



Oral Manifestations of Psychiatric Disorders in Pediatric Patients

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Opinion Article

Introduction

Psychiatric or mental disorders are described as a medical condition that disrupts an individual's thinking, feeling, mood, ability to relate to others, and daily functioning. The change in mental awareness may often result in a diminished capacity for coping with the ordinary demands of life. Often this inability to deal with day to day tasks includes oral self-care [1].

Mental disorders in children are described as series of changes in the way they behave or handle emotions causing distress and problems getting through the day. Mental disorders most seen in children are Anxiety, Depression, Obstructive Compulsive Disorder (OCD), Attention Deficit Hyperactive Disorder (ADHD), Tourette syndrome, Substance abuse disorder (SUD) etc [2]. In a study conducted it was found that girls showed a higher number of cases of depression and anxiety disorders. It was seen that boys aged 9 to 10 years showed 3.6% ADHD disorders, 5.5% Tourette disorders, 4.1% substance abuse disorder. The incidence reduced by 50% by age of 11 years and disappeared by age 16 years. The move into adolescence showed rise in rates of depression and social phobia in girls which was not seen in boys. Middle of adolescence showed increase in substance use disorders in both sexes. A recent British population study of youth age 5 to 15 years short prevalence of anxiety disorders by 3.8%, depression by 10.9%, ADHD 1.4%, ODD by 2.9%, tic disorder by 0.1% [3]. A detailed explanation of the mental disorders with their oral signs and symptoms are illustrated which would give a deeper insight for a better treatment planning of the patients.

Depression and Anxiety

Depression and anxiety are recognized as significant mental health problems during childhood and adolescence [4]. Anxiety is defined as a state of heightened alertness to signs and symptoms of autonomic excitation. There is constant fear of danger even in absence of danger [5]. Anxiety can be presented as signs of severe agitation and tremors, heart pounding, have trouble breathing or dizziness. Typically occurs in young children when they do not outgrow fears which can interfere in their day-to-day activities. Separation anxiety, fear of school, future or bad things happening can cause panic disorders or repeated episodes of sudden intense fear. They might be irritable or angry and might experience trouble sleeping [2,5]. Depression is a frequent and debilitating disorder characterized by loss of energy, inability to concentrate or feeling of sadness and hopelessness which interferes with daily activities of individuals [5]. The prevalence of symptoms of anxiety and depression increases during development; these problems are associated with impaired social and school functioning.

Infants and preschoolers do not have the ability to express feelings of sadness in language. Therefore, depressive symptoms must be inferred from overt behavior, including apathy, withdrawal from caregivers, delay or regression of developmental milestones and failure to thrive that has no organic cause. Because of the difficulties of diagnosing any psychiatric disorder in this age group, clinicians must rely heavily on parental history, evaluation of parent-child interactions and play interviews by appropriately trained professionals. For school children, their teachers can also serve as a valuable source of information and should be included in the evaluation process if possible. It is important to note that some depressed children attempt to

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compensate for their low self-esteem by trying to please others and be accepted. Because in this effort they may excel academically and behave well, their depression may go unnoticed. Adolescents experience many developmental challenges as they strive to separate from their parents, become autonomous and establish their own identities. In this process they depend increasingly on their peer groups. This period of biopsychosocial maturation creates the conditions for adolescents to experience a greater sense of hopelessness and despair at a time when their ability to commit suicide is greater than when they were younger. They also exhibit more anhedonia, hypersomnia, weight change and substance abuse than younger children [4].

Thus depression in children is characterized not only by unhappy and unresponsive facies but also by other characteristic behavior which include anhedonia, social withdrawal, decreased school work, poor appetite, sleep difficulty, excessive fatigue, hypo activity, low self-esteem, worthlessness, guilt and self-destructive behavior [2,6]. Before arriving to the diagnosis of depression, a child or teen that is suspected to be depressed, must undergo a comprehensive medical evaluation to rule out any underlying medical condition which could be manifesting as or resulting in depression.

Oral manifestations of anxiety and depression

- Poor oral hygiene
- Increased caries activity
- Gingival and periodontal diseases
- Poor nutrition
- Drug induced xerostomia

For mild to moderate depression, CBT (Cognitive Behavioral Therapy) is the typical first-line treatment of choice for children and teens. There can be exceptions to this, depending on the specific clinical condition, age, and circumstance of the child. For children younger than 10, other modalities of psychotherapy such as play therapy, psychodynamic psychotherapy, and behavior therapy may be utilized. Antidepressant medications may be considered first-line treatment for moderate-to-severe depression or depression that has not responded to an adequate trial of psychotherapy. Selective serotonin reuptake inhibitors are the first-line antidepressant agents for children and adolescents diagnosed with depression [6].

Children with anxiety disorders may have greater dental anxiety. Consider use of behavior guidance techniques, i.e. voice control, distraction, nitrous oxide [7]. Dental treatment for the symptoms can be done in and calm and reassuring environment by dental care providers or use of sedation or GA can be considered [5]. Some parents of children with anxiety or depression may be reluctant to admit their child's use of medication for an anxiety disorder or depression. Be supportive and non-judgmental.

Discuss dental treatment with treating medical provider if needed. Mitral valves prolapse is more common in children with anxiety disorders (8-33%). Consider artificial salivary products for children with xerostomia. Dental erosion due to gastroesophageal reflux can increase thermal sensitivity and in significant cases cause pain. Educate patient on proper oral hygiene (brushing, flossing) and nutrition [7].

Attention Deficit Hyperactivity Disorder (ADHD)

Attention deficit hyperactivity disorder (ADHD) is a common disorder in school-aged children showing a prevalence of 5% and occurring two times more often in boys than girls [8]. It is associated with significant impairment in social and academic functioning. The classical triad of ADHD symptoms is characterized by lack of attention, hyperactivity, and impulsiveness. There are three types of ADHD characterized by symptoms: predominantly inattentive, predominantly hyperactive-impulsive, and the combined form in which the two forms manifest themselves equally [8]. The etiology of ADHD remains unclear, although it is known to be multifactorial, with genetic, biological, environmental, and psychosocial factors [8]. There is no biological marker or laboratory test to confirm the diagnosis.

Oral manifestations

- Poor oral hygiene due to decreased attention span
- Higher prevalence of gingival inflammation and dental caries
- Bruxism
- High risk for dental/oral trauma due to hyperactive and impulsive behavior.

Psychostimulant medication is the main pharmacological therapy for ADHD. The two stimulants most prescribed are methylphenidate (Ritalin) and dexamphet-amine, which acts by increasing dopamine and norepinephrine. Other medications sometimes used include the antihypertensive clonidine, antidepressants and occasionally neuroleptics. These medications have significant side effects, which must be considered by the dental health team, such as xerostomia, loss of smell acuity, sinusitis, dysgeusia, sialadenitis, stomatitis, gingivitis, discolored tongue, bruxism, dysphagia, elevated blood pressure, and raised heart rate. Consider use of nitrous oxide during treatment to manage behavior. Monitor caries development, bruxism, and dental/oral trauma carefully. Recommend preventive measures such as topical fluoride and sealants. Advise the use of fluoridated toothpaste twice daily. Recommend rinsing the mouth with water after each dose, especially after taking medications that cause xerostomia [9]. Review safety issues appropriate to the age of the child, such as mouth guards to prevent oral-facial trauma.

For the successful management of these children, following can be considered.

- Schedule appointments in the morning or at a time of day when child is least fatigued, most attentive, and best able to remain seated in dental chair.
- Give short, clear instructions directly to child. Give only one instruction at a time.
- Use Tell-Show-Do approach when introducing new procedures.
- Tell child what is expected of him/her during the visit.
- Consider small rewards for appropriate behavior (stickers, etc). Positive reinforcement may be helpful in obtaining compliance.
- Discuss appropriate behavioral interventions with parent.
- Use of physical restraints can be considered when children are not responding to other methods of behavior management.

Obstructive Compulsive Disorder (OCD)

It is the content of consciousness or an idea or an impulse to act. It is an emotional state which drives a feeling of compulsion which patient wants to get rid of or resists but cannot do it. The characteristic feature is tendency to resist. It is associated with distress and anxiety. The compulsion implies motor and vocal actions taken to ward off obsessive thoughts. Common examples include checking, cleaning excessive handwashing, showering or grooming. Other examples include habitual nail biting, damage to cuticles and nails, paronychia and secondary bacterial infections. OCD patients manifests Chronic multiple motor tics which may present as involuntary blinking of eyes or spasmodic grimaces of facial muscles.

Oral manifestations seen in OCD patients are

- dental trauma involving injuries to enamel, gingiva and tooth abrasions .
- In rare occasions, extraction of tooth and bone injuries can be seen.
- There is extensive teeth attrition which cannot be easily restored.
- Habitual nail biting can cause self-inflicted gingival injuries and dental problems, TMJ dysfunctions and osteomyelitis.

Treatment involves psychiatric consultation and Behavioral therapy. Care must be taken of side effects and drug interactions on oral health. Recall after every three months is necessary to check oral health deterioration. If deterioration is seen it indicates reoccurrence of OCD and should be discussed with psychiatrist to evaluate needs of patient [10]. Dental restorations should be done for maintaining normal eating function and preventing malnutrition.

Tourette's Disorder (TS)

It is a neuropsychiatric disorder inherited genetically. It is seen in both sexes but more in boys. It starts at an age of 5 to 10 years. 1 in 162 children have TS which is either diagnosed or undiagnosed. In US, 1 in 360 children, 6 to 17 years of age have been diagnosed of Tourette's disorder.

The main symptom of Tourette's disorder is TICS. They are sudden twitches, movements or sounds that people do repeatedly and cannot stop from doing it. For example, blinking eyes over and over, making grunting sounds etc. There are two types of tics, Motor tics and Vocal tics. A motor tic involves body movements like shrugging shoulders or jerking an arm. Vocal tics involve making sounds like humming, yelling a word or phrase, clearing the throat, etc. It usually starts as a motor tics involving the head or neck area. It gets worse during stress or excitement and reduces as the child calms down. Tics usually decrease during adolescence and early adulthood and sometimes might disappear completely.

Tourette's disorder has been found in close association with another additional mental disorder like ADHD or OCD [2].

The oral symptoms include

- injury to the tongue, gingiva, and mucosa of the mouth during motor tics.
- Repeated injuries might cause severe ulcers with burning sensation. This might cause difficulty in swallowing and eating.
- Motor tics in oral region, which can cause pain or injuries, include licking of the mouth or cheek, biting the lip or cheek, bruxism, and picking of the oral tissue using the fingernail
- Nutritional deficiencies might follow due to improper intake of food.
- Use of proper orthodontic devices can prevent injury to the tongue and other tissues [11]
- Unconscious clenching or grinding of teeth is also seen. This might lead to TMJ disorders [12]

There are no specific diagnostic test or treatment plan available for TS. Treatment involves managing tics so they do not cause hindrances in daily life. These include behavioral psychotherapy and cognitive behavioral therapy, medications that block dopamine in the brain and more intrusive surgical interventions involving deep brain stimulation. However, the efficacy of these treatments can vary. As an alternative treatment option, researchers at Osaka University have developed a custom-made oral splint. These are typically used for unconscious teeth clenching and grinding, and for temporomandibular disorders such as misalignment of the teeth or jaw. The oral splint improved motor and vocal tics in 10 children out of 14 in a study by Jumpei Murakami. The results were long lasting and further research is



being conducted in studying the effectiveness of the splint in treatment of TS [12].

Mental health is the most neglected aspect, especially in children. Every dental provider would at some time have a patient with mental illness. Thus, having sound knowledge of various mental illnesses and their effects on oral health could be a successful key in early detection, management, and treatment of these patients. Dental, mental, and physical health are not separate entities. Correlating these and learning to treat the whole person expands and elevates the practice of dental hygiene. The improved oral health adds to physical comfort, makes patients socially acceptable which significantly impact quality of life.

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