



“PSYCHOSOCIAL ASPECTS IN SUBJECTS HAVING MALOCCLUSION–NARRATIVE REVIEW”

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Abstract

Any deviation from the normal dental occlusion is called malocclusion. Malocclusion is considered to be the disease of civilization; its consequence can be categorized into functional abnormalities, structural imbalance, and esthetic disharmony. In today's world of social media, where appearance seems to matter more than the intellect of the person, malocclusion can cause serious psychological disturbances. Individuals suffering from malocclusion might develop negative body image issues, social withdrawal, social anxiety, depression, lack of self-esteem, etc. Dental aesthetics is of great significance in terms of facial appearance. It has been mentioned in several studies the effects of dentofacial appearance on social relationships. Particularly adolescents, they tend to be more concerned about their faces and bodies because they feel the need to present a good physical appearance. This, however, is considered an important personal characteristic. Dental appearance also influences other aspects of life such as social and psychological, and it has concurred that treatment of malocclusion to improve dental appearance can lead to social acceptance, although the extent of this social impact is not clear. The aforementioned manuscript is inclined to decipher the review of the psychological issues faced by the malocclusion patients.

Keywords: Malocclusion, Psychology, Psychological traits, Orthodontics

Introduction

Orthodontics is an art and science dealing with malocclusion and its correction [1]. Although the term and its literary meaning look simple, in reality, there is more to orthodontics than the eyes can meet. Most of the subjects who seek the orthodontic treatment consciously or subconsciously suffer from low self-esteem which may trigger different psychological problems in them. Perception of facial esthetic though subjective is always impaired in cases where the person is suffering from malocclusion [2-8].

In today's world where appearance seems to be everything, people tend to give extra attention to their peer group acceptance than their conscience. And not being part of a crowd or non-acceptance from their peer group or being constantly bullied/teased due to the impaired facial esthetics may trigger different negative psychological traits in these subjects [9-11].

According to World Health Organization (WHO), the age group from 10 to 19 years is referred to as adolescents, a person belonging to the age group of 15 to 24 years is referred to as a youth, and the persons belonging to the age group of 10 to 24 years is referred to as young people [12]. This is considered to be the most important phase of individual life as the person exists the childhood phase and enters the adulthood

phase. .. It is a phase filled with development opportunities and it simultaneously is a threat to an individual's health and well-being. Although the popular belief is adolescence is a carefree age, they have their demons to face, which may range from body image issues to academic achievements, which may create a major setback in their psychological development [13, 14]. And it is the stage where self-esteem is developed [15].

As mentioned before, orthodontics is not merely a branch that deals with the biomechanics of tooth movement; developmental, cognitive, and behavioral psychology are the part and parcel of this branch. It is a proven fact that malocclusion usually affects the self-esteem negatively in an individual. thus it can be an indirect contributor to the development of negative personality traits in adolescents. So, the current review will explore the psychological issues in the subjects seeking orthodontic treatment.

Malocclusion and Low Self Esteem (SE)

Self-esteem is an overall sense of personal value and self-worth. An individual with low self-esteem tend to feel less sure of their abilities and may doubt their decision-making process. Low self-esteem can contribute to or be a symptom of mental health disorders, including anxiety and depression [15]. According to the research by Taibah SM and Al-Hummayani FM, it is seen that low esteem was frequently seen in subjects having anterior teeth spacing, crowding, and increased overjet [2]. Marusamy et al., reported low self-esteem in females with class II malocclusion with deep bite and protrusive lip [16]. Opposite to this when a subject having malocclusion gets the orthodontic treatment done his self-esteem improved significantly [6]. Malocclusion not only affects self-esteem and also affects self-appearance [17]. The reason for self-esteem issues in malocclusion subjects might arise due to the frequent teasing of the teeth by their peer group [6]. Issues related to self-esteem shouldn't be left untreated or unnoticed as they lead to negative self-image resulting in psychological depression [18]. Even association between low self-esteem and low quality of life is reported extensively in the literature [6, 19-21].

Malocclusion and Oral Health-related Quality of Life (OHRQoL) (Table 1)

According to World Health Organization (WHO), health is defined as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organisation, 1946) [22]. In this line, oral health can be defined as “the standard of oral and related tissue health which enables an individual to eat, speak and socialize without active disease, discomfort, or embarrassment, and which contributes to general wellbeing” (Public Health England, 1994) [23]. Thus, good oral health is not only in the absence of oral diseases and dysfunction but also in the quality of life that one leads. However, the domain of health care drifted from a disease-based approach to a patient-based approach in the later years. Quality of life cannot be linked to the mere absence of disease; it is actually broader than that [24]. Accordingly, health-related quality of life (HRQoL) is defined as “a person's assessment of how the following affect his or her well-being: (1) functional factors (2) psychological factors (concerning a person's appearance and self-esteem) (3) social factors (such as interactions with others) and (4) the experience of pain/discomfort”. Similarly, OHRQoL is “the absence of negative effects of oral conditions on social life and a positive sense of dentofacial satisfaction” [25]. Subjects malocclusion often have multiple problems ranging from functional disability to psychosocial issues, these factors add to the quality of life one is leading. . Compromises related to OHRQoL are well documented in the literature with multiple pieces of research on malocclusion, orthodontic treatment, and quality of life [26-33]. Most of the studies have agreed on the point that malocclusion compromises the quality of life and orthodontic treatment can restore the OHRQoL drastically.

Table 1. Relation of malocclusion with Self Concept (SC), Self-Esteem (SE) and OHRQoL

Sl.no	Authors	Journal	Aim	Findings
1.	Phillips et al. ⁸	Angle Orthod 2009	Assessing the association of self-concept and self-perception in case of malocclusion patients.	Self-perception of dental esthetic is directly linked to the self-concept of the individual.
2.	Jung MH. ³⁹	Am J Orthod Dentofacial Orthop. 2010	Assessing the relationship between malocclusion and its treatment on the self-esteem of the adolescent.	Fixed orthodontic treatment and malocclusion can affect the self-esteem of a person.
3.	Talia Gazit-Rappaport et al. ²⁶	European Journal of Orthodontics, 2010	Analyze the effect of orthodontic treatment on the quality of life of a person.	Orthodontic treatment significantly improves the quality of life of a person.
4.	Badran SA. ⁶	Eur J Orthod. 2010	Analyzed the association between the self-perception of malocclusion, orthodontic treatment, and the self-esteem of the subject.	Orthodontic treatment boosts the self-esteem of the subjects and malocclusion can affect the self-esteem of a person negatively.
5.	Seehra et al. ⁴⁵	J Orthod. 2011	Investigated the correlation between the malocclusion, bullying, orthodontic treatment need, self-esteem, and the quality of life in subjects suffering from malocclusion	There was a positive correlation between the malocclusion, bullying, self-esteem and the quality of life of a person.
6.	Evelyne De Baets et al. ²¹	European Journal of Orthodontics, 2012	Investigated the association of orthodontic treatment and the quality of life and self-esteem.	The quality of life and the self-esteem are positively correlated with orthodontic treatment.
7.	Serpil Çokakoğlu et al. ³⁸	Turkish J Orthod 2016	Association between malocclusion and social phobia.	Different types of malocclusion can affect the psychosocial well-being of the subjects.
8.	Araki et al. ³⁰	Int J Environ Res Public Health. 2017	Correlation between oral health quality of life and malocclusion.	Certain types of malocclusion like increased overjet and deep bite affect the quality of life.
9.	Ferrando-Magraner E et al. ⁹	J Clin Exp Dent. 2019	Reviewed the quality of life changes in orthodontically treated subjects.	Quality of life improved drastically in orthodontically treated subjects.
10.	Dallé et al. ⁷	Community Dent Health. 2019	Assessed the predictors related to the quality of life in malocclusion subjects.	Self-esteem, self-perception, and orthodontic treatment were the different predictors of the quality of life of a person suffering from malocclusion.
11.	Marusamy et al. ¹⁶	J Evolution Med Dent Sci 2021	Investigate the level of self-esteem and the quality of life in orthognathic surgical cases.	Certain types of malocclusion like class II, deep bite, and protrusive lips affected the self-esteem and quality of life negatively.
12.	Atik et al. ²⁰	Acta Odontol Scand. 2021	Association of different types of malocclusion with self-esteem, social anxiety, and the criticism scale.	Subjects with Class II and III malocclusion exhibited a positive correlation between appearance and social anxiety, self-esteem, and criticism.

Malocclusion and Self Concept

Self-concept refers to a broad description of oneself [15]. Outwardly it appears that subjects suffering from malocclusion might have reduced self-concept than their normal occlusion counterpart, but the evidence provided by the literature is non-conclusive. The majority of studies report that malocclusion doesn't alter the individual's self-concept status [34-37]. On the other hand, subjects with class III malocclusion exhibited increased anxiety along with social phobia, and their self-concept was also hampered, even the anterior malocclusion subjects also had issues with self-concept [38,39]. Accordingly, the self-perceived dental attractiveness of the subject might be the major predictor of low self-concept scores [40]. Studies also report that anxiety level was higher in female subjects having malocclusion than in their male counterparts [41,42]. It is also interesting to note that class II malocclusion children felt that they were unpopular, not had many friends, and were rarely chosen for school games, but that didn't have an effect on their self-concept. The difference noted in the reporting can be attributed to the difference in the usage of quantifying tools (Table 2).

Table 2. Psychological Trait Measurement Tool in malocclusion Subjects

Sl.No	Psychological Trait Measurement Tool
1.	Visual Analog Scales
2.	DSM III(Diagnostic and Statistical Model of Mental Disorders)
3.	Piers-Harris Self-Concept Scale for Children
4.	Hay's Rating Scale
5.	IOTN-AC, DHC: Index for Orthodontic Treatment Need, Aesthetic Component, Dental Health Component
6.	DOTQ(Demand for Orthodontic Treatment Questionnaire)
7.	Global Negative Self Evaluation- a derivative of the Rosenberg's Self Esteem scale
8.	Rosenberg Self Esteem Scale
9.	Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ)
10.	Dental Aesthetic Index
11.	Oral Aesthetic Subjective Impact Score
12.	Child Perception Questionnaire
13.	Oral Health Impact Profile
14.	Oral Impacts on Daily Performance

Malocclusion and Psychological well being

Bullying is commonly faced by malocclusion subjects. It can be the cause of depression and anxiety, especially in children. Bullying can be defined as a "practice of aggressive behavior or intentional harm to which an individual is repeatedly exposed in a relationship characterized by an imbalance of power" [43]. Verbal bullying is most frequently associated with kids having malocclusion. Usage of nicknames is very popular among children, which usually targets the person's physical characteristics like height, weight, and facial attractiveness [44]. Studies in the past have also reported bullying in malocclusion children [45, 46]. In such kids, it is noticed that multiple factors act as a triggering element. Malocclusion along with other factors like bullying which affects the self-esteem and self-concept of the person might instigate a negative response to the psychological wellbeing of the kids [46, 47]. These effects may be long-lasting and the person affected thus might refrain from going to school or college where he/she feels unsafe and anxious, which in turn may negatively affect their academic performance [48, 49]. Often the victims of bullying feel lonely and depressed owing to the factors discussed in this section [11, 50].

Depression is a psychological disease that is associated with a lowering of a person's mood. Literature is explicit about the signs of depression in malocclusion patients. Anxiety and depression are the most common stress-related disorders [51]. Malocclusion affects the daily performance of the subjects which can increase the psychological stress and thus the signs of depression [52,53]. Nevertheless, underlying factors like parenting traits and promotion of adolescents social skills also play major role in determination of psychological traits in malocclusion subjects [54, 55]. These psychological traits are deep rooted and may even influence the career choice of the subjects [56]. High prevalence of malocclusion and its multifactorial nature warrants the need of assessing the underlying the psychological traits at an early age [57].

Conclusion

Although the literature related to psychosocial issues is extensive, the impact of malocclusion on the psychosocial aspects still remains controversial. Nonetheless, malocclusion if is responsible for any psycho-social issue, should not be ignored as psychological disorders are hard to diagnose, but are hard to treat. It is also recommended to follow the model of World Health Organization World Mental Health International College Student (WMH-ICS), where prevention and early intervention of mental health is done through web based surveys amongst the youngsters [58].

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