

Special Article – Dental Hygiene

Dentist and Care Givers Perspectives of Oral Health Care in a Child with Autism: A Special Care Needs

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Autism is a developmental disability that predisposes the oral health concerns that are related to the behavior, learning and communication objectives. The restricted and repetitive behavior leads to the fixed and monotonous dietary style which predisposes the dental caries. The oral hygiene practices relate to the learning objectives which predisposes to the compromised gingival and periodontal health. Traumatic lesions of the oral cavity are observed in the autistic child due to self-injury and child with seizure episodes. This review paper highlights about the various oral health concerns in autistic child, oral health care delivery by care givers and dentist perspectives.

Keywords: Autism; Oral health care delivery; Special care; Home care; Seizure

Introduction

Autism is a complex and highly variable neurodevelopmental disorder and causing the impairment in social interaction, behavioral and intellectual functioning [1]. It appears first during the child's infancy or sometimes in childhood. The symptom slowly begins after the age of six months and becomes established by second or third year of life, it is generally known to continue throughout their adulthood. It may remain in silent form during the adulthood [2]. Children's with autism disorder displays less attention to the social stimuli such as physical contact, smile, verbal note and visual contact. Their social understanding is poor and less recognition of emotional feelings. The individuals with autism display a psychology of loneliness due to this fact; it is assumed that autistic child prefers to stay alone. The behavioral defects in autism displays a poor social and peer relation, thus leading to an environment without friends around them in their life [3]. Behavioral pattern in autistic disorder is described as repetitive or restrictive behavior. The behavioral pattern includes stereotypy, compulsive, ritualistic and restrictive behavior [4,5]. The autistic child with intellectual disability may be associated with aggression and destruction to their adjacent environment [6]. The manifestations of the autistic disorder may vary depending on the developmental level and the chronological age of the person. The ICD code for this disorder is 9 [7]. The Autism is a disorder on the diagnosis of Autism spectrum disorder, which includes autistic disorder/classical autism, pervasive developmental disorder (PPD) and Asperger syndrome [8].

Oral Concerns of Autistic Individuals

Individuals with autism display an unusual oral health condition. The oral problems in children with autism are due to the medications, behavioral problems and para functional habits [9]. The autism related oral problems include a wide variety of the manifestations which may be related to para functional habits such as tongue thrusting and thumb sucking; bruxism, non - nutritive chewing, dental caries, periodontal problems, tooth eruption problems, self

mutilating problems such as injury and trauma to oral and para oral structures [10].

Tongue thrusting, thumb sucking, bruxism, self-mutilating behavior such as tongue and biting, habits such as cigarette butt eating, pen and pencil are considered to be the damaging oral habits. Traumatic oral ulceration in lips, tongue, gingival areas is more commonly observed in these patients. Other potential concerns of autistic individuals are epilepsy, depression or anxiety, obsessive compulsive disorder, schizophrenia and attention deficit hyperactivity disorder. The oral problems may also develop due to the potential disorders that are observed in the autism disorder [11,12].

Dental Caries

The autistic child tends to have a unique pattern of dietary style which is unvarying and restricted to one type of diet [13]. The mono focused diet of soft, sticky or sweet foods is observed in these individuals. This limited and restricted dietary style predisposes to the increased risk of dental caries. As the dental decay is not due to the systemic component, a proper home care may alter the status of dental health. A recommendation of electric toothbrushes and guidance assisted tooth brushing may improve the dental health.

Gingival and Periodontal Disease

Children with the autism disorder appear to have higher prevalence of gingivitis [14]. A difficulty with learning the correct tooth brushing and flossing technique may be observed with these individuals, due to behavioral and communication problem in this condition. A faulty tooth brushing and improper oral hygiene care predisposes to the gingival, periodontal and dental decay. Care giver assisted tooth brushing will improve the dental and gingival health. Use of mouth washes under the supervision of caregivers or parents may help to help improve the gingival and periodontal health.

Retarded Eruption

One of the potential concerns of the individual with autism is

epileptic attack. The patients with anticonvulsant therapy such as dilation are at higher risk of development of gingival enlargement. The hyperplastic gingival tissues are noted to cause the retardation in tooth eruption [15]. A proper monitoring is required of these individuals during the dilation prescription. The behavioral problem and inherent self-injury habit may be worsened due to the excessive gingival growth, which might predispose an irritability behavior. Biting the over grown gingival tissue or tongue, temper tantrum may be observed due to the irritability nature. The caregivers and parents are recommended for special monitoring when the child is under medication such as diltain. A timely dental consultation and management of hyperplastic gingival tissue may avoid oral ulceration and facilitate the tooth eruption.

Oral Trauma

The Self injurious behavior in autism is supported by the opiate hypothesis. The opiate hypothesis suggests the patient engagement with self-injurious behavior because they are partially analgesis (Pathologically altered pain threshold) or the self-injurious behavior supplies a fix for an addicted endogenous opiate system [16]. Traumatic ulcerations in the oral cavity are frequently observed due to the self-injury habit [17]. Nonnutritive chewing habit is also found in these individuals and which may lead to the oral trauma. A relatively higher frequency of traumatic lesion is also seen in the autistic individuals with seizure or epileptic disorders. The caregivers or parents should be guided with the oral health care instructions. The oral health care instructions will focus on the care to the tongue, lips and oral mucosal biting during the seizure attacks. The dental and oral tissue saving kit such as mouth guards should be recommended to have at their premises.

Although it is common to see the oral trauma in autistic children, sometimes the oral traumatic lesions may be related to the physical or child abuse. The dentist should identify such cases with child abuse in this special child with autism or developmental disability. The measure for the child protection from the child neglect issues should be taken.

Home Care Delivery for Autism

The role of caregivers or parents of the autistic child is very important and significant. As every autistic child is different and there is no single view for autistic focus. Handling the autistic child is a battle field and understanding the child mind setup. However, caregivers and parents require adapting from their normal skill. Creating a daily schedule for brushing, dietary intake, play, school is helpful. A high level of understanding about the autistic child behavior, communication level is important. Identify the level of their understanding and carve out the environment which is best for them. A properly guided home care will help in maintaining the oral health. A high patience is expected from the caregivers or parents. The home care for oral health is majorly related to the physical and visual attention. The physical attention is required during tooth brushing, management during seizure attacks and visual attention is required during the mouth rinsing and dental health status monitoring. The caregivers or parents need to be knowledge about the dental disease, since most of the dental disease intervention in the initial stages is minimal invasive.

Dental decay is majorly depends on the oral hygiene practices and diet. Due to the behavioral and communication disabilities, these individuals require a special attention in the habitual procedures such as brushing and oral hygiene practice. Caregiver or parent guided tooth brushing are recommended until the proper learning of brush habit. A child with self-brushing habit requires a careful monitoring by the caregiver or parent. Electric toothbrushes are often recommended for autistic individuals [18]. However, the noisy sound and vibration feel predisposes a child for discomfort, and rejection to electric toothbrush might be observed in some individuals. In autistic individuals having problems with an electric tooth brush may follow the rolling tooth brushing method with the regular toothbrush may help to maintain the intact dental and gingival health. The rolling method is employed by the circular fashion of the brush movement with back and front direction, this method is commonly recommended in the normal individuals.

Oral traumatic lesions are common in the autistic individuals due to self-injury and seizures. A recommendation of mouth guard use of these individuals at the time of seizures may be helpful to avoid the traumatic injuries to teeth and oral tissues. The mouth guard is the flexible appliance that is worn to protect the teeth and oral tissues from trauma. Usage of mouth guard during the sleep hours will protect the teeth from bruxism, whereas teeth and oral tissues during the episodes of seizure [19,20]. Autistic child with seizure and under medication of dilantin sodium requires a timely intervention with the dentist. Hence, caregivers or parents advised to find out the objectives of the drug effects and report to their dentist at the earliest time possible.

Oral Health Care Delivery to the Individuals with Autism

Oral health care delivery to the individuals with autism requires the adaptation of the skills. Prior to the oral health care delivery a thorough idea of the medical history and informed consent with the parents are recommended. A discussion about the autistic child behavior and functional abilities with a guardian or the parent will help to draw the way of communication with the child. The oral problems in the autistic child may be related to the behavior problem, due to the underlying condition. The hyperactivity and stereotypical type behavior predisposes the oral problems in these individuals.

The dental appointment and patient waiting time are highly influential to the behavioral output. The dentist need to be alert throughout the treatment process as most of the dental treatments are invasive, a temper tantrum like behavior may be expected commonly among these special children. Oral health care provider need to explain the treatment procedures in priority based on the understanding ability of the special child. A behavioral management "Tell Show Do" (TSD) is well recommended in management of autistic child [21]. The components "Tell and Show" are an instructional phenomenon whereas "Do" is an outcome or practicality. The best outcome of the patient is expected when the first two components are well placed. The time spent for the Tell and Show are highly significant in the patient's behavior.

The explanation of the treatment procedures based on their understanding ability need to be performed by the dentist or oral

health care provider. The child can be allowed to visualize the dental clinic and to get familiar with the environment, the latter permits for desensitization. Counseling with parent or caregiver will help dental surgeons to understand the mental status of the autistic child. A better cooperation can be obtained from the autistic child, when their behavior and level of communication are understood. The distractive things such as sounds, sights, odour, and lights need to be identified and avoided at the best. The immobilization techniques such as a Hand Over Mouth Exercise (HOME), seat belts and straps can be employed in the absolutely recommended situations and should not be employed for the convenience of dental operative procedures.

Treating an autistic child with history of seizures need to be counseled with the physician in prior. The frequencies of seizures need to be probed from the medical history. Consultation with physician may give help in pre medication and thus creates an eventful dental visit. Counseling with caregivers or parent will help to avoid the trigger factor to seizures.

An eventful and successful dental visit creates a good patient attitude and acceptance in normal patients. A same approach is required to create for the child with autistic disorder. Oral health care delivery to an autistic child is not just the treatment alone but needs to be extended to the parent counseling, physician's suggestion and understanding the autistic child behavior and their level of communication. A successful dental visit to autistic child will not just create a good experience, but also an easy response to their next visit or appointment.

Conclusion

The oral health care delivery by the caregivers, parents and dental surgeons requires the adaptation of normal skills that are employed in routine life. A thorough understanding the child's behavior and level of learning and communication will help in drawing a good oral health and dental treatment experience. Creating a good oral health in autistic child may be slow to gain at the initial level, but a strong fortitude of oral hygiene practice among them will create a habitual process. Once it is habituated, the oral health strategies are well maintained.

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