



## **Psychological aspects related to malocclusion- A review**

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### **ABSTRACT**

*Patients with malocclusion often are at increased risk of poor self-esteem and social anxiety. The knowledge of child and adult psychology is important to understand the orthodontic patient's better. Orthodontist plays active role, not only in treating malocclusion but also as psychologist or counsellor as they attend patients on recurrent basis, often during the important years of psychological development. This article subsumed the psychological trauma related to different malocclusion and various factors affecting treatment outcome like treatment decision, time, compliance & motivation in adolescence and preadolescence stage.*

**Keywords:** *Psychology, esthetic, malocclusion, self-concept.*

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### **INTRODUCTION**

Psychology is the branch of science which is concerned with human mind and behaviour. It includes the study of conscious and unconscious phenomenon, including feelings and thoughts. Dialectic psychology is the concept concerning about an individual's actions and reactions in a social situations and it plays a significant role in modern orthodontics. Although Malocclusion is a physical defect or abnormality but it can have a deep impact on the patients, psychologically[1].It can affect physical, psychological functioning and social development of an individual collectively known as oral health related quality of life, therefore play an major part in social acceptance and interaction. As most of the orthodontic patients are in preadolescence and adolescence stage who are under a great effect of peer and surrounding environment so, the knowledge of various aspects of child and adult psychology is mandatory for a good orthodontist and patient interaction.

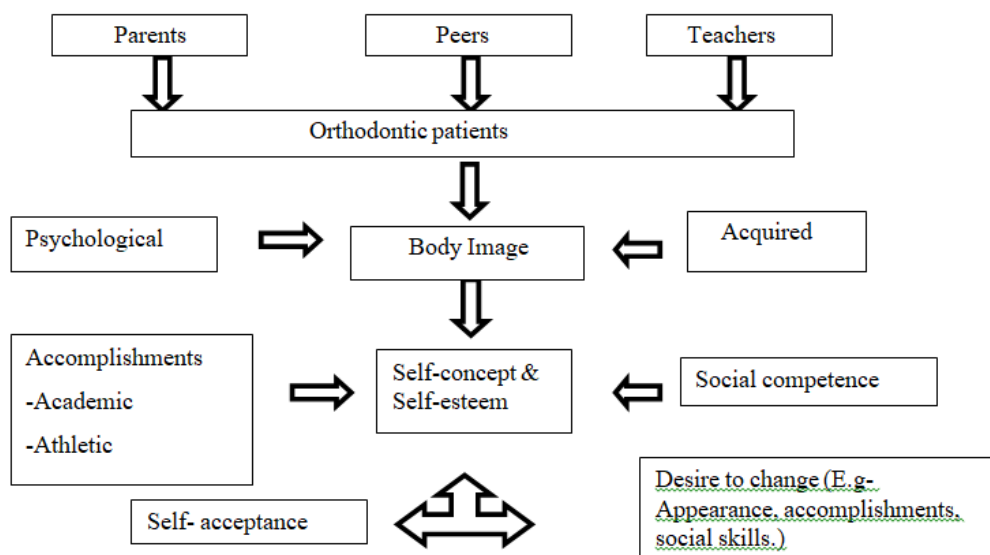
In today's era patients are more concerned about facial esthetics and in the judgment of attractiveness dental appearance plays an important role. Also, Facial aesthetics is important in social acceptance amongst friends patient's self-concept were not promoted significantly with orthodontic treatment [2]. The way an individual look is closely linked with psychological development from a very young age to the adulthood. Dentofacial disharmonies may cause psychosocial stress directly or indirectly. Unattractive dentition is believed to be associated with bullying, teasing[3-4]and negative oral health related quality of life[5].The child's self-concept is affected by individual's interactions and appraisal from others. Self-concept is an idea which is self-constructed from the belief one holds about oneself and the responses of others [6].It is largely reflection of the reactions of others towards the individual like teacher, parents and peers. Attractive people are more likely to perceive positive social interaction and evaluation than non-attractive people.

Orthodontic treatment modalities might boost confidence by enhancing these patient's facial aesthetic, self-esteem, oral health-related quality of life, and mental or emotional wellness[7-10]In addition to correcting malocclusion, orthodontists may also serve as psychologists or counsellors because they frequently meet their patients during crucial stages of psychological growth[11]

### **PSYCHOLOGICAL TRAUMA RELATED TO DIFFERENT MALOCCLUSIONS**

Patients with malocclusion often experienced a feeling of useless, inferior and shameful [12]. Longitudinal study by Helm and colleagues [13] reported that extreme deep bite, crowding and over jet are believed to be linked with most unfavourable self-perception. According to Shaw et al [14] these factors are also associated with an increase amount of teasing lead to bullying which can have a detrimental effect on the individual. Teasing during childhood can lead to fear of negative evaluation, self-doubt and social avoidance, which can further results in anxiety disorders especially social anxiety in adulthood. Mostly

individual having malocclusion affecting anterior teeth[15] either spacing, crowding or protrusion have poor self-esteem[16]Serpil Çokakoglu *et al* [17] assessed the self-concept and psychosocial status in adolescent patients with different malocclusions by predicting the levels of social phobia and loneliness and they found that different type of malocclusions don't affect patient's self-concept and psychosocial health. They also noted that in individual having Class II malocclusion had lowest popularity scores among all the malocclusion. Dongieui J *et al* in their study reported that class III malocclusion is considered to be least attractive followed by class II and open bite while Class I is considered most attractive by lay persons[18].

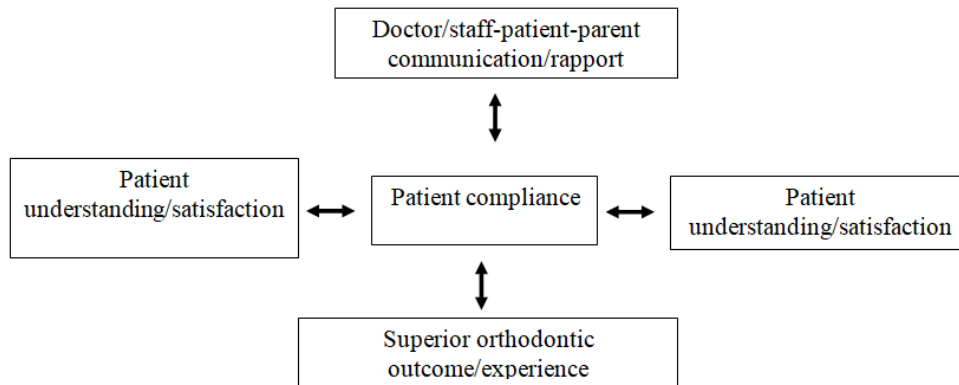


**Fig. 1:** Flowchart showing various factors affecting orthodontic patient's psychology.

Children with craniofacial anomalies like cleft lip and palate are more introverted, neurotic and demonstrate poor self-concept. It is very tough and challenging for them to live with the changes they have in their appearance as well for their parents to deal with the psychological issues and therefore, attention to the physical as well as psychological issues should be given equally [19]. Patients with severe malocclusion can be benefited by orthognathic surgery as it not only improves the occlusion, oral functions and esthetic but also help the individual to develop more positive social interaction and acceptance. Any surgical operation can lead to post-operative depression, but orthognathic surgery makes it worse because of speech and eating issues. Instead of connecting the jaws together, direct fixation appears to lessen the probability of depression. Patients who develop depressive symptoms must to be treated seriously and given counselling.

#### **ADULT VS ADOLESCENTS: TREATMENT DECISION, TIME, COMPLIANCE& MOTIVATION**

There are various factors like age, gender, intelligence, social class, severity of malocclusion, teasing experience etc. that can influence the desire for orthodontics treatment [20]. Wilmot JJ *et al* in their study stated that individual having class II malocclusion are more motivated for the treatment then class III malocclusion[21].The orthodontic treatment decision in a young children is influenced by their parents greatly while the adolescence are much more influenced by their peers. Adolescents are often concerned about the recognition from peers and may feel pressure to initiate the orthodontic treatment for acceptance among their friends and for esthetics [22-23]In case of adults, they are more conscious about their actual need to undergo orthodontic treatment. Female patients generally experience more stress and anxiety related to their malocclusion then the males and they are more concerned about their appearance [24].



**Fig. 2:** Flowchart of factors affecting patient compliance

The time of orthodontic treatment initiation must be decided considering the psychology of the patients [25]. The individuals who are more conscious and sensitive regarding appearance, their treatment should be started earlier. While the individuals who are immature and cannot cooperate, their treatment can be deferred as the patient compliance is of utmost importance in orthodontics. The treatment of class II div 1 malocclusion can be initiated early (during mixed dentition stage) as well as late (during early adolescence period). It is believed that early treatment intervention reduces the complexity and need for later orthodontic care. Additionally, this method offers psychological advantages as well as a better occlusal outcome and structural correction [26].

Patient's motivation to seek orthodontic treatment must be determined before initiating the treatment. Motivation can be internal which is provided by the individual's own desire and external which results from the others [27]. Patient who are internally motivated are generally more compliant. According to a study done by Ernest *et al* [28] Parents/guardian affects the patient's compliance. Additionally, they found that children were more eager to have orthodontic treatment at the beginning and that parents were more driven to do so in the latter stages, where they might influence the cooperation of their children.

Many factors like gender, patient's attitude, past dental experience, motivation to undergo treatment and esthetic improvement after treatment are closely linked with patient cooperation. Patient compliance seems to be a complicated issue that is crucial for the best possible therapy result and it can be increased by understanding the patient and via a good two-way communication. Most of the patient seek orthodontic treatment for the purpose of esthetic improvement. The awareness of motivation and mental state of patients can help in enhancing the communication with the patients. Therefore, the individual's motive for seeking orthodontic treatment and patient's treatment objectives should be considered immensely important from the initial stage only.

#### **Use of psychological principle to enhance patient compliance:**

Many psychological and pedagogical concepts can be applied to orthodontic practise. The orthodontist can apply these educational-psychological ideas to patient care, patient management, or staff development. Several key principles include [29]:

Progressions

- Reverse chaining Reframing (symptom prescription, reverse psychology),
- reinforcement theory,
- hypnosis, and
- Experiential learning.

The process of acquiring a skill through progression requires breaking it down into a number of manageable, sequential phases. Employed while developing sophisticated abilities, such as cognitive and psychomotor abilities. Reframing, also known as reverse psychology, is a psychological strategy in which an undesired yet pleasurable behaviour is reframed to appear as a duty, or the other way around. In orthodontics, positive and negative reinforcement as well as, to a lesser extent, punishment, can be used. Giving more praise than criticism is the main tenet of reinforcement theory. For every word of criticism, at least three words of appreciation should be given (punishment). In order to positively promote appropriate behaviour, the orthodontist should look for it. The undesired behavior will gradually vanish if you reward desired activity while ignoring undesirable behavior [30]. Patients who are scared or anxious can benefit from hypnosis and other procedures closely related to it.

**CONCLUSION**

The severity of malocclusion demonstrate different psychological profiles. Being an orthodontist, it is crucial to have the understanding of psychological aspects of patients including the psychological fear and frustration to deal with them efficiently. Throughout the course of orthodontics treatment, an orthodontist should keep in mind that the psychological outcome of the treatment is as important as the esthetic and functional outcome. As the patient visit orthodontist on frequent basis, an orthodontist cannot only enhance the esthetics and function, but can also boost confidence in the patients as straight teeth make smile more attractive and attractive smiles make more positive self-image.

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