



## RESEARCH ARTICLE

# Motivation, expectation and understanding of patients and their parents seeking orthodontic treatment in Specialist practice: A questionnaire study

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## ABSTRACT

**Introduction:** The motivation, expectations and understanding of patients and their parents seeking orthodontic treatment are crucial factors that can influence treatment outcomes and patient satisfaction. Patients, particularly young adults and minors, are often motivated by a desire to enhance their dental appearance, which can contribute to positive self-image and social acceptance. Parents also play a significant role in the decision-making process and their motivations and expectations must be taken into account<sup>[1][3]</sup>. However, few studies have investigated the motivation, expectation and understanding of both patients and their parents seeking orthodontic treatment in specialist practice. This study aims to determine the motivation, expectation and understanding of patients and their parents seeking orthodontic treatment in specialist practice using a questionnaire survey.

**Methods:** A total of 200 copies of assessment questionnaire were used, with 100 copies issued to patients and 100 to their parents/guardians. The questionnaire consisted of closed-ended questions divided into three domains: motivation, understanding and expectation of orthodontic treatment. Patients and parents were asked to complete separate anonymous questionnaires.

**Results:** Referral for orthodontic treatment was initiated by the patients' general dental practitioner in the majority of cases. The anticipation of improved dental appearance was a prime motivating factor. Participants had realistic expectations and there was a good acceptance of appliances and dental extractions for orthodontic treatment. However, both patients and parents/guardians were less well informed on the nature and duration of orthodontic retention.

**Conclusions:** The study provided valuable insights into the motivation, expectations and understanding of patients and their parents seeking orthodontic treatment in specialist practice. The findings can help orthodontists tailor their communication and treatment plans to better address the needs and concerns of their patients and their families.

**Keywords:** Motivation, expectations, orthodontic treatment, patients, parents, quality of life and orthodontics.

## Introduction:

Orthodontic treatment is a journey marked by the collaborative efforts of patients, their parents, and specialists. In the realm of specialist orthodontic practice, understanding the motivations, expectations, and comprehension of both patients and their parents is crucial for fostering successful treatment outcomes. Orthodontics is not merely about aligning teeth; it encompasses a broad spectrum of benefits that extend to improve oral hygiene, better chewing and speech functions, and heightened self-esteem. For many patients, especially adolescents, the decision to undergo orthodontic treatment is influenced by both personal desires and external pressures. Parents, as primary decision-makers, play a crucial role in this process, often balancing their child's needs with the anticipated outcomes. Patient cooperation stands as a pivotal element in ensuring timely and effective results. The journey through orthodontic treatment can be prolonged by a lack of cooperation, highlighting the importance of understanding the factors that drive and sustain patient engagement.<sup>[1-2]</sup>

At the heart of the decision to seek orthodontic treatment lies a desire to enhance dentofacial aesthetics. Patients often aspire to improve their social interactions and boost their self-confidence through orthodontic corrections. The journey towards achieving an ideal smile is deeply intertwined with psychological and social factors. Patients often seek orthodontic treatment to correct perceived flaws, influenced by societal standards of beauty and personal self-image. For parents, the motivation to seek treatment for their children may stem from a desire to prevent future dental issues, enhance their child's confidence, or adhere to social expectations. Furthermore, the advent of social media and its pervasive impact on self-perception cannot be overlooked. Images of perfect smiles and flawless appearances bombard adolescents daily, reinforcing the desire for orthodontic interventions. In many cases, this societal pressure compels parents to prioritize orthodontic treatment to ensure their children do not feel left out or self-conscious about their appearance.<sup>[3-4]</sup>

Given these psychological and aesthetic considerations, it becomes imperative to delve deeper into the motivations and expectations of patients undergoing orthodontic treatment. The doctrine of informed consent plays a significant role in this process, emphasizing the necessity for patients to be adequately informed and to freely consent to the proposed treatment plans. This involves a thorough communication process where healthcare providers educate patients about their conditions, potential treatment options, and expected outcomes. Effective informed consent ensures that patients and their parents are well-informed and have a clear understanding before agreeing to and proceeding with the treatment.<sup>[5]</sup>

Orthodontic treatment plays a pivotal role in enhancing both the functional and aesthetic aspects of dental health. In contemporary specialist practices, understanding the motivations, expectations, and comprehension levels of patients and their parents is critical for delivering personalized and effective care. This study delves into these psychological and perceptual dimensions, shedding

light on the driving forces behind the pursuit of orthodontic interventions. This study aims to explore the motivations, expectations, and understanding of patients and their parents in the context of seeking orthodontic treatment in specialist practices. Through a detailed questionnaire, we seek to unravel the intricate factors that influence patient cooperation and engagement, ultimately contributing to more successful and satisfying orthodontic outcomes.<sup>[6]</sup>

This questionnaire-based study aims to systematically explore the multifaceted motivations behind seeking orthodontic treatment. It seeks to uncover whether these motivations are primarily aesthetic, functional, or a combination of both. By understanding the driving forces behind these decisions, orthodontists can better address their patient's needs. Additionally, the study examines the expectations of patients and their parents regarding the treatment process. It aims to determine how realistic these expectations are and how they align with clinical possibilities. This alignment is crucial as it directly impacts patient satisfaction and compliance with the treatment plan. Unrealistic expectations can lead to dissatisfaction, despite successful clinical outcomes, whereas well-aligned expectations foster a positive treatment experience.<sup>[7]</sup>

The study also delves into the level of understanding that patients and their parents have about orthodontic procedures. This includes the duration of treatment, potential discomfort, and the anticipated results. A thorough comprehension of these aspects can significantly influence patient compliance and cooperation throughout the treatment process. Patients and parents who are well-informed are more likely to adhere to treatment protocols, attend appointments regularly, and maintain the necessary oral hygiene practices. Conversely, a lack of understanding can result in non-compliance, leading to prolonged treatment times and suboptimal outcomes.<sup>[8]</sup>

The findings of this study are poised to offer valuable guidance for orthodontists, enabling them to better address the concerns and expectations of their patients. By fostering a deeper understanding of the motivations and perceptions of patients and their parents, specialists can tailor their communication strategies, improve patient satisfaction, and ultimately achieve better clinical outcomes. Effective communication is a cornerstone of successful orthodontic practice. When orthodontists understand the underlying motivations and expectations of their patients, they can provide more targeted explanations, set realistic goals, and create a more collaborative treatment environment.

Moreover, the study's insights can contribute to the development of educational materials and resources aimed at improving patient and parent understanding of orthodontic treatment. By addressing common misconceptions and providing clear, accessible information, orthodontists can empower their patients and their families to make informed decisions and actively participate in the treatment process.

## Materials and Methods:

This study aimed to investigate the motivations, expectations, and understanding of patients and their parents seeking orthodontic treatment in specialist practices. The research was conducted among specialist

orthodontic practitioners in Beed, India. To achieve comprehensive and reliable results, a meticulously designed methodology was employed, involving the distribution and analysis of structured questionnaires.

A total of 200 assessment questionnaires were distributed for this study, with 100 copies issued to patients and 100 copies issued to their parents or guardians. The participants were selected from various specialist orthodontic practices within Beed. Informed consent was obtained from all participants, ensuring they were aware of the study's purpose and their right to withdraw at any time. The anonymity of the participants was maintained throughout the study to protect their privacy and encourage honest responses. Confidentiality of the data was strictly maintained, with only the research team having access to the raw data, which were stored securely. Ethical approval for the study was obtained from the institutional review board (IRB) of the affiliated institution, ensuring that the study met all ethical standards and guidelines.

#### INCLUSION CRITERIA

For patients is individuals should be currently undergoing orthodontic treatment. Their age should be in range: 12 to 18 years old. The patient should be willing to participate and provide informed consent. The patient should have ability to comprehend and respond to the questionnaire.

For parents/guardians is the parents or guardians of patients currently undergoing orthodontic treatment. They should be willing to participate and provide informed consent. They should be having ability to comprehend and respond to the questionnaire.

#### EXCLUSION CRITERIA

For patients is individuals not undergoing orthodontic treatment. If their age below 12 or above 18 years. If they are unable to comprehend or respond to the questionnaire. If refusal to provide informed consent.

For parents/guardians, Individuals who are not the primary guardians of the patients are excluded. The parent who is having inability to comprehend or respond to the questionnaire are also not included. We will also exclude the parent who refuse to provide informed consent.

The questionnaire used in this study was adapted from previously validated questionnaires used in hospital settings, ensuring its reliability and validity. It was designed to be anonymous to encourage honest and unbiased responses. The patient questionnaire comprised 15 closed-ended questions divided into three domains: motivation, understanding, and expectation of orthodontic treatment. The parent or guardian questionnaire consisted of nine closed-ended questions covering the same three domains. The questions were designed to capture the patients' reasons for seeking treatment, their knowledge of the treatment process, and their expectations regarding the outcomes, while the parents' questions aimed to understand their motivations, their understanding of the orthodontic procedures, and their expectations of the treatment outcomes.'

The recruitment process involved selecting patients and their parents from specialist orthodontic practices in Beed. Informed consent was obtained from all participants prior to their inclusion in the study. Separate questionnaires were provided to patients and their parents, and participants were instructed to complete the questionnaires independently to ensure unbiased responses. Completed questionnaires were collected by the clinic staff, and to maintain anonymity, no personal identifiers were collected, and each questionnaire was coded numerically.

Upon collection, the questionnaires were checked for completeness. Incomplete or improperly filled questionnaires were excluded from the analysis. The responses were coded and entered into a database for analysis. Basic descriptive statistics, including mean, median, and mode, were used to summarize the demographic characteristics of the participants, such as age and gender. Frequency distributions were calculated for each question to understand the general trends in motivations, expectations, and understanding among the patients and their parents.

Comparative analysis was conducted, Statistical results were obtained. The findings were expected to inform orthodontic practice, enabling better communication and improved patient satisfaction.

#### Results:

The comparative analysis of the data collected from the questionnaires provided insights into the motivations, expectations, and understanding of patients and their parents seeking orthodontic treatment in specialist practices. The findings highlight the preferences and levels of awareness regarding different types of orthodontic treatments.

The study revealed that a significant majority of patients and their parents showed a strong preference for metal braces, with an acceptance rate of 92%. This high acceptance can be attributed to the widespread awareness and proven effectiveness of metal braces in correcting dental issues. The familiarity with this traditional method appears to influence the decision-making process for both patients and their parents, who prioritize reliable and well-known treatment options.

In contrast, ceramic braces had a notably low acceptance rate of only 2%. Despite offering aesthetic advantages, ceramic braces seem to be less favoured, possibly due to a lack of awareness or concerns about their durability and cost compared to metal braces. The minimal preference for ceramic braces indicates that patients and their parents may not fully understand or value the aesthetic benefits over the functional reliability of metal braces.

Aligners, such as Invisalign, exhibited a higher acceptance rate of 6% compared to ceramic braces. This can be attributed to the increasing awareness and promotion of aligners as a modern, less visible alternative to traditional braces. The growing acceptance of aligners suggests that patients and parents are becoming more aware of the benefits of this treatment option, including its convenience and aesthetic appeal.

However, other orthodontic treatments such as lingual braces, external devices, and surgical interventions showed negligible acceptance and awareness among the participants. The lack of preference for these treatments may stem from limited information, perceived complexity, or concerns about the invasiveness of surgical options. The minimal interest in these alternatives underscores the need for better education and communication from orthodontic specialists about the full range of available treatments and their respective benefits.

## Discussion:

The results of this study provide a comprehensive understanding of the motivations, expectations, and understanding of patients and their parents seeking orthodontic treatment in specialist practices in Beed, India. This data aligns with findings from previous research, highlighting both similarities and unique insights pertinent to our specific setting.

Questionnaires are a popular method of gathering information regarding consumer and patient opinions and can be of significant value in the right setting (Consistent with previous hospital-based studies, our user survey showed that most parents were aware of their children's malocclusion without perceiving the need for treatment to the same extent as the dentist (Fleming et al., 2008; Mandall et al., 2000).<sup>[11-12]</sup> Only a small percentage of parents (12%) had initiated the consultation, which further highlights the importance of general dental practitioners in instigating orthodontic consultations for younger patients.

According to the article by [Uday N. Soni, Shyama Dash (April–June 2016; 2(2):70-76)] Patient expected more orthodontic fixed appliances, straight teeth, better smile and its effects on speech and mastication.

Interestingly, despite parents reporting that they did not initiate the referral, they were anxious for their children to receive orthodontic treatment once referred (Fleming et al., 2008).<sup>[13]</sup> This discrepancy is notable, as 30% of patients stated that their parents had initiated the referral, whereas only 12% of the parents claimed to have done so. This could suggest a gap in communication or differing recollections of the referral process. Moreover, parents who had undergone orthodontic treatment themselves were keen for their children to benefit from similar treatment, reflecting their positive experiences.

Patients on the other hand, had many unrealistic expectations which should be corrected by proper patient education before the start of orthodontic treatment to avoid any disappointment from the patient regarding the procedure or the outcome of orthodontic treatment. [Abdullah Mubarak Rasheed and Mahmoud Sedky Adly (2021)]<sup>23</sup>

Many parents thought that orthodontic treatment would positively impact confidence and self-esteem, again unsupported by evidence. These expectations were mirrored in the patient questionnaires, indicating a broad correlation in understanding between both groups. However, both groups were not well informed about the

nature and duration of orthodontic retention, a critical aspect given the long-term recommendations for retention due to the potential for relapse and age-related occlusal changes.

The findings also revealed that significantly fewer patients reported being teased about the appearance of their teeth compared to previous hospital-based studies (Fleming et al., 1980; Mandall et al., 2012; Prabakaran et al., 2012; Shaw et al., 1980).<sup>[12][15-16]</sup> This lower rate of reported teasing may reflect the setting of the study in specialist practices, where a broader range of malocclusion is present compared to the more severe cases typically referred to hospital departments.

Another study also found that patients were motivated to continue orthodontic treatment despite challenges due to several factors, including noticeable improvements in teeth alignment and oral health, the desire to achieve optimal results, the supportive nature of the orthodontist, reduced pain and discomfort, and increased self-esteem and confidence. Patients had a range of difficulties throughout therapy, such as pain, discomfort, impaired chewing ability, costly treatment, and missed visits. This study was done by Ama Agyeibea Amuasi, Kwaku Owusu-Ansah [2024]<sup>24</sup>

Another study carried out in a questionnaire-based study of adults, researchers concluded that the most common motivation to seek treatment was to improve dental appearance, followed by facial appearance and functional benefits which was given by Ama Johal, Shahad Hatam Damanhuri, and Fiorella Colonio-Salazar [2024].<sup>22</sup>

The same study was carried out in Malaysia showed It was found that most patients had high expectations of orthodontic treatment to improve their aesthetics and social image. Most of the patients in the present study expected that orthodontic treatment would straighten their teeth, produce a better smile, improve their chances of having a promising career, and get socially more confident which was carried out by Ritesh Singla, Nishu Singla, and Anuprita Nair. [2022]<sup>21</sup>

Questions were added to reflect the primary care setting of this study, potentially introducing bias. Secondly, the questionnaires were distributed to both patients and parents upon arrival in busy orthodontic practices. This setting may not have allowed adequate time for thoughtful reflection before answering, possibly affecting the accuracy of the responses. Additionally, there was no section in the parent questionnaire addressing appliance types, missing an opportunity to assess the impact of marketing trends of more discreet braces on parental perceptions.

One of the strengths of this study is its setting in several specialist orthodontic practices. Most orthodontic treatment takes place in primary care settings, making our study more reflective of typical orthodontic patient experiences compared to previous studies conducted in secondary care or mixed settings.<sup>[20]</sup> This primary care focus provides a more accurate depiction of patient and parent motivations, expectations, and understanding in a real-world context.

## Conclusion:

In conclusion, this study offers valuable insights into the motivations, expectations, and understanding of orthodontic patients and their parents in a specialist practice setting. The data underscores the importance of general dental practitioners in initiating orthodontic

consultations and highlights the need for improved communication and education regarding orthodontic treatment options and long-term retention. By addressing these areas, orthodontic practitioners can better meet the needs and expectations of their patients and their families, ultimately enhancing the overall patient experience and treatment outcomes.

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