

Original Article

AESTHETIC PERCEPTION OF MALOCCLUSION AND ITS IMPACT ON PSYCHOSOCIAL WELL-BEING OF CHILDREN IN RESPONSE TO BULLYING

Erum Behroz Khan¹, Munir Ahmad², Muhammad Kamran², Ali Hassan Qureshi², Hasina Naz², Tufail Muhammad²

¹Department of Orthodontics, Dow Dental College, DUHS, Karachi

²Department of Orthodontics, Saidu College of Dentistry, Saidu Sharif Swat

ABSTRACT

Objectives: The objective of this study was to evaluate impact of malocclusion on academic performance, self-perception, self-satisfaction and bullying in schoolchildren.

Materials and Methods: This was a cross-sectional study included 110 participants from school children in different demographic areas of Swat, KPK, First the type of malocclusion was assessed in each subject and the questionnaire was used to measure self-perception, self-satisfaction, academic performance and frequency of bullying, with a 95% confidence level and an 8% margin of error.

Results: Statistically significant association was found between malocclusion and level of satisfaction with correlation coefficient 0.629 ($P=0.01$). The frequency of bullying was 36.4% and the negative influence on academic activity was 13.6%.

Conclusion: The present study showed a negative impact of malocclusion on quality of life and self-satisfaction.

Key words: Malocclusion, dental esthetics, quality of life, peer interaction, bullying, self-perception, self-satisfaction, self-esteem.

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INTRODUCTION

Facial and dental esthetics have a crucial impact in shaping an individual's self-image, social interactions and overall quality of life. For orthodontic patients, the esthetic assessment of the dentofacial complex and the evaluation of related psychological effects are of paramount importance. Malocclusion and other dentofacial irregularities in school age children can adversely influence self-esteem and social

confidence, often leading to emotional distress and reduced participation in academic or social activities. Therefore, seeking comprehensive orthodontic care could timely address not only functional and structural corrections needed but also the psychosocial aspects associated with dental appearance¹.

Children's quality of life is profoundly influenced by facial esthetics, with oral esthetics playing a particularly significant role. Impaired dental appearance can lead to adverse physical, social and psychological outcomes. Moreover, children and adolescents with noticeable dental esthetic issues are more vulnerable to bullying and negative peer interactions²⁻⁵.

The purpose of this study was to present and discuss patients who experienced bullying because

Correspondence:

Munir Ahmad

Post Graduate Resident

Department of Orthodontics, Saidu College of Dentistry,
Saidu Sharif Swat

Email: munir.ahmad.15296@gmail.com

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of dental appearances at school and home affecting their persona³.

When a child's Facial appearance is the primary cause of bullying, getting them Esthetic Dental treatment is a vital step in their recovery struggle for Patients' self -esteem, confidence, social image, academic achievements and parental satisfaction with their children's looks significantly improved after receiving dental care. In order to stop aggressive behavior, it is crucial that both family and school care workers are watchful to lookout for bullying².

Notable studies have been done on adults and children in developed countries like Australia, Brazil, China and Jordan, which showed a clear link between different types of malocclusion and its effects over the social lives of individuals⁴⁻⁷. However, from developing countries such as Pakistan there are few evidences as the cultural and social dynamics differ considerably and access to dental care is often limited due to low socioeconomic status, whereas, orthodontic treatment is frequently perceived as a luxury rather than a necessity. Additionally, cultural norms and attitudes toward esthetics may in particular emphasize on dental appearance, potentially heightening the psychological impact of malocclusion. The prevalence of bullying in Pakistani schools, had often been linked to visible differences such as dental irregularities or crookedness further amplifies the importance of understanding this issue within the local context.

Therefore, the aim of this study was to investigate and highlight the effects of malocclusion over the psycho-social well-being of children in response to bullying and its effect on the lifestyle of children in Pakistani society. The Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ) was employed for this purpose⁴.

MATERIALS AND METHODS

The approval of the ethical review board No 52-ERB/023 from the hospital was sought for the study which was conducted at Saidu College of Dentistry, Swat, Pakistan. Prior written consent was obtained from schools authorities to conduct this study and details of the study were communicated, the schools were randomly selected from rural and urban areas of Swat District, KPK. The calculated sample size indicated that it should include 110 subjects in the

study with a 95% confidence level and an 8% margin of error. Students aged 8-14 with ASA level 1 (A normal healthy patient with no systematic disease) were randomly selected by principal investigator (62 males and 48 females) from two schools in different demographic areas of the city. Children with history of prior dental/ esthetic treatments and orofacial clefts were excluded from the study.

The types of malocclusion (increased Proclination, open bite, crossbite, anterior crowding, increased gums show and combination of these) were numbered as 1, 2, 3, 4 and 5 respectively for each subject included in the study.

The Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ) was constructed with some changes according to our demographic based requirements and was given to each student for completion during orientation in presence of the interviewer. In addition to demographic data, the questionnaire also included satisfaction with the appearance of teeth, perceptions of the need for orthodontic treatment and the frequency of bullying they faced.

Statistical Analysis: SPSS version 24 was used to analyze the data. Percentage and frequencies were calculated for qualitative variables like gender and type of malocclusion. Pearson's correlation test was applied to see the association between the subject's esthetic perceptions, their level of satisfaction, frequency of bullying they faced and the influence on their academic activities.

RESULT

A total of 110 subjects were included in the study (58 males and 52 female) with sample including males 52.7% and 47.3% females aged 8-14 (Table 01).

The correlation analysis for the level of satisfaction from teeth appearance and malocclusion resulted in coefficient 0.629. A significant correlation was found between males and females with the influence on their academic activities with coefficient of 0.331

Table 1: Frequency of Malocclusion in Males and Females

		Frequency	Percent
Valid	Male	58	52.7
	Female	52	47.3
	Total	110	100.0

Table 4: Frequency of Bullying

		Frequency	Percent
Missing	Frequently	40	36.4
	some times	43	39.1
	Never	27	24.5
	Total	110	100.0

Table 5: Correlations between type of Malocclusion and level of Satisfaction

		Level of satisfaction	Malocclusion
Missing	Pearson Correlation	1	.629**
	Sig. (2-tailed)		.000
	N	110	48
Malocclusion	Pearson Correlation	.629**	1
	Sig. (2-tailed)	.000	
	N	48	48

** . Correlation is significant at the 0.01 level (2-tailed)

with a P-value 0.01.

The frequency of bullying the subjects faced during one academic session was 36.4% (frequently) 39.1% (occasionally) and 24.5% (who never faced). Table 02

The correlation coefficient between the type of malocclusion and the embarrassment the subject perceived was 0.27 with p value 0.01. (Table 03).

DISCUSSION

People who are being bullied may develop problems with their physical, mental and social health. In the worst cases, they may need medical support

Table 3: Correlations between Embarrassment in Male and Female

	Male or female	Malocclusion	Embarrassment
Correlation Coefficient	1.000	.038	-.672**
Sig. (2-tailed)	.	.796	.000
N	110	48	110
Correlation Coefficient	.038	1.000	.027
Sig. (2-tailed)	.796	.	.857
N	48	48	48
Correlation Coefficient	.	.	.
Sig. (2-tailed)	.	.	.
N	0	0	0
Correlation Coefficient	-.672**	.027	1.000
Sig. (2-tailed)	.000	.857	.
N	110	48	110
Correlation Coefficient	.	.	.
Sig. (2-tailed)	.	.	.
N	0	0	0
Correlation Coefficient	.331**	-.691**	-.173
Sig. (2-tailed)	.000	.000	.070
N	110	48	110

** . Correlation is significant at the 0.01 level (2-tailed)

Table 2: Level of Satisfaction from Teeth Appearance

Male or female	Level of satisfaction	Malocclusion	n	%
Male	satisfied	Anterior crowding	7	43.75%
	to some extent	Anterior crowding	8	50.0%
		complex dentofacial anomaly	1	16.7.0%
	not at all	Anterior crowding	1	6.25.0%
		complex dentofacial anomaly	5	83.3%
Female	satisfied	Anterior crowding	7	38.88%
	to some extent	Anterior crowding	9	50.0%
		complex dentofacial anomaly	3	37.5.0%
	not at all	Anterior crowding	2	11.0%
		complex dentofacial anomaly	5	62.5%

Table 6: Influence on Academic activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very much	15	13.6	13.6	13.6
	to some extent	46	41.8	41.8	55.5
	not at all	49	44.5	44.5	100.0
	Total	110	100.0	100.0	

while severe aggressions can lead to depression or even suicide attempts⁷.

Systematic reviews showed a strong relationship between dental malocclusion or facial form and exposure to bullying, which occurred in 5.7 to 100% of the samples. However, two studies^{13,14} did not show any impact of malocclusion on bullying.

This study focused on the esthetic perception and frequency of bullying and its impact on lifestyle in schoolchildren with facial profile disturbances namely increased proclination, anterior open bite, cross-bite, anterior crowding and complex dentofacial anomalies.

Consistent with previous correlational studies^{8,10} we verified the negative impact of bullying victimization on different perspectives or the total score of life satisfaction.

The result of the present study showed that there was a significant association between the type of malocclusion and the frequency of bullying in children. (Table 04) Bullying was most frequent in children with increased proclination, followed by an anterior crossbite. This showed that male subjects faced bullying more frequently than female colleagues, which was in accordance with the studies done by Alabdulrazzaq¹¹ and al-Omari¹⁵, suggesting that bullying occurs in different forms: nicknames, verbal comments, and racial or sexual abuse.

Dental self-confidence or satisfaction' indicates the level of satisfaction or dissatisfaction with tooth appearance. In the study, the level of satisfaction with dental appearance (16.4% and 32.6%) was much lower in female than male subjects, which was similar to a study by Taibah et al⁹ (17.3% and 31%), but the percentage of dissatisfaction (47.3%) was higher (Table 05). The variation in prevalence can be due to data collection procedures and socio-cultural dissimilarities^{8,9}. The level of dental self-confidence was lowest in children with complex dentofacial anomalies, followed by anterior crossbite and increased proclination and was highest in subjects with

anterior crowding.

The study also indicates a significant correlation between the type of malocclusion and its influence on academic activity in male and female subjects (Table 06) this contradicts the results of a study by Julca-ching et al¹⁰, where schoolchildren did not show an impact on academic achievements due to malocclusion. The possible explanation for this may be due to the severity of malocclusion and the difference between the study environments. In current study, males faced more effects on their academic activities than females in particular with those subjects having increased proclination. Concerning exposure based on gender, some authors found a significant difference especially more boys were victims than girls^{11,14} while others underlined no significant differences^{12,19}. However, differences could be more subtle: Physical attacks are more likely to happen to males than females. It is of particular mention that female are more likely to be victims of more indirect kinds of aggression, which could be underestimated.

Other researchers found that children with normal teeth are thought to be smarter, more attractive and more likely to make friends (Shaw, 1981a; Shaw et al., 1985), while those with a poor appearance are more likely to be teased and bullied⁶.

Although the correlation values were low, the results were statistically significant, which may make us wonder if they were clinically worth considering. However, even with low severity, a malocclusion can have strong psychological implications. Some people may be more prone than others, depending on their response to experiencing psychological discomfort as a result of being teased or bullied; therefore, this might have a significant influence over their mental health.

A positive outcome of bullying could be the encouragement for patients and their parents' to pursue orthodontic consultations¹⁶ and seek motivation to follow the treatments. Therefore, it does influence the expectations concerning orthodontic

treatment^{16,20} or cosmetic treatment. This highlights the importance of patients and parents communication while seeking orthodontic treatment.

These results suggest that the psychological harm of an unaesthetic dental appearance should not be disregarded. Likewise prioritizing orthodontic treatment may benefit from taking esthetic self-evaluation techniques into account.

CONCLUSION

1) Malocclusion can affect the self-esteem of School going children by affecting their Self-perceived facial esthetics and increasing their vulnerability to peer bullying.

2) Dissatisfaction with dental appearance is a strong indicator for low self-confidence.

3) School children with malocclusion may experience peer-related teasing, that may result in adversely affecting their participation and performance in academic activities.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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AUTHORS' CONTRIBUTION

The following authors have made substantial contributions to the manuscript as under:

Conception or Design: EBK, MA, MK, AHQ, HN, TM

Acquisition, Analysis or Interpretation of Data: EBK, MA, MK, AHQ, HN, TM

Manuscript Writing & Approval: EBK, MA, MK, AHQ, HN, TM

All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.



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