



## Complexities of oral health management among autism patients: Strategies for multidisciplinary collaboration

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### ABSTRACT

Autism spectrum disorder (ASD) presents intricate challenges in managing oral and dental health, necessitating a comprehensive understanding of its diverse manifestations and associated difficulties. Despite the absence of specific oral peculiarities directly linked to ASD, individuals diagnosed with ASD often experience poorer oral health outcomes compared to the general population. Factors such as sensory sensitivities, communication barriers, and behavioral challenges contribute to difficulties in maintaining optimal oral hygiene, resulting in a higher prevalence of tooth decay. Furthermore, children with ASD exhibit unique challenges during dental visits, including sensory aversions, communication difficulties, and behavioral issues, necessitating tailored interventions and accommodations by dental professionals. The collaboration between parents, dentists, and other healthcare providers is essential in addressing the oral health needs of individuals with ASD, emphasizing the importance of a multidisciplinary approach. Despite ongoing research efforts to elucidate the intricacies of oral health in ASD, conflicting findings underscore the complexity of the topic and highlight the need for further investigation. By prioritizing oral and dental health management and fostering collaborative partnerships between caregivers and healthcare professionals, it is possible to enhance the quality of life and well-being of individuals with ASD. To achieve this, targeted interventions should be developed to address the unique challenges faced by individuals with ASD in oral hygiene practices and dental care settings. Ultimately, raising awareness among parents and healthcare providers about the significance of oral health in individuals with ASD is crucial for promoting preventive measures and ensuring access to appropriate dental care services.

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### Introduction

Autism disorder (AD) was first described by American child psychologist Kanner [1]. He taught eleven children, all of whom were different from each other. Kanner [1] believes that their relationship is constantly influenced by the quality of the body. Autism goes by many names, including Kanner [1] autism, early childhood autism, and childhood autism. More specifically, the more precise definition of autism spectrum disorder (ASD) has recently been forced to include multiple disorders or symptoms with behavioral features as a separate number, although differing in level or use,

since there are many symptoms. It is diverse and difficult to provide a consistent and unified medical definition [2].

Research shows that people with ASDs often experience the same health problems as the general population. However, these individuals are more likely to develop attitudes such as long-term oral health problems, lack of communication due to poor food choices, some prejudices, inability to take care of themselves, and use of medication [3–5].

The development of autism results from the combination of genetic and environmental changes during early development [6]. Boys are four times more likely to have autism than girls, and in addition

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to compulsive behaviors such as self-harm and sleep deprivation, the problem is often associated with other conditions such as epilepsy, depression, anxiety, and attention deficit hyperactivity disorder problems [7]. Most autism diagnoses start from studies on male subjects who do not have enough insight to recognize autism symptoms in women. This may lead to a diagnosis of autism in women receiving treatment. Therefore, gender-specific measurement tools will need to be developed to increase the accuracy of female measurements [8]. Ultimately, research continues to reveal factors that correlate with ASD risk, but no causal determinations have been made. This leaves much room for discovery with investigators continuing to elucidate new variants conveying genetic risk, or new environmental correlates that require further studies [9].

According to the World Health Organization, the global prevalence of ASD is approximately 0.76% [10]. According to estimates from the Centers for Disease Control and Prevention, 1 in 59 American children (about 1.68% of 8-year-olds) are diagnosed with depression and autism [11–12]. In 2016, the average parent-reported diagnosis of ASD in the United States was slightly higher (2.5%) [13]. In addition, primary care providers need to know and evaluate the symptoms in children with ASD. A study of more than 2,000 children diagnosed with ASD found that 83% of the diagnoses also included developmental disorders, 10% had mental disorders, and 16% had behavioral disorders [14]. Oral health is important for people with ASD because it directly affects their comfort and overall health. People with ASD often experience dental problems because they may have difficulty maintaining good oral hygiene. In addition, a higher risk for oral health problems may be attributed to certain dietary choices, sensory sensitivities, and mild social problems associated with ASD. Therefore, it is important to provide oral health care to individuals with ASD. This should create a welcoming environment that encourages people to manage their dental care and provide appropriate guidance and healthcare professionals. By properly addressing the oral health of individuals with ASD, it is possible to increase their comfort and improve their overall quality of life. Hence, the objective of this study is to illuminate the significance of preserving oral and dental health among individuals diagnosed with ASD, while advocating for heightened awareness among parents regarding the imperative of prioritizing the

oral and dental care needs of their children on the autism spectrum.

### ***The significance of oral and dental health management in individuals with ASD***

Oral peculiarities associated with ASD are not present in these children. However, the oral health of those with ASD is worse than that of the general population, and their abnormalities have an impact on the oral realm [15]. Oral hygiene can be challenging for children with autism at home and in the dentist's office. According to one study, only 50% of children with autism brush their teeth twice a day as recommended, while 61% of parents of children with autism mentally speaking, brushing your teeth can be difficult [16–17]. Caries and tooth decay are terms used to describe tooth deterioration caused by acid production [18]. The enamel, dentin, and cementum of the teeth are tissues that are dissolved by teeth is broken down by bacteria. A diet rich in simple sugars increases the risk because these bacteria get most of their energy from food [19]. Considering the problems these patients face when brushing and flossing, it would be logical to assume that they are at higher risk for tooth decay. In addition, the lack of physical abilities of children with autism can lead to deterioration in oral health [20].

In addition, children with ASD showed a 1:2 caries frequency in primary teeth compared to permanent teeth [21]. At home, children may have problems with the taste or texture of toothpaste or feel the bristles of the toothbrush in their mouth. Problems can arise when the dentist touches your child's face, the squeaking sound of dental equipment, the taste or smell of fluoride or preservative pastes, your child's eyes glistening, and a strange smell in the dentist's office [16,22] Furthermore, it could take more work to work with kids who have ASD. According to a poll of members of the Special Care Dentistry Association, dentists utilized an average of roughly six adjustments to make dental appointments easier and address challenges that certain children with ASD presented with in terms of routine, social contacts, and communication [23].

Dentists should focus on at least two different aspects of preventing autism in children. Primary prevention involves the initial stages of tooth development and the preparation of teeth and tissues for maximum growth and health. The second protection method, called secondary prevention, aims to reduce damage to teeth, mostly caused by oral health (caries, gum and tooth problems, and tissue and tooth damage) [24]. However, certain

investigations on the oral health of autistic children produced contradicting results, which is likely because the topic is so complicated. As a result, some dental health issues pertaining to autistic children are contentious [25]. Moreover, in this perspective, the role of parents and dentists should be intertwined in a continuously encouraged cross-talk to assist ASD subjects in their oral hygiene correctly. Parents must be fully aware of their responsibility for dental health assistance to their autistic children [26]. Supporting individuals with ASD requires a collaborative approach that involves the involvement of multiple medical and family disciplines. These disciplines include occupational therapy and general medicine, which work together with dentistry to create a comprehensive support system. This multidisciplinary program is designed to help families improve the health and well-being of people with ASDs [27].

## Conclusion

People with ASD often experience oral health problems that lead to poor outcomes compared to the general population. Although there are no specific oral features associated with ASD, research shows that people with autism have significant problems maintaining oral hygiene. Conditions such as sensory sensitivity, communication problems, and behavioral problems contribute to the imbalance. Research shows that children with ASD do not follow oral hygiene habits, with only 50% brushing their teeth twice a day. Sensitivity to toothpaste and discomfort from dental equipment contribute to these difficulties, requiring routine oral care and specialized dental care. Getting pregnant is daunting for people with autism and their caregivers.

Therefore, tooth decay, dental caries, and most other oral health problems are more common in people with ASD, so intervention and prevention strategies must be done to accommodate compliance. Dentists play an important role in solving these problems by using professional methods and creating common sense in their practices. This may include using other tools for dental care, reducing auditory and tactile stimulation, and using patient communication techniques to promote coordination and reduce anxiety during dental care. In addition, parental involvement is important in promoting oral health in children with ASD. Parents play an important role in establishing good oral habits at home, managing hearing loss, and meeting their children's special needs during dentist visits.

Collaboration between parents, dentists, and other healthcare professionals is important to provide effective care and improve oral health for individuals with autism.

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