a larger societal wellness approach, in which orthodontic treatment is part of personal and social growth. Many studies showed similar findings across the world regarding demographic of the patients seeking orthodontic treatment.¹⁵

According to the finding of the study, female patient reported esthetic as the primary motivating factor for seeking orthodontic treatment whereas primary motivation for male patients was functional aspects. Majority of the studies demonstrated dental esthetic and facial attractiveness were undoubtedly the concerns to seek orthodontic treatment by both gender.^{16,17,18}

Parental motives play significant role in the taking up orthodontic treatment and continue with the compliance of the patients. Parents in our study were more inclined towards the growth concern of their children (34.9%). This result, however, contradicts the findings of studies that mentioned the enhancement of the facial esthetic as primary concern to seek orthodontic treatment.^{19,20} The finding of the current study supported the increased awareness and concerns of the parents about their child's oral health. The contemporary parents are fully aware of that early intervention can take advantage of this growth period to fix these issues effectively and quickly, potentially reducing the need for complex

procedures in the future. This finding is furthermore corroborated by age of the participants seeking orthodontic treatment in our sample, highlighting the concerns of their parents. Another reason could be the anxiety of being blamed that they neglected their parental duties and growth issues of their child.

It was reported in our study that as the age of the patient increased, the parental influence on the decision-making process decreased. Mahajan M. and Wedrychowska-Szulc B et.al concurred similar finding of decreased influence of parents with increasing age of the patient.^{11,17} Similarly, it was reported that in the preadolescent age, the most important predictor for making orthodontic treatment decision was parental influence while adolescents (61%) more frequently quantified decision by their own.²¹

Interestingly, females were more under influence of their parents while taking decision for orthodontic treatment. This could attributed to the cultural norms, family dynamics and individual personality traits. Parents typically play a crucial role in healthcare decisions for their children, but the level of influence can vary based on gender, with female children being receptive to parental guidance.

Patient and parents in our study both preferred Aligner for treatment. The results of these studies reported in the same line of the results reported by the said study.^{22,23}

This study conducted an in-depth qualitative analysis, enrolling a sufficiently diverse sample to provide a thorough record of orthodontic patient motivation and preferences of orthodontic treatment. The findings may be valuable for orthodontic practitioners who want to include clinical and patient-centered outcomes as concurrent therapy goals. However, generalizations for the other populations are not appropriate because the data presented here were acquired using a qualitative methodological approach. Furthermore, our findings and conclusions were based on interviews with patients at a single academic center, with minimal treatment expenses involved, hence economic factor that may have impact on decision making process is not addressed. Most patients appear to come from middle or low-income socioeconomic backgrounds especially in this setting, which may possibly overestimate their drive. Parents were permitted to accompany patients during their interviews, as requested. Although this allowed some people to express themselves freely but it may have inhibited others' spontaneity. We feel that because respondents were questioned confidentially about the presence of their parents before the interview, this problem had no detrimental impact on the quality and diversity of our findings. Parents with any previous experiences of orthodontic treatment (self / observed in family or peer) were not part of this study that may impact the motivation factor and treatment choices, in addition to

the limitation arising by the self-administered questionnaire approach. However, all measures were taken to reduce response bias, including the presence of data collectors to help participants, and the questionnaire could not be submitted unless all items were answered.

CONCLUSION

This questionnaire based study concluded that the most common motivation to seek treatment for girls was esthetic, for boys was functional benefits and for parents was growth issues. The parental influence was strongly observed in female participants than in males but decreased with age. Both parents and patients preferred clear aligner as the appliance of choice for orthodontic treatment.

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CONFLICT OF INTEREST

No conflict of interest.

REFERENCES

1. Nobre R, Pozza DH. Parental influence in orthodontic treatment: a systematic review. *Medicine and Pharmacy Reports*. 2023;96:28-34.
<https://doi.org/10.15386/mpr-2415>
2. Ernest MA, Adegbite K, Yemitan T, Adeniran A. Orthodontic treatment motivation and cooperation: A cross-sectional analysis of adolescent patients' and parents' responses. *Journal of orthodontic science*. 2019;8.
https://doi.org/10.4103/jos.JOS_36_17
3. Felemban OM, Alharabi NT, Alamoudi RA, Alturki GA, Helal NM. Factors influencing the desire for orthodontic treatment among patients and parents in Saudi Arabia: A cross-sectional study. *Journal of Orthodontic Science*. 2022;11.
https://doi.org/10.4103/jos.jos_181_21
4. Prabakaran R, Seymour S, Moles DR, Cunningham SJ. Motivation for orthodontic treatment investigated with Q-methodology: patients' and parents' perspectives. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2012;142:213-20.
<https://doi.org/10.1016/j.ajodo.2012.03.026>
5. Geoghegan F, Birjandi AA, Machado Xavier G, DiBiase AT. Motivation, expectations and understanding of patients and their

parents seeking orthodontic treatment in specialist practice. *J orthodontics*. 2019;46:46-50.

<https://doi.org/10.1177/1465312518820330>

6. Prado LH, Previato K, Delgado RZ, Nelson Filho P, Segato RA, Matsumoto MA, Feres MF. Adolescents' perception of malocclusion, their motivations, and expectations concerning the orthodontic treatment. Is it all about attractiveness? A qualitative study. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2022;161:e345-52.
<https://doi.org/10.1016/j.ajodo.2021.10.014>

7. Zhang MJ, Sang YH, Tang ZH. Psychological impact and perceptions of orthodontic treatment of adult patients with different motivations. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2023 Jun 20.

<https://doi.org/10.1016/j.ajodo.2023.05.021>

8. Johal A, Damanhuri SH, Colonio-Salazar F. Adult orthodontics, motivations for treatment, choice, and impact of appliances: A qualitative study. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2024;166:36-49.

<https://doi.org/10.1016/j.ajodo.2024.02.009>

9. Fenton GD, Cazaly MH, Rolland SL, Vernazza CR. Eliciting preferences for adult orthodontic treatment: a discrete choice experiment. *JDR Clinical & Translational Research*. 2022;7:118-26.
<https://doi.org/10.1177/23800844211012670>

10. Marañón-Vásquez GA, da Costa Barreto LS, Pithon MM, Nojima LI, Nojima MD, de Souza Araújo MT, de Souza MM. Reasons influencing the preferences of prospective patients and orthodontists for different orthodontic appliances. *Korean Journal of Orthodontics*. 2021;51:115-25.

<https://doi.org/10.4041/kjod.2021.51.2.115>

11. Wedrychowska-Szulc B, Syrynska M. Patient and parent motivation for orthodontic treatment-a questionnaire study. *The European Journal of Orthodontics*. 2010;32:447-52.

<https://doi.org/10.1093/ejo/cjp131>

12. Lagorsse A, Gebeile-Chauty S. Does gender make a difference in orthodontics? A literature review. *L'Orthodontie française*. 2018;89:157-68.

<https://doi.org/10.1051/orthodfr/2018011>

13. Pawar O, Joneja P, Choudhary DS. Psychological factors influencing motivation, cooperation, participation, satisfaction, self appraisal, and individual quality of life in adolescents and adults undergoing Orthodontic treatment. *Orthodontic J Nepal*. 2021;11:34-9.

<https://doi.org/10.3126/ojn.v11i1.39078>

14. Khalid H, Shafique A, Ahmad M, Fatima S, Sohail A. Factors Motivating Patients to Undertake Orthodontic Treatment. *Pakistan Journal of Medical & Health Sciences*. 2023;17:69-.
<https://doi.org/10.53350/pjmhs202317669>

15. Hung M, Zakeri G, Su S, Mohajeri A. Profile of orthodontic use across demographics. *Dentistry Journal*. 2023;11:291.
<https://doi.org/10.3390/dj11120291>

16. Oh MH, Park AH, Kim M, Kim EA, Cho JH. Part II. What drives Korean adults to seek orthodontic treatment: Factors contributing to orthodontic treatment decisions. *Korean Journal of Orthodontics*. 2021;51:3-14.
<https://doi.org/10.4041/kjod.2021.51.1.3>
17. Mahajan M. Evaluation of different motivational factors for seeking orthodontic treatment: The patients' and parents' response. *Journal of Dental & Allied Sciences*. 2018;7:55-9.
18. Kouskoura T, Ochsner T, Verna C, Pandis N, Kanavakis G. The effect of orthodontic treatment on facial attractiveness: a systematic review and meta-analysis. *European journal of orthodontics*. 2022;44:636-49.
<https://doi.org/10.1093/ejo/cjac034>
19. Hadidi SA. Reasons for Seeking Orthodontic Treatment in a Jordanian Population. *Smile Dent J*. 2021;16.
20. Tuncer C, Canigur Baybek N, Balos Tuncer B, Ayhan Bani A, Çelik BÜ. How do patients and parents decide for orthodontic treatment-effects of malocclusion, personal expectations, education and media. *J Pediatric Dentistry*. 2015;39:392-9.
<https://doi.org/10.17796/1053-4628-39.4.392>
21. Brumini M, Slaj M, Katic V, Pavlic A, Trinajstić Zrinski M, Spalj S. Parental influence is the most important predictor of child's orthodontic treatment demand in a preadolescent age. *Odontology*. 2020;108:109-16.
<https://doi.org/10.1007/s10266-019-00447-1>
22. Abu-Arquub S, Ahmida A, Da Cunha Godoy L, Kuo CL, Upadhyay M, Yadav S. Insight into clear aligner therapy protocols and preferences among members of the American Association of Orthodontists in the United States and Canada. *The Angle Orthodontist*. 2023;93:417-26.
<https://doi.org/10.2319/101022-694.1>
23. Azaripour A, Weusmann J, Mahmoodi B, Peppas D, Gerhold-Ay A, Van Noorden CJ, Willershausen B. Braces versus Invisalign®: gingival parameters and patients' satisfaction during treatment: a cross-sectional study. *BMC oral health*. 2015;15:1-5.
<https://doi.org/10.1186/s12903-015-0060-4>
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