

Dental care to patients with autism: clinical management guidelines

Lais David Amaral,¹ Rafaela Sabino e Andrade,¹ Daniele Machado da Silveira Pedrosa,¹ Andréia de Aquino Marsiglio,¹ Claudia Maria de Souza Peruchi,¹ Eric Jacomino Franco,¹ Alexandre Franco Miranda¹

¹School of Health and Medicine, School of Dentistry, Catholic University of Brasilia (UCB), Águas Claras, Brasília, DF, Brazil

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ABSTRACT

Objective: to carry out a literature review about autism spectrum disorder, discussing the oral needs of these subjects and proposing guidelines for dental professionals to make it possible to offer dental care to people with autism in their clinical practices. **Material and Methods:** we searched the databases of the Web of Science, PubMed and Cochrane Library, where articles of systematic reviews, meta-analysis and clinical trials were selected between the periods 2008 to 2018. **Results:** we selected 28 articles that define and discuss the condition of the autism spectrum disorder and its relationship with oral health. The studies also point out the difficulties of parents and dental professionals regarding oral hygiene and the reception of these subjects in a dental environment. **Conclusion:** reflecting on these practices and new approaches, we consider a new professional conduct, aimed at raising the quality of dental care to the patient with autism.

Keywords: Autism; Dentistry; Inservice Training.

Introduction

Autism is a relevant type of neurodevelopmental disorder. It is characterized as a disturbance that promotes qualitative changes in the reciprocity of social interactions and in communication patterns, which become restricted, stereotyped and/or repetitive. The developmental trajectory is still not well defined; however, it is known that this is an irreversible condition.¹⁻³

First described in 1943 by the psychiatrist Léo Kanner, Autism Spectrum Disorder (ASD) is currently defined by the American Psychiatric Association (2013) through the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) as a neurodevelopmental disorder, which manifests itself in a serious way throughout the lifetime. Signs might be present up to 30 months of age.^{2,4,5}

The reported frequencies of ASD in the United States and in other countries reached 1% of the population, with similar estimates in samples of children and adults.⁶

The diagnosis that identifies an individual within the ASD is clinical, presented by a triad of deficits that involves impairment in the areas of communication, social interaction and restricted repertoire of interests and activities.^{7,8}

Individuals diagnosed with autism may present different combinations of signs and symptoms, and there is also a distinction of severity of these characteristics within each domain. When combined, they may involve intellectual impairment, seizures, anxiety, attention deficit, and hyperactivity. Each individual diagnosed with autism presents as a unique constellation of behaviours and challenges.^{9,10}

Given the difficulties faced by these individuals and consequently the limitations that this condition entails, frequent follow-ups should be carried out by health professionals, in-

cluding those from dentistry area.^{3,11}

Identifying and seeking solutions for oral health promotion of these individuals is a fundamental role of dentistry professionals, who need to be able to perform this task. This should be a constant search, aiming for an integral reception of the patient with ASD, providing more effective care and less stressful and exhausting actions for these patients and their relatives.^{11,12}

Thus, the objective of the present study was to perform a literature review, also proposing guidelines for dental surgeons to welcome autistic patients into their clinical practice and to successfully perform their role as a health professional.

Material and Methods

For the elaboration of this article, a research was carried out from December 2017 to June 2018, consulting the PubMed, Web of Science and Cochrane Library databases. In order to do so, we searched for studies with a focus on dental care for patients with autism, using a combination of the following descriptors: “autism”, “dentistry” and “in-service training”, extracted from the Descriptors in Health Sciences) and Medical Subject Headings (MeSH). Scientific articles in English and Portuguese, considered relevant, current and published in indexed journals, with the editorial board and ISSN (International Standard Serial Number) were selected. As inclusion criteria, the publications of the years 2008 to 2018, published in the Portuguese and English languages, were taken into account, which brought results of clinical trials, systematic reviews and meta-analyses. Reports of clinical cases and publications that did not have the full text available were excluded. After reading the titles

and abstracts, the duplications were excluded, and 28 papers were selected, since they were directly related to the topic and considered relevant for the construction of this review.

Results

The selected studies address the clinical manifestations and characteristics of people with autism as well as the forms of treatment of them, besides studies related to the oral condition of these patients and the difficulties faced by parents and dentists in oral hygiene care of autistic patients.

Autism

According to the American Psychiatric Association (2013), autism is an inadequacy in development that manifests itself severely throughout life and can be disabling. It affects about 20 out of every 10,000 born and is four times more likely to appear in males than in females.^{1,3,9}

Prevalence data for this condition vary by country, due to discrepancies related to criteria, diagnoses and environmental influences. In Brazil, although there is no specific survey for these patients, in 2010, it was estimated that there were about 500,000 people with autism. This condition is found all over the world and in families of any racial, ethnic and social configuration. There is no evidence of any psychological cause in the environment of these children that can justify autism.^{11,13}

The diagnosis of this condition is essentially clinical, based on the observations of the individual, interviews with parents or guardians and application of specific instruments. The criteria used to diagnose autism are described in the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders.⁶

The manifestations of the disorder vary immensely depending on the level of development and the chronological age of the individual. In addition, people with ASD may present with mental and perceptual impairment.¹⁴

Diagnostic Criteria According to DSM – V (2013)

The Diagnostic and Statistical Manual of Mental Disorders, in its current version (DSM - 5), conducted a fusion of ASD where Autism Spectrum Disorder encompasses Asperger's Disorder, Childhood Disintegrative Disorder, Rett Disorder and Global Disorder of Development not otherwise specified.⁶

This change was implemented to improve the sensitivity and specificity of the criteria for the diagnosis of ASD and to identify more focused targets, needing treatment for the specific damages observed in each individual.

Thus, to establish a reliable clinical diagnosis of autism spectrum disorder, it is important to classify these individuals according to three levels of severity of this condition, as presented in Table 1.

Table 1. Severity levels of ASD – DSM – V (2013)

Level 1 – “Requiring support”	
Social communication	Restrict and repetitive behaviour
In the absence of support, deficits in the social communication cause notable losses. It may seem to be of reduced interest through social interactions.	Inflexibility of behaviour causes significant interference in functioning in one or more contexts. Problems with organization and planning are obstacles to independence.
Level 2 – “Requiring substantial support”	
Social communication	Restrict and repetitive behaviour
Severe deficits in verbal and non-verbal social communication skills; apparent social losses even in the presence of support.	Inflexibility of behaviour, difficulty coping with change or other restrictive/repetitive behaviours. Suffering and/or difficulty of changing focus or actions.
Level 3 – “Requiring very substantial support”	
Social communication	Restrict and repetitive behaviour
Severe deficits in verbal and non-verbal communication skills; great limitation in initiating social interactions and minimal response to social openings.	Inflexibility of behaviour, extreme difficulty in dealing with change or other restricted/ repetitive behaviours. Great suffering/difficulty to change focus or actions.

Evaluation and Diagnosis Criteria According to CID-11

The World Health Organization (WHO) recently presented (in June, 2018) the current version of the International Statistical Classification of Diseases and Related Health Problems (ICD 11), scheduled to be officially presented in May 2019, bringing changes in diagnosis and classification of ASD. Unlike the ICD 10, which divided the Global Developmental Disorders into autism, syndromes and other disorders, the current version has as its main change the description of the diagnostic ASD that involves or does not involve intellectual deficiency and functional language impairment (Table 2).¹⁵

Table 2. Classification of ASD according to ICD - 11

ICD-11 code	Intellectual Disability	Functional Language
6A02.0	No intellectual disability	Mild or none language impairment
6A02.1	With intellectual disability	Mild or none language impairment
6A02.2	No intellectual disability	With language impairment
6A02.3	With intellectual disability	With language impairment
6A02.4	No intellectual disability	Absence of language
6A02.5	With intellectual disability	Absence of language
6A02.Y	ASD not otherwise specified	
6A02.Z	ASD not otherwise specified	

Autism and Dentistry

When a family receives the diagnosis of autism from a child, it is usually guided on the therapies necessary to stimulate the child's better social and cognitive development. However, guidelines with the care that must be taken regarding oral health are not always informed. This may be a reason why people with autism often have a cariogenic diet associated with poor oral hygiene, which can lead to an unfavourable oral condition.^{5,17}

Taking a person with ASD to a dental evaluation can be one of the last concerns of caregivers, because in the face of so many activities and anxieties experienced by some families, they end up not valuing (or lacking time to value) oral health and, in many situations, they only consider a visit to the dental surgeon in presence of pain.^{13,17}

Moreover, the compromised communication of some people with autism can lead these individuals to the inability to express discomfort or pain, aggravating the pictures of installed oral pathologies.¹¹

Individuals with ASD often offer little collaboration during medical and dental appointments, even those procedures considered to be less invasive in dentistry, the visit can cause anxiety, distress and fear in these people. Behavioural strategies have been used to desensitize these patients to the

medical and dental procedures they need.^{13,17}

This population has a prevalence of caries that is statistically similar to that of people who are not within this spectrum, but autistic individuals present a higher prevalence in periodontal problems, as well as low salivary flow (associated with the use of anticonvulsive and anxiolytic drugs), which may contribute to greater risk of developing oral diseases and caries.¹⁸

According to the studies conducted by Amaral, Carvalho and Bezerra (2016), people with autism still have a high frequency of extra oral changes, more orthodontic problems than individuals without this condition, and oral mucosa and periodontal disorders.¹¹

Techniques, desensitization programs, and behaviour management approaches for people with mental disorders include the most frequent pattern for differential care, which includes embracement, family involvement, behavioural control, and psychological support.^{19,20,21}

The new techniques for dental care of people with autism and patients with special needs are presented in studies that include actions that go beyond sedation and restorative and/or mutilating treatments. The study of the condition of autism allows the increase in the relationship between professionals and patients with ASD, providing an advance in the forms of approach, interaction, care and assistance of these patients.^{13,22-24}

Nevertheless, there is little information on activities involving the training of human resources in dentistry about the main oral diseases of autistic patients, particularly due to the lack of knowledge and lack of guidelines with regard to dental care practices for these subjects.^{11,25}

Guideline for dental treatment of autistic patients

Efforts to build the most convenient forms of health care are essential for the motivation and mobilization of the dental team, in addition to promoting greater security, systematization of care; health education and the optimization and

quality of care provided. In addition, epidemiological studies and the creation of systematizations (or guidelines) of health care for patients with autism are also fundamental for the multiplication of information and experiences obtained, aiming at quality in care, optimization of time and safety, not only of the multiprofessional team involved, but also of the patient and his relatives.^{11-13,16}

The oral health care of individuals in the autism spectrum requires specialized knowledge on the part of professionals in order to seek the best and most effective strategies adapted to the health promotion of this population. The complex features associated with autism spectrum disorders can make it difficult to access the appropriate dental service. Although autism is a unique condition, it manifests itself differently in each individual, so it is necessary to have an individualized approach for each of these patients.^{17,18,25}

The barriers faced by these individuals and their families in the search for oral health care are frequent. This may be due to the difficulty in finding qualified and able professionals to deal with autistic patients and the complexity involved in their behaviour, as well as high costs of specialized treatments, anxiety and concerns regarding dental treatment by parents and the difficult in accessing specialized care in public health services.^{11,26,27}

Behaviour management planning, through desensitization, aims to help the patient become familiar with the dental environment, staff and equipment. This host approach can be done in several stages, divided into several visits to be carried out preferably always at the same times of the day, with the same team and involving the minimum of possible changes.^{3,13,26,27}

Establishing a relationship based on trust between professional, patient and family members, at each visit, it is possible to achieve a new step that includes, the patient on his own sitting in the dental chair, becoming familiar with the clinical examination in order to allow the professional can plan the treatment that will be performed. To do this, instruments such as the dental brush can be used, which will promote preventive care and the beginning of physical contact during the first dental approaches.^{11,16,28}

Thus, this study proposes a series of suggestions that oral health professionals can use during the care of patients with ASD. One must take into account the individualization of these approaches and understand that these guidelines can be used in a random way or just as an inspiration for professionals to create their own approach tools.

The guidelines that involve performing dental procedures of patients with autism in health services can be divided into the following steps: 1. Family approach and recognition of the routine of individuals with ASD (initially the first contact can be through a conversation and

anamnesis with the parents or caregivers of the patient with ASD and at this moment the professional can propose a home visit to establish the first contact with the patient in a place that is familiar to the patient); 2. Desensitization between the patient with ASD, their relatives and the dental team, regarding the performance of dental procedures, beginning the first visits of the patient to the dental environment; 3. Continuation of detailed anamnesis with patient's history. The professional may consider carrying out the clinical examination by sitting on the floor with the patient and using his own toothbrush or wooden tongue depressors, which will allow the execution of a first general assessment of the oral condition and planning of more emergency treatments, if any; 4. Individual assessment of the cases, tracing the profiles of each patient and their family context, to plan the tools that will compose the accomplishment of these visits (evaluate the need and feasibility of protective stabilization, sedation, use of music or play objects); 5. Individual assessment of the need to use local anesthesia, taking into account that, although patients with autism may present a higher pain threshold than people without this condition, invasive treatments can generate discomfort. However, it is also necessary to consider the postoperative effect of anesthesia in each patient, and self-injury may occur during the anesthetic effect after the procedure has been done; 6. Basic aspects in the planning of dental treatment will involve the choice of dental materials to be used, as well as the use or not of elements such as dental aspirator, motor, drills, light of the reflector, among others. Everything must be available when service is started; 7. Special attention should be paid to the postoperative instructions, which will also be provided individually, taking into account all the characteristics of the patient and the procedures performed; 8. Make use of a referral, when necessary, not forgetting that the professional who embraced this patient should preferably be present even in appointments that need other specialists (such as cases of endodontic treatment, for example); 9. Follow-up should take place systematically and may involve new home visits, focusing on maintaining the bond established between the patient, his/her relatives and the oral health team.^{11,16}

Conclusion

People with autism may have difficulty collaborating during a dental approach, however, it is possible and desirable that these individuals be accommodated in their oral needs. Therefore, dentistry professionals must be technically capable and willing to develop strategies to perform care that promotes oral health of these patients, without generating anguish for them, their relatives and professionals.

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Mini Curriculum and Author's Contribution

1. Lais David Amaral – Master's and PhD in Health Science. Contribution: effective scientific and intellectual participation, data collection, composing and writing of the manuscript, review and final approval. ORCID: 0000-0001-5887-7911
2. Rafaela Sabino e Andrade – Specialist in Pediatric dentistry. Contribution: critical review and final approval. ORCID: 0000-0002-8117-1535
3. Daniele Machado da Silveira Pedrosa – Master's in health science. Contribution: critical review and final approval. ORCID: 0000-0003-0536-2652
4. Andréia de Aquino Marsiglio – Master's in Health Science
Contribution: critical review and final approval. ORCID: 0000-0002-4931-7899
5. Claudia Maria de Souza Peruchi – Master's and PhD in Dentistry Sciences. Contribution: critical review and final approval. ORCID: 0000-0001-9055-8005
6. Eric Franco Jacomino – Master's in Dentistry and PhD in Genomic Science and Biotechnology. Contribution: critical review and final approval. ORCID: 0000-0002-4349-574X
7. Alexandre Franco Miranda – Master's and PhD in Health Science. Contribution: writing of the manuscript, critical review and final approval. ORCID: 0000-0002-9965-1406

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Corresponding Author

Lais David Amaral

E-mail: lais.davidamaral@gmail.com

