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Impact of malocclusion of oral health related quality of life among 13-18 years visiting dental hospital

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Abstract---Malocclusion is one of the most significant factors affecting oral health, and it is significant not only for financial and physical comfort but also for quality of life (QoL) by impairing appearance, interpersonal connections, function, self-confidence, socializing, and psychological well-being. Objectives: This study was piloted to evaluate OHRQoL in children between the ages of 13 and 18 who were seeking orthodontic treatment at Abbottabad International Medical and Dental College, Abbottabad and to determine the relationship between the need for orthodontic management, gender, age and

OHRQoL. Methodology: A descriptive cross-sectional study using a questionnaire was done among 900 young individuals, ages 13 to 18, who visited the department of orthodontics. The OASIS survey was completed by the participants. All patients aged 13 to 18 who reported for treatment at the orthodontic department between January 2023 till June 2023 were included while those having a history of jaw trauma, those who are undergoing orthodontic therapy, and those who have undergone orthodontic treatment were omitted from the study. Conclusion: More over half of the sample as a whole expressed interest in dental aesthetics, Male patients reported higher levels of satisfaction than female patients, which is clearly attributable to our Asian society's character, way of thinking, and misconception that only those will have a groom or bride who has attractive facial features.

Keywords---Malocclusion, Dental appearance satisfaction, OASIS.

Introduction

The idea of Oral Health-Related Quality of Life is similar to how a person's everyday comfort, ability to work, or overall quality of life is affected by a dental ailment or disease.¹ In order to recognize the impact of oral health on phases of daily living in terms of a person's effective, social, and emotional well-being, the OHRQoL concept focuses on patient-focused consequence events.² Malocclusion is one of the most significant factors affecting oral health, and it is significant not only for financial and physical comfort but also for quality of life (QoL) by impairing appearance, interpersonal connections, function, self-confidence, socializing, and psychological well-being.³

Studies on the social, physical, and psychological effects of malocclusion on OHRQoL help to explain the impact of malocclusion on society as a whole and provide greater justification for the need for orthodontic treatment outside the bounds of science.¹ Additionally, OHRQoL can be quantified as the optimum dimension for the management demand and consequence of orthodontic therapy since psychological and social effects are typically the main drivers of seeking orthodontic treatment.⁴ Malocclusion differs from typical dental situations in that it is more of "a set of dental deviations" than a disease, and orthodontic treatment only partly corrects differences from an incorrect model rather than curing the issue.⁵

A person's point of knowing of their malocclusion may not be connected to its severity, and malocclusion might be asserted in various ways by the arrogant.⁶ Therefore, it is crucial to consider the unlike fields that may be overdone and their correlations to the strength of malocclusion while evaluating the effect of a malocclusion. Few people with a Spartan malocclusion are content with or have no issues with their dental aesthetics, while others may worry about minor occlusal irregularities.⁷ Utilizing instruments like the Oral Aesthetic Subjective Impact Scale (OASIS), essential appraisal for orthodontic therapy is traditionally assessed.⁸ Previous studies' conclusions about the bond among malocclusions

and OHRQoL and the effect of orthodontic management on OHRQoL were hazy. A few researchers reported a high correlation between the requirement for orthodontic treatment or malocclusion and OHRQoL, but others found no such correlation.⁹⁻¹¹

This study was piloted to assess OHRQoL in children between the ages of 13 and 18 who were seeking orthodontic treatment at Muhammad Dental College in Mirpurkhas and to determine the relationship between the need for orthodontic treatment, gender, age and OHRQoL.

Methodology

A descriptive cross-sectional study using a questionnaire was done among 900 young individuals, ages 13 to 18, who visited the department of orthodontics. The OASIS survey was completed by the participants. The Institutional Review Board of Abbottabad International Medical and Dental College, Abbottabad granted the study ethical permission. All patients aged 13 to 18 who reported for treatment at the orthodontic department between January 2023 till June 2023 were included while those having a history of jaw trauma, those who are undergoing orthodontic therapy, and those who have undergone orthodontic treatment were omitted from the study.

A novel self-assessment instrument called the Oral Aesthetic Subjective Impact Scale (OASIS)¹² has been used to calculate the need for orthodontic treatment for those who are attentive. It is a consumer-based scale that is based on the socio psychological impact of dental aesthetics. By probing subjects' sensitivities to others and to themselves as well as their past behavior related to the existence of their dental aesthetic, this scale gauges the impact of external influences. The OASIS is made up of five questions that address distresses and self-evaluation of dental aesthetic appearance as well as how dental anomalies negatively impact a person's life and social relationships. Each question is graded on a Likert scale from 1 to 5. Each student was asked five questions, and a score was created based on their responses. The sum of the five items produced a final score that may be between 5 and 25. A patient with a score of 16 or higher is considered to have serious psychological impairment. Scores between 5 and 10 were seen as favorable, 11 to 15, as adequate, and 16 to 25, as having poor psychological well-being. SPSS-22 was used to enter and analyze the data. The chi-square test was used to compare the psychological health of both genders.

Results

320 (35.5%) men and 580 (64.4%) women made up the 900 subjects. The mean age was 15 ± 1.45 years, with 240 (26.7%) people being 13 years old, 222 (24.7%) being 14 years old, 189 (21%) being 15 years old, 140 (15.5%) being 16 years old, 90 (10%) being 17 years old, and 19 (2.1%) being 18 years old (Table 1).

Table 1: Age and Gender

Mean + SD 15 + 1.45 years			
Age	Female	Males	Total
13	170 (29.4%)	70 (21.9%)	240 (26.7%)
14	154 (26.5%)	68 (21.2%)	222 (24.7%)
15	101 (17.4%)	88 (27.5%)	189 (21%)
16	90 (15.5%)	50 (15.6%)	140 (15.5%)
17	50 (8.6%)	40 (12.5%)	90 (10%)
18	15 (2.6%)	4 (1.3%)	19 (2.1%)
Total	580 (100%)	320 (100%)	900 (100%)

A total of 517 (57.4%) of the sample size chose good psychological well-being in relation to their dental aesthetic look, whereas 149 (16.6%) and 234 (26%) chose satisfactory and poor psychological well-being, respectively (Table 2).

Table 2: OASIS Distribution

OASIS	N (%)
Good	517 (57.4%)
Satisfactory	149 (16.6%)
Poor	234 (26%)
Total	900 (100%)

While 89 (59.74%) and 191 (81.62%) of the sample size, respectively, had satisfactory and poor psychological well-being and desired orthodontic treatment, the remaining 300 (58.02%) females had good psychological well-being about their dental appearance and believed they did not need orthodontic treatment. While 60 (40.26%) and 43 (18.37%) males, who had satisfactory and poor psychological well-being about their dental appearance, respectively, desired orthodontic treatment, 217 (41.98%) males who had good psychological well-being about their dental appearance believed they did not require it (Table 3).

Table 3: Gender wise distribution

Gender	OASIS			Total	P value
	Good	Satisfactory	Poor		
Male	217 (41.98%)	60 (40.26%)	43 (18.37%)	320 (100%)	<0.01
Female	300 (58.02%)	89 (59.74%)	191 (81.63%)	580 (100%)	

Discussion

Due to its suggestion in dental care and patient-focused healthcare delivery preferred expansion, self-evaluated dental appearance is rapidly attracting attention. The Likert scale used in the OASIS is thought to subject respondents to very minor cognitive strains. Despite being initially developed for use with kids, it has been tested on adults in several trials. Because of its relevance to dental treatment and preference for patient-oriented healthcare distribution growth, self-assessment dental aesthetic presence is rapidly attracting attention. More than

half of the participants in the current study (57.4%) gave a positive response to their dental aesthetics, which is comparable to the study piloted by Sadia et al.¹³ (72.3%) among dental patients attending the Bacha Khan Medical College. Sakaryali et al.¹⁴ reported data from Turkey (57.3%), and Tajudin et al.¹⁵ observed data from adults in Malaysia (47.2%). Female patients were more worried than males' patients about their look and it was similar to the study conducted by Khan et al.¹⁶ The current study's findings were more significant than those of Ben et al's¹⁷ examination of a diverse sample of Florida adults, Alkhatib et al's¹⁸ observation of British adults between the ages of 16 and 34, and Olkun et al's¹⁹ report on Turkish University students. The result came in close proximity to the findings of Bourne et al¹² who reported a frequency of 240 (66.1%) good psychological well-being, 121 (33.2%) and 2 (0.6%) with satisfactory and poor psychological well-being respectively. He carried out the study on children with a sample size of 367 aged 11–12 years in a Caribbean country, Trinidad and Tobago. In a study by Kolawole et al²⁰, he observed a frequency of 164 (86.8%) good psychological well-being, 14 (7.4%) and 11 (5.8%) with satisfactory and poor psychological well-being respectively. He carried out the study on children with a sample size of 189 undergraduate students in Nigeria.

Most of the scientific literature and research has focused on the prevalence of malocclusion in the patients visiting dental hospitals and we have no data regarding the frequency of malocclusion and its features in the community. This is very unfortunate because in Pakistan not everyone visits dentists or dental hospitals for regular checkup and as orthodontic treatment is expensive including in Govt. hospital not everyone can afford it, malocclusion and its features associated if not treated on time might lead to poor psychological well-being. Primary preventive measures require that people must be informed about the regular checkups. The findings of the present study may be useful for government about the severity of malocclusion and its effect on their psychological well-being in the new generation and how many trained dentists in government set up are required for the treatment of malocclusion as in private hospitals and clinics it is very expensive. There is also a dire lack of information regarding frequency of different types of malocclusion and this study will provide a base to the dentist community.

Conclusion

More over half of the sample as a whole expressed interest in dental aesthetics, Male patients reported higher levels of satisfaction than female patients, which is clearly attributable to our Asian society's character, way of thinking, and misconception that only those will have a groom or bride who has attractive looks. The findings recommend that a well-trained psychiatrist be employed by every school and college to give a lecture to the younger generation and to encourage them to talk about their thoughts and any shortcomings they perceive in themselves.

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