

PSYCHIATRIC CHALLENGES IN ORTHODONTICS - A REVIEW

ABSTRACT

Many diagnosable psychiatric disorders are noticed right from childhood years. However psychiatric disturbances are more common in adolescent patients as it's a period of physical and mental transformations. This makes the role of orthodontists all the more important as this is the age when majority of patients seek orthodontic treatment. Also, treatment duration of 12-24 months and frequent appointments puts the orthodontist in a better position than clinicians of other disciplines in noticing such disorders in patients and making appropriate referrals. It is a well known fact that many of the psychiatric disorders that develop during adolescence show high suicidal tendency. This article reviews the etiology, diagnosis and management of various psychiatric disorders that an orthodontist is likely to encounter in his clinical practice.

Key words: orthodontics, psychiatry, adolescents.

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Introduction:

The psychological aspect of management is often ignored by orthodontists in their clinical practice. Considering the enormous physical and psychosocial changes that adolescents undergo, and the number of patients that belong to this age group seeking orthodontic treatment, the relevance of this aspect should be well understood by an orthodontist.

Cassidy¹ reported that 14-20% of American children and adolescents develop diagnosable psychiatric disorders. Overall prevalence of mental disorders in India was analysed to be 65.4 per 1000 population in a study conducted by Madhav.² Overall rates of child and adolescent mental disorders in India range from 6-15%.³⁻⁵ Most of the psychiatric disorders have an insidious onset that can be traced back to the patient's childhood or adolescence.⁶ Considering their frequent appointments with the patients and the long duration of treatment, orthodontists are at an advantage in noticing psychiatric changes in their patients. An intimate and combined working relationship between the orthodontist, patient and parents further helps the cause.

Teenagers are extremely susceptible to depression and illicit drug abuse secondary to peer pressure and other psychological compulsions at this tender age. The role of abusive (illicit) drugs as a cause suicidal tendencies and depression has been reported by Perkins⁷ and Parker⁸ respectively. Since orthodontic treatment has often been affected by suicidal tendencies, the orthodontist should be aware of the behavioral patterns and risk factors associated with this undesirable outcome.⁹

This article aims to review the etiology, noticeable behavioral patterns and suggested orthodontic management of such adolescent patients with psychiatric disorders.

Mood disorders

Major Depressive Disorder (MDD) and Bipolar Disorder (BD) are among the two most common mood disorders seen in adolescent children. Though episodes of depression are common to both, BD is better characterized by manic episodes and marked mood swings.¹⁰ These disorders are further characterized by their tendency to relapse and are associated with peer pressure.^{11,12}

Mood disorders often result in gloominess, hopelessness, depression and suicidal behavior. Patients also report with sleep difficulties, loss of appetite and guilt feeling. Patients show a general lack of compliance and lack of interest in treatment. Oral hygiene will be typically poor and patient often blames self for treatment failure.¹⁰

MDD is a strong predecessor of suicides in adolescents and the risk is directly proportional to the length of depressive episodes.¹³ Risk factors include substance abuse, personality disorders, anxiety disorders and disruptive disorders.¹⁴ The symptoms include severe depression, gloom, lack of interest to communicate, hopelessness and above all suicidal thoughts and tendencies.

The prevalence of depression in Indian population is estimated to be 31.2 per 1000 population.² Also, Indian females are found to be more commonly affected than males.^{15,16}

The orthodontic implication and relevance of such adolescents include- missed appointments, lack of compliance, poor oral hygiene, lack of interest in treatment and self-blame for the same.

On the other hand, BD is not commonly seen in children and adolescents. The symptoms include manic episode, grandiose thoughts, decreased sleep, pressured speech, racing thoughts, distractibility, irritability, tantrums, appetite changes, psychotic symptoms etc. Attention-deficit hyperactivity disorder (ADHD) and conduct disorders are the sequel to this disorder.¹⁷ The prognosis of BD is poor and the regimen used for adults is not effective for adolescents.¹⁸

Management of patients with mood disorders can be quite challenging for the orthodontist. Xerostomia is a common side effect of drugs like tricyclic antidepressants, anticonvulsants and selective serotonin re-uptake inhibitors which form the core of regimen used in such disorders. Moreover, patients with mood disorders often report with rampant caries and periodontal problems.¹⁹ Suicidal tendency and lack of compliance further multiply the difficulties faced by the orthodontist.

Ideally, good control of these disorders should be attained before the start of treatment. Unfortunately, mid- orthodontic treatment diagnosis is bound to

occur, and the orthodontist should then decide whether to continue treatment until better disease control is attained.²⁰

Eating disorders

Anorexia nervosa and bulimia nervosa are the two common eating disorders seen in adolescents, especially girls. The mortality is higher for Anorexia nervosa (10%) within ten years of diagnosis as compared to bulimia which is (1%) within 10 years.²¹

Clinical symptoms include lack of interest towards food, depression, lack of sleep etc. Oral manifestations of eating disorders include dental caries, dental erosion, dentinal hypersensitivity, periodontal disease, cheilosis, salivary gland hypertrophy, extrusion of amalgam restorations and xerostomia.^{22,23}

Questions asked about satisfaction with eating patterns such as eating in secrecy often help to detect an eating disorder.²² It would not be atypical for the orthodontist or the dentist to be the first person to notice an adolescent's eating disorder, because of the close working relationship.²⁰

Personality disorders

Personality disorders exist when the way of thinking and habitual behaviors of individuals are rigid (inflexible) and maladaptive resulting in social, work, or school problems.¹⁰ Like many of the other psychiatric disorders, personality disorders are believed to have their roots developed during the adolescent period.¹⁰ Estimated prevalence of personality disorders is in the range of 4.4% to 13.0%.²⁴ Risk factors associated with the development of personality disorders in childhood or adolescence include poor family support, physical or sexual abuse, family disruption or criminality, and peer influences.²⁴ About 55-65% of patients with suicidal behavior are found to be suffering from personality disorders.²⁵

Diagnosis and treatment of these disorders are difficult and a pretreatment questionnaire is of no use usually. The orthodontist should consider personality disorder as a possibility, if the patient's behavior is much stronger than normal- either negative or positive.²⁶ The orthodontist might find it difficult in trusting these patients because patients with personality disorders, particularly BPD, actively attempt to manipulate and provoke the clinician.^{26,27}

Searight has suggested various strategies to handle such difficult patients or those with suspected personality disorder.²⁷

Attention-deficit hyperactivity disorder (ADHD)

ADHD is a common disorder in children and young adults and is characterized by inappropriate hyperactivity, forgetfulness, impulsivity, and inattention.¹⁰ Studies have shown that this is a lifelong disorder manifesting as greater activity (hyperactive behavior) than seen in peers.²⁸ A study conducted in Chandigarh, India 2 out of 186 followed up cases were diagnosed with ADHD.¹⁶ Another study found the prevalence of ADHD in 6-12 yr old Indian children to be 4.67%.²⁹

The disorder has a strong genetic inheritance with around 10% to 35% risk to immediate family members.³⁰ These children often have oppositional, overactive, defiant and/or conduct disorders.⁴⁷⁻⁴⁹

Children with ADHD are ten times more likely to develop antisocial personality disorder (APD) than those without it.⁵⁰ Adults with ADHD are prone to exhibit personality disorders, drug or alcohol abuse, mood disorders, and anxiety disorders.⁵¹⁻⁵⁴ In India, ADHD was found to be more common in males than in females.¹⁶ The risk of suicide has been shown to be greater in males than in females in cases diagnosed as ADHD.⁵⁵ Although stimulants are the mainstay drugs used in the treatment of ADHD, antidepressants and adrenergic agonists are often used in refractory patients.³¹ It is important for the orthodontist to note that Elia³¹ has suggested that there can be growth disturbances in children taking methylphenidate. They also reported that discontinuation of the drug during the summer alleviated the chances of growth disturbances in control groups.³¹ On the contrary, Klien³² reported no deleterious growth effects in children taking stimulants. It is interesting to note that Spencer detected evidence of growth disturbances in children associated with ADHD.³³

Orthodontic management of children and adolescents with ADHD is challenging because the patients often exhibit non-compliance with the home-care instructions and their improper behavioral patterns during office visits.²⁰

More frequent appointments and involvement of the

parents is a must for placement of elastics and activation of appliances. Shorter appointments and frequent oral hygiene maintenance counseling during treatment can ensure better patient behavior.²⁰

Schizophrenia

Schizophrenia is characterized by illogical thinking, delusions and hallucinations. However, it should not be mistaken with common childish behavior of that age. The onset of the disorder usually occurs during adolescence, but prevalence steadily increases with age unlike what happens with normal children.³⁴ The prevalence of this disorder in an Indian population was estimated to be 2.3 per 1000 population.²

The classical symptoms of schizophrenia include both positive and negative symptoms. The positive symptoms like delusions, hallucinations and agitation and negative symptoms like inability to pay attention, loss of will and social withdrawal are classical in most cases.¹⁰ It is often the negative symptoms that pose a challenge for the psychiatrist and the orthodontist. The patient compliance is usually very low.

Overall prognosis is poor in adolescent-onset schizophrenia, with only 25% of patients achieving partial remission.³⁵ Treatment of schizophrenia involves anti-psychotic drugs which may cause xerostomia. They also cause side effects like dystonia and tardive dyskinesia which questions the usage of intraoral appliances. Risk of soft tissue laceration outweighs the potential benefits with continued treatment and as such are seldom recommended.²⁰

Patients typically ignore oral hygiene instructions and show laxity in wearing of elastics.³⁶ Patients with florid schizophrenia almost always are not candidates for orthodontic therapy.²⁰ Even patients under control with medication should be approached cautiously. The treatment should always be rendered only with psychiatrist's consent.²⁰

Substance abuse

Substance abuse has been linked to many cases of depression⁷ and suicidal behavior⁸. It is a significant problem seen in adolescents and adults. A study done in America revealed that a significant number of patients receiving orthodontic treatment use at

least one illicit drug during adolescence.³⁷ Tobacco, alcohol, opiates, amphetamines, marijuana and steroids are some of the commonly used addictive drugs. Treatment in these types of cases warrants a combination of counseling and pharmacotherapy.³⁸

In patients with substance-abuse problems, changes in the orthodontic treatment regimen will be necessary.

Wendell et. Al have outlined the modifications required for managing a patient with known drug abuse.³⁸

1. It may be prudent to remove fixed appliances and place the patient in a temporary retention phase until therapy can be safely resumed.
2. Smooth-surface caries can be rampant in those with substance-abuse problems even without orthodontic appliances. A fixed appliance might accelerate or worsen the existing decalcification in such patients.
3. Treatment time could increase significantly if compliance is affected by a substance-abuse problem.
4. Although it is not within an orthodontist's capacity to treat substance-abuse disorders, it is important to help such patients by appropriate referral.

Because of frequent visits and long duration of treatment, orthodontists have the chance to build a good rapport with the patient. Knowing an adolescent patient for such a long duration helps the orthodontist detect changes secondary to substance abuse readily.

Discussion

The possible relationship between psychiatric disorders and orthodontic treatment has not been studied much. However, the research on older age groups though available, is beyond the scope of orthodontic therapy.³⁹⁻⁴² Studies have suggested that pre-surgical psychological assessment should not be used to predict the changes in mental state during postoperative orthodontic treatment as children transform rapidly in forms of health.^{43,44} Hence, for the same reason, compliance with orthodontic treatment cannot be predicted by evaluating pretreatment personality traits of the patient.^{45,46} However, the pretreatment evaluation should be performed, with appropriate

screening questions asked either directly or as a questionnaire. Mental status questions concerning prior suicide attempts, psychiatric therapy, counseling, school or legal trouble, substance-use patterns, and abuse situations should be on the evaluation form or asked verbally to the parents.³⁸

The common feature seen in all the disorders discussed in this review is the suicidal tendency. Orthodontist should pay attention to changes seen in patient behavior throughout the course of treatment and also be prudent enough to assess what is normal and what isn't. A decrease in patient compliance or worsening of oral hygiene should alert the orthodontist about a possible change in psychological status of the patient.

A psychiatric referral should be preceded by a discussion with the parent/s. It should always be remembered that psychiatric diseases are viewed upon negatively by the society and the orthodontist should display utmost sensitivity when the issue is discussed with the parents.

Diagnosis given by the psychiatrist should not be discussed with the patient or parent directly and requires skill to explain and put it across with compassion. Working with institutes related to special care for children such as spastic societies, physically challenged children, blind homes etc. teaches the art of handling both the parents and patients with compassion and confidence.

Conclusion

The prevalence of psychiatric disorders world over is not negligible. Children and adolescents undergo a number of mental changes rapidly. Orthodontist may be the first to encounter psychiatric problems in adolescent patients. Familiarity with psychiatric disorders will inspire the orthodontist to offer better care for such patients, as he understands the delicate dimension of this seemingly diversified treatment need.

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