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BEHAVIOURAL MANAGEMENT OF CHILDREN WITH VARIOUS INTELLECTUAL DISABILITIES – A PRACTICAL GUIDE

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ABSTRACT

Oral health professionals and caregivers alike agree that children with disabilities, whether acquired or developmental, have the right to receive proper rehabilitation, in order to obtain their maximal functioning potential and lead a normal life. **Aim of the study** This paper aims to review the main challenges faced by paediatric dentists in the management of children with various intellectual disabilities, and formulate a set of recommendations and guidelines designed to enhance disabled patients' trust in dental therapists, while enabling the latter to successfully carry out specific oral health procedures on this group of vulnerable individuals. **Material and methods** A review of available literature was performed, searching MedLine and PubMed databases for terms like: children, intellectual disability, prevention, dental treatment**. Results** Difficulties that arise in the context of dental management of a disability may be overpassed with a few techniques and methods available for the general dentist and the paediatric dentist alike. **Conclusions** Educating the paediatric dentist regarding the most common oral manifestations of intellectual disabilities is important, and guidelines are necessary in order to properly manage the dental treatment of this population group.

Key words: children, mental disability, dental treatment, prevention

INTRODUCTION

Oral health of children with disabilities still represents a "grey area" in paediatric dentistry. This vulnerable population group shows an increasing prevalence of deficient oral hygiene, compromised periodontal health and a significantly higher incidence of dental caries compared to the rest of the population. There is a current shift from the older management model, which consisted in providing basic dental assistance, to a modern approach, with complete and complex oral and dental care.

MATERIAL AND METHODS

Literature was reviewed for recent papers regarding dental management of children with disabilities in general, and with intellectual disabilities in particular, after searching PubMed and MedLine databases for terms like: children, intellectual disability, dental treatment, prevention, impairment, oral health.

RESULTS AND DISCUSSIONS

A good quality of life for children and adolescents with special health care needs implies the necessity of oral care, given the fact that this population group is at a greater

risk for developing dental pathology throughout their life (Foster and Fitzgerald, 2005; Doichinova and Peneva, 2014).

Literature demonstrates a scarcity of dental care in children and adolescents with disabilities, dental treatment accounting for about 8,1% of unmet needs in children with special health care needs (Lewis, 2009). In the case of children with intellectual disabilities, one study reports that 14,4% of patients had not received any dental treatment in 5 years, compared to the 8% of general population (Havercamp et al., 2004).

Dental decay is not likely to be treated in children with intellectual disabilities, and when treatment is offered, the probability of an extraction is higher than in the general population (The Royal College of Surgeons of England, 2012).

In addition to their increased susceptibility for oral diseases, children with special health care needs require adaptation from the dental care team, in terms of logistics and dental chair settings, but also training and special education regarding their management. This is particularly available for children and adolescents with intellectual disabilities, as their dental treatment usually necessitates specialized knowledge of behavioural management (Iida et al., 2010).

Literature reports a similar prevalence of dental caries in children and adolescents with special health care needs, compared to healthy children (Whelton et al., 2009), but their oral health seems to deteriorate faster than other population groups, with higher numbers of untreated dental caries, missing teeth and fewer restorations (Vozza et al., 2015). Furthermore, the prevalence of poor oral health and periodontal disease appear to be higher in children with special health care needs, compared to the general population (Toma et al., 2009; Anders, 2010; Beldiman et al., 2017).

The most common oral manifestations of intellectual disabilities are: rampant caries, post-treatment caries, dental fractures, dental tissue loss, diminished salivary flow, malocclusions, deficitary oral hygiene, soft tissue trauma, muscular hypotonia (Marwah, 2019).

Children with intellectual disabilities resulting from brain injury could present seizures, which increase their risk to develop dental trauma (Gawlak et al., 2017). Moreover, some medication used in the management of seizures can lead to periodontal conditions like gingival hyperplasia; other medication can lead to xerostomia, which further adds to the risk of oral pathology (Hallberg et al., 2009).

Behaviour management is a significant part in paediatric dentistry, and this is particularly available for children with intellectual disabilities, as they are often unable to understand the necessity of dental prevention and oral hygiene, they often lack the capacity to cooperate during the dental treatment and they deal with greater amounts of dental anxiety (Bertness and Holt, 2011).

Dental management of children and adolescents with an intellectual disability requires an adaptation to social, mental and financial conditions of the patient, while considering their intellectual and emotional delay. During the dental treatment of children and adolescents with an intellectual disability, the medical team can confront with a short attention span, agitation, hyperactivity, non-regulated emotional behaviour and anxiety from the patient's part (American Academy of Paediatric Dentistry, 2007).

Several recommendations can be formulated in order to decrease patient's anxiety and to obtain their cooperation, according to their level of intellectual impairment and understanding. These include: offering a short tour of the dental

office before commencing the treatment, introduction of the medical team and staff, bringing a favourite object to the dental chair (stuffed animal, blanket or toy), using simple words, repetitivity and a warm tone of voice, active listening of the patient, rewarding the desired behaviours and offering step-by-step instructions (Alamri, 2022).

Communication difficulties are a real problem in children and adolescents with intellectual disability, therefore the paediatric dentist has to be genuinely sensible to mimic and verbal requests. In order to assure an effective communication, the parent or caregiver could be involved in the dialogue; sessions should be short, usually appointed at the beginning of the day and with a gradual growth of procedures intensity (e.g. introducing anaesthesia and restorative procedures only after the child has got acquainted with the dental office) (Shenkin et al., 2001).

Communication can be enhanced through various utilization of imagery, such as photographic descriptions of every step of the dental treatment. Images are an effective tool in the management of children with intellectual disabilities, as they help creating a setting and providing expectations from the little patient.

Cerebral palsy comprises a group of non-progressive disturbances resulting from a defective functioning of neuronal centres and motor brain pathways. For a general dentist, a person with cerebral palsy might be perceived as a non-cooperating and impossible to manage patient. Non-experienced clinicians, who lack knowledge about the physical aspects and mental impairments associated with different disabilities might not be comfortable and refuse treating these patients (Nowak, 2002).

In cerebral palsy patients, there is an increased risk of developing tooth attrition due to bruxism, causing even more issues related to the enamel breakdown (Fleck, 2011).

A few suggestions could ease the management of a cerebral palsy patient in the dental chair, and these include: the transfer of the wheelchair (where needed); stabilizing the patients' head for the entire duration of the dental treatment; improving the patient's comfort and the position of extremities on the dental chair; proper use of immobilization as a tool to control involuntary movements; choosing from a variety of mouth props to stabilize involuntary jaw movements; avoiding high noises, lights and sudden movements without warning; effectively reduce the time required for dental work (Nowak et al., 2010).

Autism was first described as a clinical syndrome in children with relational incapacity towards other people and the environment, while a modern comprehension of the disease consists in a complex cluster of neurodevelopmental disorders (Charles, 2010).

The most common oral manifestations of autism spectre disorders include a higher susceptibility towards dental caries, bruxism, vicious habits like lip-biting and biting of the buccal mucosa, ulcerative traumatic lesions, unhealthy food habits, periodontal disease and deficitary oral hygiene (Anders and Davis, 2010).

Dental management of children and adolescents with autism spectre disorders should begin with a positive non-threatening approach, short treatment sessions, creating a balanced, coherent and orderly environment; anticipating the treatments' stages, properly describe and demonstrate each step, visual contact, encouraging and endorsement of a patient's positive behaviour, positive reinforcement (Glassman and Subar, 2009).

Instruments have to be described and the dentist should demonstrate their utilisation by using the 'tell-show-do' method.

In order to reduce anxiety and to grow patients' trust, the medical team should create a relaxed ambiance, with smiles and comforting gestures. If the patient has an auditory device, it should be adjusted before using the hand piece, because of the sound amplification effect it produces (Ohmori et al.,1981).

The American Academy of Pediatric Dentistry (AAPD) summarizes some recommendations and behaviour guidance techniques which should be taken into account in the management of children and adolescents with intellectual disabilities: communication and communicative guidance, positive pre-visit imagery, direct observation, the 'tell-show-do' technique, the 'ask-tell-ask' technique, voice control, non-verbal communication, positive reinforcement and descriptive praise, distraction, memory restructuring, desensitization to dental settings and procedures, enhancing control (with patients who can communicate), parental presence/absence, sensory-adapted dental environments (e.g. dimmed lights, animations on the ceiling like fish or bubbles, soothing music in the background, using a wrap or a blanket around the child to obtain calming effects), animal assisted therapy, nitrous oxide sedation (American Academy of Paediatric Dentistry, 2022).

The advanced behaviour guidance techniques recommended by the same institution include: protective stabilization (partial or complete, with or without a restrictive device like Papoose board), sedation and general anaesthesia (with the corresponding indications and contraindications) (American Academy of Paediatric Dentistry, 2022).

CONCLUSIONS

Disability accentuates difficulties created by dental pathology. Pain, infection and functional impairments restrict proper food intake, which impacts growth and development, while usual activities such as work, learning, communication and recreation are often limited or even inhibited.

Regarding the dental management of children and adolescents with intellectual disabilities, a few statements can be definitory:

- 'Tell-show-do' technique, short appointments and allowing a favourite toy or object on the dental chair are the most efficient approaches in the case of children and adolescents with an intellectual disability.
- Dental treatment in the wheelchair and immobilization of the extremities are the best methods in the management of children and adolescents with cerebral palsy.
- The main precaution in managing children and adolescents with autism is avoiding sudden movements, and focused should be put on maintaining the consistence and coherence of the environment.

In order to formulate a personalized and targeted dental management guide, specific oral healthcare needs in children and adolescents with intellectual disabilities have to be identified. Parents, caregivers, medical service providers and auxiliary organizations have to be properly informed and educated regarding the management of oral hygiene and dental care in children with special health care needs, especially regarding behaviour management techniques and recommendations.

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