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Update in the Knowledge of the Dental Approach in Patients with Autism Spectrum Disorder in Students of the Uniandes Dental Care Unit

Marco Antonio Zúñiga Llerena[1] , Jenny Carolina Paredes Balseca[2] , Ariel José Romero Fernández[3] , Emilia María Pinde Yépez[4]

[1][2][3][4]Universidad Regional Autónoma de Los Andes Ambato. Ecuador
Email: ua.marcozuniga@uniandes.edu.ec[1] , ua.jennyparedes@uniandes.edu.ec[2] , oa.emiliampy@uniandes.edu.ec[3] , ua.arielromero@uniandes.edu.ec[4]

ORCID ID: 0000-0002-7257-0008[1] , 0000-0002-7448-5931[2] , 0000-0002-1464-2587[3] , 0009-0005-3522-7277[4]

*Corresponding author's E-mail: ua.marcozuniga@uniandes.edu.ec

Article History	Abstract
	Aim: *Autism spectrum disorder (ASD) is a neurological condition characterized by difficulties in communication and social skills. This article aims to present a critical perspective on the challenges faced by patients with ASD during dental consultations.* ***Material and method***: *A study was conducted with students of the Dental Care Unit of UNIANDES to assess their knowledge and approach to the management of patients with autism, seeking to reduce stress and phobias related to noises and colors. A survey was designed to evaluate the students' level of knowledge about the proper management of autistic patients, addressing topics such as collaboration, different levels of autism, common oral problems, and behavioral management techniques.* ***Statistics and Result:*** *The results revealed insufficient knowledge on the part of the students in the management of autistic patients. In conclusion, despite the importance of autism in the training of students, there is a lack of knowledge on this topic that needs to be addressed through better education and training in the management of patients with ASD in the dental field.*

1. Introduction

This scientific article describes autism spectrum disorder (ASD), within the pathologies that affect the alteration of neurodevelopment, highlighting (ASD) as a condition that lasts throughout the life of the individual, the prevalence is 1 in 68 people and affects social behavior, language, communication (Barbosa, 2019).

However, the students who make up the Dental Care Unit "UNIANDES" must relate the knowledge taught in dentistry to treat patients with autism who will require adequate care according to the needs they have in order to reduce stress, fear or alterations to noise and colors. In many patients who require dental care, they have a difficulty in integrating verbal and non-verbal communication, although each case has particularities and cannot be generalized (Barbosa, 2019).

For this, it is important to develop methodologies that allow a process of adaptability to improve the behavior and communication of this type of patients to achieve optimal dental care that manages to maintain the oral health of patients with autism (Llorente, 2014).

Currently, studies have been carried out on the main dental problems, which allows us to model restrictive behaviors that prevent the natural development of a dental consultation. Where anxiety has been detected as one of the main causes that the autistic patient presents, as well as symptoms of fear, fear that can cause the clothing of the dentist; Various circumstances that generate a rapid sensory reaction due to color, noise, light and instruments, which leads to the patient being uncollaborative in the consultation (Musa et al., 2016). Under this aspect, the need arises to use and apply techniques that are consistent with the comfort of patients with autism around the conditions that present, as well as the development of the professional in dentistry, to put into practice techniques called as; Basic and advanced (Marshall & Shelle, 2014).

For the application of the basic technique, communicative alternatives of verbal content are established, such as communication and voice control, followed by the non-verbal corresponding to the application of strategies that make the patient create a distraction either by pictograms, family support, motivational tactics (Marshall & Shelle, 2014). The use of advanced or restrictive techniques allows the patient to protect physical integrity, because the dentist opts for intravenous sedation and general anesthesia (Perez et al., 2017; Basurto et al., 2021; Cardenas et al., 2021).

Say-show and Do technique: It allows to establish the procedure to be performed, through a simple explanation of what is going to be done to the patient, easily retain visually that, verbally, because communication is difficult, this technique can reduce the level of anxiety of the patient with (ASD) (Graham, 2015).

Voice control: The dental professional must modify the tone and volume of the voice but allow authority at the time of the dental review so that the patient can feel in a relaxed environment and does not generate stress (Graham, 2015; Ruiz et al., 2021; Leyva et al., 2021).

Use of pictograms: It serves as support material for visual content so that the patient can have confidence in the dental review, it is a basic strategy in the teaching-learning process since autistic patients are excellent visual thinkers (Graham, 2015).

Systemic desensitization: Through family support and the projection of support material through photos, images, videos, games can motivate the patient with (ASD), understand the need for oral care as dental care (Graham, 2015).

Positive reinforcement: It is a way of doing dental work repetitively, taking into account that the patient feels calm and at the end of the consultation can be rewarded or positively condition their behavior (Graham, 2015).

Negative reinforcement: Reinforces agreements with the patient to lift punishments and uncooperative behavior (Amaiz, 2016).

Contingent distraction: It is suggested to use content or materials such as auditory or audiovisual so that the patient does not show fear and the dentist can perform his work without forcing the patient who in many cases can cause injuries (Chin et al., 2016; Ricardo et al., 2018; Gomez et al., 2022).

As background, it should be taken into account the degrees of autism, which a patient can present, to be associated with the level of knowledge of the students based on a treatment, highlighting the following: (Wing, 2018)

1.- Autistic disorder or grade 1.- It is considered as severe autism being characterized by the lack of speech, these patients also isolate themselves have shyness do not see directly in the eyes of people, demonstrate little emotional affection in terms of daily activities are not collaborators (Acerenza, 2015).

2.- Severe autism or grade 2.- They usually manifest in children from the age of 10 in their beginnings do not present symptoms is called childhood disintegrative disorder in this aspect the person loses the ability to speak and therefore uses a non-verbal communication (Acerenza, 2015).

3.- High functioning autism. - Unlike the previous ones, it is the mildest, its main characteristic is that the person tends to communicate easily, however, it is distracted, but it can easily fit into activities (Acerenza, 2015; Vega et al., 2021).

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Under these aspects, the care and management for autistic patients who require a dental consultation, transcends a complex answer, because in most cases the professional is limited to providing a service or attention that may mostly have a lack of knowledge to treat those patients with (ASD).

Being one of the main causes the absence of speech in view of not expressing emotions, which is why an interaction with the dental professional will not be achieved during care (Llorente, 2014; Marshall & Shalle, 2014).

To assess the level of knowledge of the students who make up the UNIANDES Dental Care Unit regarding dental management in patients with autism in relation to oral health.

2. Materials And Methods

The present research is based on a descriptive methodology that combines qualitative and quantitative approaches, with the aim of providing a complete and exhaustive analysis of the topic in question. The target population consists of 110 students who are currently studying at the UNIANDES Dental Care Unit. Since the totality of the students of this population constitutes the scope of our study, this population has been considered as a representative sample.

To carry out the data collection, the employment condition of the students, who work at different times, has been taken into account. In this way, information has been collected exhaustively, covering those students who work in various shifts.

Also, in addition to determining the level of knowledge of students about dental management in autistic patients, a survey designed specifically for this purpose has been used. This survey consists of 5 items that allow measuring the level of knowledge of individuals in relation to their work and their ability to interact with patients.

The main objective of this research is to provide a detailed overview of the level of knowledge of students in the dental management of autistic patients, through the collection and analysis of quantitative and qualitative data. Through the use of descriptive methodology, it is expected to obtain results that provide a deeper understanding of the skills and competencies of students in relation to this specific topic.

In addition, it should be noted that the qualitative approach will allow to explore in depth the experiences, perceptions and attitudes of the students in relation to the dental management of autistic patients. Semi-structured interviews will be carried out and direct testimonies will be collected from the participants, which will provide an enriching and contextualized vision of their work and their ability to interact with this type of patients. These qualitative data will be analyzed using thematic analysis techniques, which will identify patterns, emerging issues and relevant categories in relation to students' experiences and perceptions.

On the other hand, the quantitative perspective will be addressed through the application of the aforementioned survey. The data obtained from the items will be statistically analyzed using tools such as descriptive analysis and association tests, which will allow quantifying and measuring the level of knowledge of students in relation to the dental management of autistic patients. This quantitative information will provide an overview and objective of the results, providing numerical data that support the conclusions obtained.

It is important to note that ethical and confidentiality principles will be followed in the collection, handling and analysis of data. Informed consents from participants will be obtained and the confidentiality of the information collected will be guaranteed, using identification codes and numbers instead of real names.

In short, this research will use a descriptive methodology with a qualitative and quantitative approach to determine the level of knowledge of the students of the UNIANDES Dental Care Unit in the dental management of autistic patients. The combination of these approaches will allow to obtain a comprehensive and detailed view of the situation, providing valuable information to improve practices and the development of skills in the field of dentistry in autistic patients.

3. Results and Discussion

The following data has been taken as a reference to be analyzed:

1. **¿Considered you have one broad knowledge for the Dental management in people with autism?**

Considera usted tener conocimiento para tratar a pacientes con autismo

18,1 8%

. SI
. NO
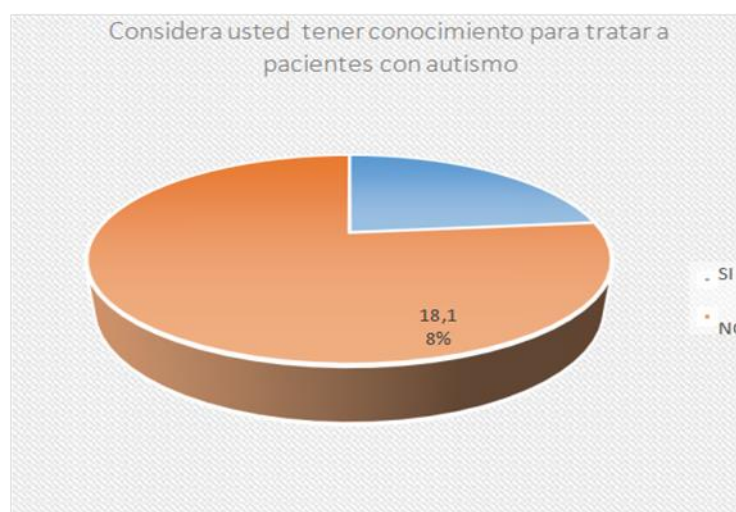
Figure 1. Knowledge of patients with autism

Analysis

The figure shows the level of knowledge on the part of the students and it is evident that, of a total of 110 respondents, being 20 students corresponding to 18.18% think that they do have knowledge regarding dental management in patients with autism, while 90 of respondents corresponding to 81.81% think that no because in view of the fact that it is a subject that requires management techniques in order to become familiar.

2.- Do you consider that a patient with autism would collaborate during dental care?

Nivel de colaboración de pacientes con

13.63

22.72

63,63

. Nada
. colaborador
. Poco
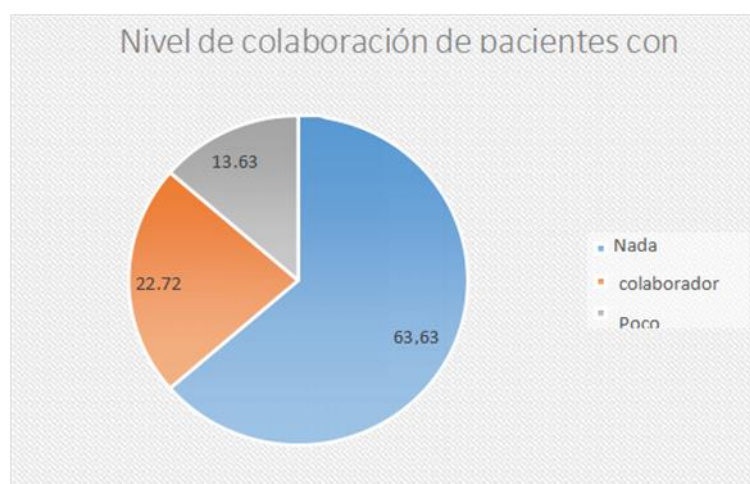
**Figure 2.** Level of collaboration of patients with autism

Analysis

The figure shows the level of collaboration that patients with autism could have, where the results taken from 110 students who make up the UNIANDES dental care unit, are 70 respondents representing 63.63% in their vast majority think that they are not patients at all cooperative in view of the fact that communication is difficult, while 25 students of 22.72% think that they would be

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uncooperative patients in a dental appointment and 15 respondents corresponding to 13.63% think that they are very collaborative patients.

3.- Of the following degrees of autism in which do you think you could provide dental care without any problem according to your knowledge?
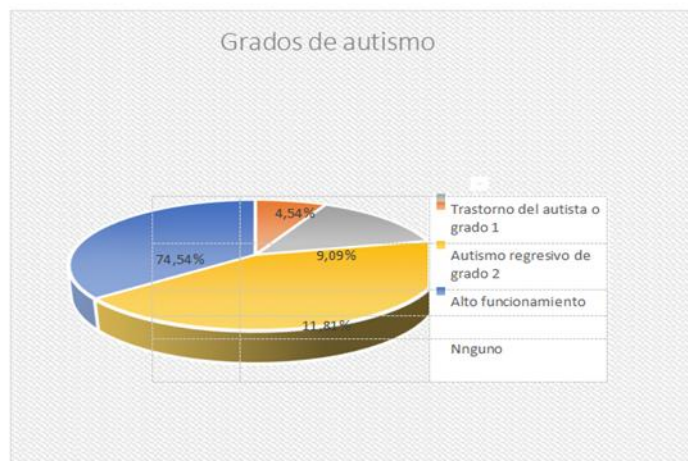

Figura 3. Grado de autismo

Analysis

The figure describes how of a total of 110 students surveyed, 5 corresponding to 4.54% mention that they could provide dental care in autistic disorder or grade 1, while 10 students of 9.09% consider that in regressive autism or grade 2, while 13 people of 11.81% think that high functioning should be taken into account, and 82 students of 74.54% do not know these alternatives.

4.- During a dental consultation, what treatment do you consider to be more frequent in autistic patients?
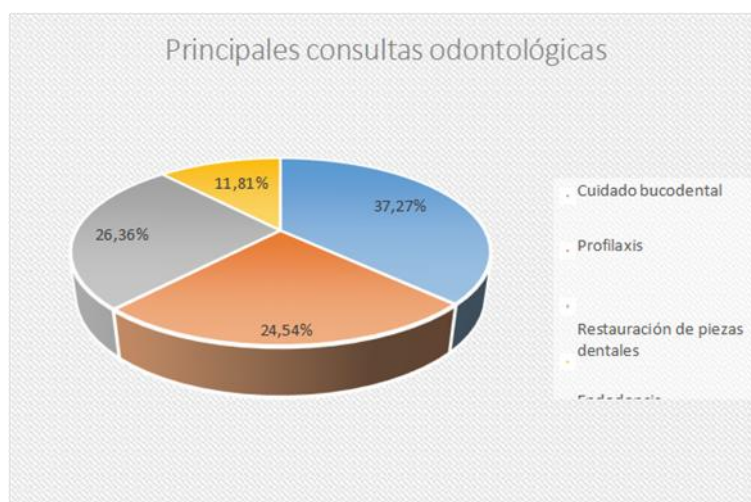

Figure 4. Main dental consultations

Analysis

Of the 110 students surveyed, in the majority 41 of respondents represent 37.27% believe that consultations related to oral care can be made, while 27 students corresponding to 24.54% to a prophylaxis, therefore, 29 students of 26.36% believe that a restoration of teeth can be performed and

finally 13 students represented by 11.81% believe that dental care related to endodontics would be offered.

5.- Do you agree that behavioral management techniques should be applied during a dental appointment if an autistic patient arrives at the "UNIANDES" dental care unit?
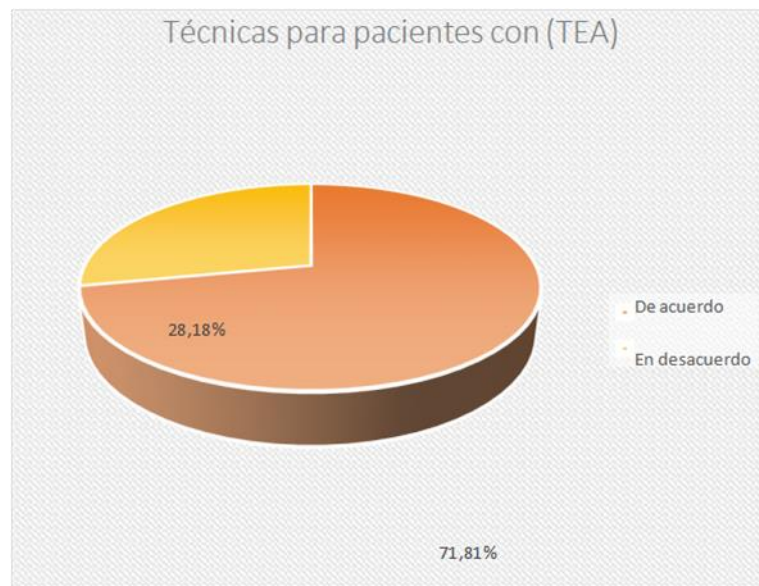
Figure 5. Techniques applied in patients with (ASD)

Analysis

The figure presents a total of 110 students surveyed that make up the UNIANDES Dental Care Unit, represented by 79 respondents corresponding to 71.81% consider agreeing to apply techniques that help control the behavior of patients with autism, while 31 students of 28.18% disagree since it is a complex issue to handle and does not have enough knowledge.

The students who make up the Dental Care Unit, UNIANDES establish that, due to the lack of knowledge to treat patients with autism spectrum disorder, called (ASD) it would be difficult to provide dental support to this group of people; in view of behavioral characteristics such as behavior between them physical and emotional in case of a dental appointment.

However, due to the parameters established by the dentistry career, students must develop a proactive activity, by executing compliance with pre-professional practices as a prerequisite.

Therefore, it should be borne in mind that providing dental care in autistic patients is complex in view of the fact that proper management is carried out through the application of techniques; which concerns that the students of the UNIANDES Dental Care Unit, assert that the level of knowledge is very low.

Considering the criteria of Murulanda, Arámbula, Echeverí, Ramírez, Rico, for dental management in patients with autism related to physical and psychological conditions, it is complex to provide care because essentially, university education has not focused on promoting theoretical and practical knowledge in view of the fact that most dentists are limited to treating this type of patients (Murulanda et al., 2013; Ruiz et al., 2021; Zunigaet al., 2021).

Like Elder, he believes that patients with (ASD) in dental practice is difficult because these patients do not present verbal communication which limits expressing their sensations therefore dentist can not perform his work in a timely and effective manner (Elder, 2015).

Under the criteria of Marshall & Sheller, Marshall & Sheller, discuss treating patients with this type of disability, requires the application of techniques including voice communication, distractions, reward, parental presence (Shogbe & Gomez, 2015). For this reason, the professional must take into

account the application of advanced techniques such as intravenous sedation, protective stabilization and general anesthesia (Gonzales et al., 2016).

While Pérez, Pedraza, Bermeo, think a factor to determine fear, stress and anxiety before a dental consultation of a patient with (ASD) is given by the clothing of the dentist, lighting (spotlight on), odors, instruments and the relationship of strong colors that affect the behavior of the patient thus giving a limited cooperation. Sometimes it is advisable the presence of parents within the consultation, allowing them to enter their favorite toy and sing familiar songs to promote distraction and confidence of the patient (Leiva & Vergara, 2017).

For Chin, Fenton, Lyons, an adequate interaction between dentist and patient with ASD must be a good interaction in the case that there is a dental consultation, where the patient can be accessible and not with fears, fears of noise and colors.

Through the development of the scientific article, the essential factors were identified so that the student of the Dentistry career of the "UNIANDES", can take into account during his working life when treating a patient with autism spectrum considering that they are little collaborators, therefore, it limits and hinders that care can be provided to this group of patients, In instance, there is no preparation that focuses on treating people with autism.

In addition, within the context of professional training in the dental field it is necessary to study and know the degrees of autism in the event that a possible patient with these characteristics is treated since it is a subject that is not known in depth. Therefore, the students do not know the techniques for behavior management in patients with autism, where the main result was emphasized that it is difficult for them to treat patients with (ASD), because they are people who tend to stress easily.

4. Conclusion

There is a remarkable level of ignorance on the part of the students of the UNIANDES Dental Care Unit, so there is a need for training on oral treatment for patients with autism. There are several techniques and methods for the management of the behavior of this group of patients so it is suggested that the subject be incorporated into the training competencies of the student with the purpose of inserting an adequate technique in the oral management of the patient with autism that must be known and applied by the professional due to the difficult communication, Lack of collaboration and motor capacity deficits characteristic of this disease that negatively influence a dental appointment and a successful prevention program as well as treatments.

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