ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 08 | August - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SMILE EXPECTATIONS: WHAT PATIENTS ENVISION BEFORE ORTHODONTIC TREATMENT

Orthodontics

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ABSTRACT

Study Title: Smile Expectations: What Patients Envision Before Orthodontic Treatment. **Aim:** To assess Patient's expectations of orthodontic treatment at first visit. **Objectives:** The objectives of this questionnaire-based study were to identify and document the expectations patients have before undergoing orthodontic treatment, analyze the factors influencing these expectations, and assess patients' understanding of the treatment process and potential outcomes. **Material And Methods:** The analysis incorporated information from 106 new orthodontics department patients, extracting details about their demographics and aspirations for orthodontic treatment through responses to a thoughtfully designed questionnaire. **RESULT:** The primary reasons for seeking orthodontic treatment were aesthetics (56.6%), bite issues (16%), speech difficulties (4.7%), jaw pain (9.4%). Patients primarily expected improvements in facial aesthetics (51.9%), followed by teeth straightening (21.7%), better bite (12.3%), pain relief (5.7%). Regarding treatment preferences, 64.2% of patients preferred clear aligners, 25.5% favored traditional braces. Patients anticipated their orthodontic treatment to be convenient and efficient (36.8%), supportive and informative (34.9%), thorough and detailed (17%). **Conclusion**: The study reveals that aesthetic improvement, particularly among women and young adults (18-24), drives orthodontic treatment, with a preference for clear aligners, highlighting the need for varied treatments, effective communication, and personalized plans to enhance satisfaction and outcomes.

KEYWORDS

Patients' Expectations, orthodontic treatment, orthodontics, questionnaire

INTRODUCTION

The goal of the dental specialty known as orthodontics is to direct, regulate, and correct the development of dentofacial structures through the application of appropriate pressures and/or the stimulation and rerouting of functional forces within the craniofacial complex.[1,2]

The motivation for orthodontic therapy is the goal of improving dentofacial attractiveness.[3]

Enhancements in social life and self-confidence may also be noticed by patients. There appears to be a correlation between face contentment and self-worth and confidence.[4] These psychological variables emphasize the importance of considering patients' expectations for orthodontic treatment.

According to research by Phillips et al.[5], patients mostly seek orthodontic treatment to address dentofacial disharmony. Compared to men, women typically feel less content with the way their teeth look and think braces are necessary more frequently.[6,7] Compared to children, adults are less content with the way they look.[8]

It is crucial to comprehend what patients anticipate from their orthodontic treatment and how it impacts their quality of life and daily activities. Their frequently unrealistic expectations for care may deter individuals from getting help.[9,10]

Clinicians who are attuned to their patients' expectations can more effectively address reasonable requests and initiate conversations about any unrealistic ones. This awareness allows them to align their treatment plans with what patients hope to achieve, ensuring that realistic goals are set and met. By acknowledging and discussing any unreasonable expectations, clinicians can manage patient expectations, leading to clearer communication and a stronger therapeutic relationship. This proactive approach helps prevent misunderstandings and fosters a collaborative atmosphere where patients feel heard and valued. Consequently, these discussions lead to more productive therapeutic negotiations, enhancing overall patient satisfaction and treatment outcomes. In essence, a clinician's ability to understand and respond to patient expectations plays a crucial role in the success of their practice.[4]

Questionnaires are a popular method of gathering information regarding consumer and patient opinion and in the right setting can be of significant value.[11] In orthodontics, this is particularly applicable as treatment is often patient-driven[12]. Administering the questionnaire electronically reduces transcription errors, ensures mandatory responses, and leverages teens' familiarity with devices, making the process more interactive and enjoyable, thus improving response rates. This study was aimed to examine patients' expectations of orthodontic treatment, prior to their first consultation.

MATERIALS AND METHODS

A cross-sectional study was conducted in Department of Orthodontics and Dentofacial Orthopedics, NIMS University Rajasthan, Jaipur. The information was gathered through the use of a structured interview questionnaire consisting of 20 item delivered by an investigator. The survey's first section inquired about their age, gender, and other demographic information. In the second section, patient data was gathered using the orthodontic treatment expectations questionnaire.

The sample size was calculated using G Power software version 3.1.9.4 keeping an effect size of 0.5, $\alpha = 0.05$, and the power of the study as 0.80. The study comprised of 106 patients visiting the Orthodontics and Dentofacial Orthopedics Department between the ages of 18 and 39 years for seeking orthodontic treatment.

The inclusion criteria were: Patients who are new to the orthodontic consultant clinic with or without their parents and those who have never had orthodontic treatment before; Patients who are between the ages of 18 and 39 years. Excluded patients were those with known mental health issues, impairments, craniofacial defects, or refusal to provide informed permission. The typical time taken for completion of the questionnaire and consent was 5-8 minutes. Since each comment was anonymous, the individual could not be identified. This

explanation was provided in an effort to remove any potential for bias that might develop if respondents believed that their responses would have an impact on any part of their later evaluation and care.

After collecting the data, it was inputted into MS Excel for coding and further statistical analysis. A reliability check of the questionnaire was performed, and a chi-square test was used to determine any statistically significant associations.

RESULTS

A 20-item questionnaire was administered to assess patients' initial expectations about orthodontic treatment. Initially, the questionnaire was piloted on 30 individuals, and its reliability was evaluated using Cronbach's alpha. Following expert review, few questions were modified. Ultimately, the revised questionnaire achieved an acceptable reliability score of 0.74.

The demographic characteristics of the study are given in Table 1 which shows that majority of the participants are female (62.3%) and lie in 18-24 years age group (92.5%).

Table 1 Demographic Characteristics

Demographic Characteristic		N (%)
Gender	Male	39 (36.8%)
	Female	66 (62.3%)
	Prefer not to say	1 (0.9%)
Age group	18-24 years	98 (92.5%)
	25-39 years	8 (7.5%)

Question 5 investigated the main reasons patients sought orthodontic treatment, revealing that 56.6% were motivated by aesthetic concerns. Bite issues were cited by 16%, while 4.7% sought treatment for speech difficulties. Jaw pain or discomfort was the reason for 9.4% of respondents, and 13.2% had other motivations. A chi-square test indicated these results were statistically significant with a p-value of <0.001 (Figure 1).

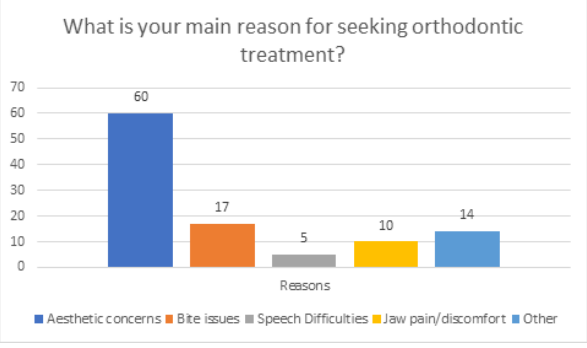

Figure 1

Question 7 examined the outcomes patients expected from orthodontic treatment, with 51.9% prioritizing facial aesthetics improvement. Straightening teeth was the goal for 21.7%, and 12.3% aimed to improve their bite. Resolving pain or discomfort was anticipated by 5.7%, while 8.5% had other expectations. A chi-square test confirmed these results were statistically significant with a p-value of <0.001. (Figure 2)

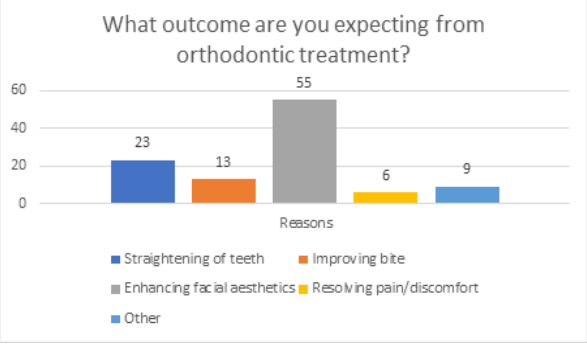

Figure 2

Question 11 assessed patient preferences for traditional braces versus clear aligners, with 64.2% preferring clear aligners and 25.5% favoring traditional braces. Additionally, 10.4% expressed no preference. Statistical analysis via a chi-square test confirmed these findings were highly significant with a p-value of <0.001. (Figure 3)

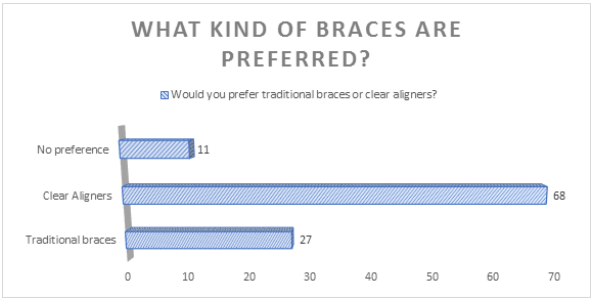

Figure 3

Question 14 investigated how patients valued the duration of orthodontic treatment. Results showed that 40.6% considered treatment duration very important, 20.8% found it moderately important, and 17.9% deemed it important. Equal proportions, 10.4%, indicated it was either not important at all or slightly important. Statistical analysis with a chi-square test confirmed these findings were highly significant, with a p-value of <0.001. (Figure 4)

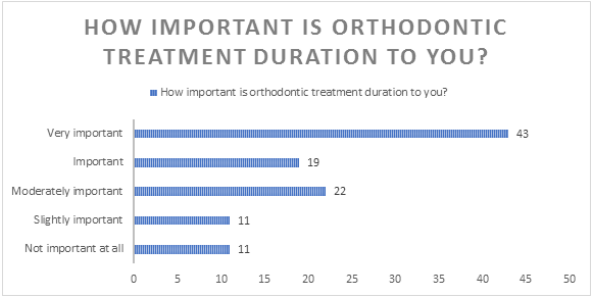

Figure 4

Question 19 of the questionnaire explored patients' anticipated experiences during orthodontic treatment. Results indicated that 36.8% expected it to be convenient and efficient, while 34.9% anticipated a supportive and informative experience. Additionally, 17% looked forward to a thorough and detailed treatment process, and 11.3% had different expectations. Statistical analysis using a chi-square test confirmed these findings were highly significant, with a p-value of <0.001. (Figure 6)

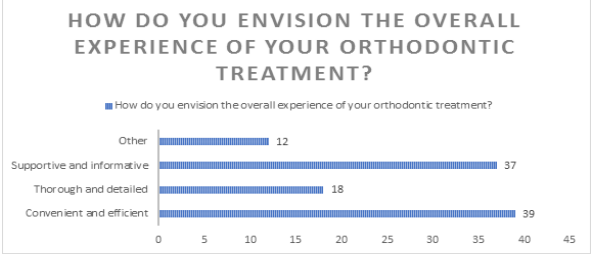

Figure 5

Table 2 depicts the questionnaire responses and their associated frequencies along with the p values calculated using chi square test.

Question	Responses	N (%)	p-value (Chi-square)
Q3 Have you received orthodontic treatment before?	Yes	40 (37.7%)	0.012*
	No	66 (62.3%)	
Q4 How did you hear about orthodontic treatment options?	Dentist referral	50 (47.2%)	<0.001*
	Family or friends	31 (29.2%)	
	Online search	5 (4.7%)	
	Social media	11 (10.4%)	
	Other	9 (8.5%)	

Q5 What is your main reason for seeking orthodontic treatment?	Aesthetic concerns	60 (56.6%)	<0.001*
	Bite issues	17 (16%)	
	Speech difficulties	5 (4.7%)	
	Jaw pain/discomfort	10 (9.4%)	
	Other	14 (13.2%)	
Q6 Which factors are most important to you in choosing an orthodontic provider?	Cost	26 (24.5%)	<0.001*
	Reputation	19 (17.9%)	
	Location	6 (5.7%)	
	Recommendations	22 (20.8%)	
	Insurance coverage	8 (7.5%)	
	Availability of flexible payment plans	15 (14.2%)	
	Other	10 (9.4%)	
Q7 What outcome are you expecting from orthodontic treatment?	Straightening of teeth	23 (21.7%)	<0.001*
	Improving bite	13 (12.3%)	
	Enhancing facial aesthetics	55 (51.9%)	
	Resolving pain/discomfort	6 (5.7%)	
	Other	9 (8.5%)	
Q8 How would you prefer to be informed about your treatment plan?	In-person consultation	71 (67%)	<0.001*
	Printed materials	8 (7.5%)	
	Digital presentations	16 (15.1%)	
	Email communication	6 (5.7%)	
	Other	5 (4.7%)	
Q9 How much information would you like about the treatment process during your first visit?	Detailed information	70 (66%)	<0.001*
	Basic overview	28 (26.4%)	
	Not sure	8 (7.5%)	
Q10 Are you familiar with different types of orthodontic appliances (e.g., metal braces, ceramic braces, Invisalign)?	Yes	77 (72.6%)	<0.001*
	No	13 (12.3%)	
	Somewhat	16 (15.1%)	
Q11 Would you prefer traditional braces or clear aligners?	Traditional Braces	27 (25.5%)	<0.001*
	Clear aligners	68 (64.2%)	
	No preference	11 (10.4%)	
Q12 Are you concerned about the visibility of braces or other orthodontic appliances?	Yes	57 (53.8%)	<0.001*
	No	34 (32.1%)	
	Undecided	15 (14.2%)	
Q13 What role does cost play in your decision to pursue orthodontic treatment?	Major factor	38 (35.8%)	<0.001*
	Moderate factor	48 (45.3%)	
	Minor factor	12 (11.3%)	
	No effect	8 (7.5%)	
Q14 How important is orthodontic treatment duration to you?	Not Important at all	11 (10.4%)	<0.001*
	Slightly Important	11 (10.4%)	
	Moderately Important	22 (20.8%)	
	Important	19 (17.9%)	
	Very Important	43 (40.6%)	
Q15 How concerned are you about potential discomfort during orthodontic treatment?	Not Concerned at all	19 (17.9%)	0.293
	Slightly Concerned	15 (14.2%)	
	Moderately Concerned	26 (24.5%)	
	Concerned	19 (17.9%)	
	Very Concerned	27 (25.5%)	
Q16 How would you rate your current level of knowledge about orthodontic treatment options?	Very knowledgeable	16 (15.1%)	0.025*
	Knowledgeable	22 (20.8%)	
	Somewhat knowledgeable	32 (30.2%)	
	Not very knowledgeable	24 (22.6%)	
	Not at all knowledgeable	12 (11.3%)	
Q17 What is your preferred method of scheduling appointments?	Phone call	48 (45.3%)	<0.001*
	Online portal	23 (21.7%)	
	Mobile app	15 (14.2%)	
	In-person	20 (18.9%)	
Q18 How would you like to receive updates or reminders about your orthodontic appointments?	Email	20 (18.9%)	<0.001*
	Text message	43 (40.6%)	
	Phone call	37 (34.9%)	
	No preference	6 (5.7%)	
Q19 How do you envision the overall experience of your orthodontic treatment?	Convenient and efficient	39 (36.8%)	<0.001*
	Thorough and detailed	18 (17%)	
	Supportive and informative	37 (34.9%)	
	Other	12 (11.3%)	

Question 20 asked about additional information or support patients desired during their orthodontic treatment journey. Most respondents emphasized the need for detailed explanations of the treatment process, including its duration and any potential pain. Other responses included a desire for phone consultations, empathetic and kind doctors, clear treatment plans, visualization of post-treatment changes, and corrections to aesthetics.

DISCUSSION

The study aimed to explore patients' expectations regarding orthodontic treatment before their first consultation, shedding light on the psychological and practical factors influencing their decision to seek treatment. This exploration is pivotal in understanding how these expectations impact patient satisfaction and treatment outcomes.

Many patients' primary motivation for orthodontic treatment is the desire for enhanced dentofacial aesthetics, reflecting the profound influence of facial appearance on self-esteem and social interactions. A majority sought treatment primarily for aesthetic reasons (56.6%) and anticipated improved facial aesthetics (51.9%) as the main treatment outcome, with less emphasis on functional issues like bite problems, speech difficulties, and jaw pain.

Elizabeth Bradley's study found that the main pre-treatment concerns were teeth alignment, embarrassment about smiling, overjet, and unhappiness with teeth, while less common worries included functional issues (speaking, sleeping, eating), oral health, cleaning ability, and missing teeth.[13] Finn Geoghegan's study revealed that concerns about crookedness, sticking out, biting, gaps, and color (in that order) were common, with 12% of respondents reporting teasing due to their teeth.[12]

Our findings indicated a higher inclination among women than men to pursue orthodontic treatment. Most respondents fell within the 18-24 age bracket, demonstrating a demographic keenly attuned to appearance, potentially influenced by societal beauty norms and peer perceptions. Study by Shaw showed growing older was linked to lower dental appearance satisfaction. Girls showed more dissatisfaction than boys (68 % vs 32 %).[6] However, in study by Mutaz H. Shakhatreh both the genders had the same expectation of improved appearance and gain in confidence after orthodontic treatment.[14] Women often need orthodontic treatment as much as men and are equally satisfied with their dental appearance. Older patients anticipate quicker recovery than younger ones and are discontented with expectations unrelated to orthodontic care, while satisfaction with facial body image decreases with age.[8] The hypothesis that females have higher expectations than males was not confirmed.[2]

The preference for clear aligners over traditional braces (64.2% vs. 25.5%) reflects a growing trend towards less visible orthodontic options, driven by patients' concerns about the visibility of orthodontic appliances. Study by Finn Geoghegan shows 24% liked clear braces and 19% metal braces and 18% said the type of brace being offered would affect their decision to undergo treatment.[12]

Regarding treatment duration, a significant portion of respondents considered it very important (40.6%), highlighting the need for clinicians to set realistic timelines and manage patient expectations effectively. Length of active treatment is also supposed to influence co-operation, the longer the treatment the less enthusiastic the patient becomes.[9]

The study found that patients preferred receiving detailed information about their treatment during their first visit (66%) and favored in-

person consultations (67%) for understanding their treatment plans. Effective communication can help manage expectations, alleviate concerns, and enhance the overall patient experience. In the study by R. G. Oliver showed general satisfaction with the pre-treatment level of explanation although clearly some subjects felt they had been misinformed or under-informed.[9]

Study by Finn Geoghegan showed that 77% of cases, the referral was initiated by their dentist. 30% of patients stated that their parents had initiated the referral, whereas only 12% of the parents claimed to have done so.[12]

Orthodontists should understand patients' expectations to address requests, set achievable goals, and enhance satisfaction. Common expectations include improved appearance, confidence to eat and smile, and reduced teasing or bullying.[13] Mutaz H. Shakhatreh's study shows 42.6% of patients expect better teeth appearance, 20.6% seek confidence, 12.6% aim to improve chewing and speech, with lower expectations for smile, psycho-social wellbeing, and habit-breaking.[14] In a study by Bikash Veer Shrestha, the study participants had high expectations to have their teeth straightened, have a better smile, making easier to keep teeth clean and have confidence socially.[15] Özge Celik Güler's study found participants expected orthodontic treatment to straighten teeth, improve their smile and social confidence, ease eating and speaking, enhance cleanliness, with 64.1% believing it would boost career prospects.[16]

CONCLUSION

- Aesthetic improvement is the primary motivator for orthodontic treatment.
- Enhanced aesthetics significantly impact self-esteem and social interactions.
- Women and younger adults (18-24) are more likely to seek treatment due to heightened aesthetic awareness.
- There is a strong preference for clear aligners, indicating a demand for less visible treatment options.
- Varied treatment options and realistic timelines are important.
- Effective communication and detailed pre-treatment information enhance patient satisfaction.
- Understanding patient expectations through personalized plans and clear communication leads to better outcomes and higher satisfaction.

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