



ORIGINAL ARTICLE

## Dental anxiety in patients during dental treatment

La ansiedad dental en pacientes durante un tratamiento odontológico

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### ABSTRACT

**Introduction:** dental anxiety is currently considered to be a negative state of mind, it can be identified through various symptoms and bodily signs such as tachycardia, palpitations, difficulty breathing, sweating, pallor, nausea, diarrhea and headaches.

**Objective:** To determine the causes of dental anxiety in patients between 18 and 30 years of age who attended dental consultations between September and December 2021 in the province of Santo Domingo de los Tsáchilas, Ecuador.

**Methods:** An observational, descriptive, cross-sectional, descriptive study was carried out to determine the causes of dental anxiety in patients between 18 and 30 years of age between September and December 2021. The universe and the sample consisted of 40 patients, the sample was selected intentionally, according to the inclusion and exclusion criteria. The data were obtained from a survey prepared for this purpose and applied to the patients. Descriptive and inferential statistical methods were used to describe the variables.

**Results:** 40 % went to a dental appointment a short time ago, therefore 33 % had not visited a dental office for a long time and the remaining 28 % could not remember when their last dental appointment had been. Forty-five percent said that they do suffer from dental anxiety. According to the analysis we can see that the majority of individuals feel anxious before dental treatment and therefore panic.

**Conclusions:** Stressful events, such as oral surgery, can elevate the levels of circulating catecholamines producing a rise in blood pressure to levels harmful to the organism, professionals should use techniques to appease this issue.

**Keywords:** Dental Anxiety; Stress; Patients; Dentist.

## RESUMEN

**Introducción:** la ansiedad dental es considerada actualmente como un estado de ánimo negativo, puede identificarse mediante diversos síntomas y signos corporales como las taquicardias, palpitaciones, dificultad para respirar, sudoración, palidez, náuseas, diarrea y cefaleas.

**Objetivo:** determinar las causas de ansiedad dental en pacientes de 18 a 30 años que acudieron a consulta odontológica entre septiembre y diciembre del 2021, provincia de Santo Domingo de los Tsáchilas, Ecuador.

**Métodos:** se realizó un estudio observacional, descriptivo, de corte transversal para determinar las causas de la ansiedad dental en pacientes de 18 a 30 años entre septiembre y diciembre del 2021. El universo y la muestra estuvieron integrados por 40 pacientes, la muestra fue seleccionada de forma intencional, de acuerdo a los criterios de inclusión y exclusión. Los datos se obtuvieron a partir de una encuesta confeccionada para tales fines y aplicada a los pacientes. Para la descripción de las variables se utilizaron métodos de estadística descriptiva e inferencial.

**Resultados:** el 40 % fue hace poco tiempo a una cita dental, por consiguiente el 33 % no ha visitado hace mucho tiempo un consultorio dental y el restante que es el 28 % no recuerda cuando fue su última cita bucal. El 45 % dijo que si padecen de ansiedad dental. Según los análisis podemos ver que la mayoría de los individuos se sienten ansiosos antes del tratamiento dental y por consiguiente entran en pánico.

**Conclusiones:** los eventos de estrés, como una cirugía bucal, pueden elevar los niveles de catecolaminas circulantes produciendo un alza en la presión arterial a niveles dañinos para el organismo, los profesionales deben usar técnicas para apaciguar esta cuestión.

**Palabras clave:** Ansiedad Dental; Estres; Pacientes; Dentista.

## INTRODUCTION

Psychology and dentistry are two specialties that are far from being similar, but they go hand in hand and have common interests, because the conduct and behavior that has a patient can drastically affect during the consultation and bring inconvenience for the patient to have a good service, it is important to note that mental health and physical health are important for a person to be healthy.<sup>(1)</sup>

Anxiety is a very normal reaction that is given to an alert of danger for something that is about to happen, but anxiety becomes a disorder when it is not treated in time and affects our physical and mental health, we get sick, we feel down, the nerves are responsible for attacking our body and our body reacts due to the bad care that has been given, some scientists show anxiety at first as an emotion, which most people have experienced throughout their lives. "Anxiety becomes a disorder when it does not let us do those things we like to do and is persistent over time."<sup>(2)</sup>

For many years the medical sciences, especially dentistry has been in charge of getting ahead with new medical implements, innovations every day so that the patient feels stable, comfortable and that his consultation is totally pleasant, that there is an atmosphere of total confidence in the dentist-patient relationship, in this way not only the patient or client will feel satisfied, but also the dentist with the arduous and excellent work he has done, patients around the world suffer constantly with the fear of attending the dentist for reasons or rumors that have been passed to voices.<sup>(3)</sup>

On the other hand, dental anxiety always comes with antecedents, that is to say that several traumas, events or erroneous experiences had to happen for the patient to feel frightened just by the simple fact of stepping into a dental office, also a cause in the majority of patients was that in the past they had a bad experience or that in another consultation they had a dental negligence that has left bad episodes in the memory of the patients and that just by hearing that they have to go to the dentist they feel an arduous fear, These traumas are produced by several factors such as the economic situation, due to the fact that oral-dental inequalities are always caused by the socioeconomic levels that exist in society, therefore people with a better economic situation will receive better dental care, while the poorest can experience bad dental practices.<sup>(4)</sup>

Dental anxiety is currently considered as a negative state of mind, which causes or can be identified by various symptoms and bodily signs such as tachycardia, palpitations, shortness of breath, sweating, pallor, nausea, diarrhea and headaches. It is also important to note that there are two types of anxiety such as trait anxiety and state anxiety, the former is defined as a more or less stable component of chronic personality and is related to unhealthy habits that perpetuate the disease and state anxiety as the individual feels at a specific time.<sup>(5)</sup>

The basis of anxiety is found in the conscience, either by fears that were given previously and today are repercussions that occur constantly, additionally studies in Israel was revealed through studies that women tend to suffer mostly from anxiety and also these observers and analysts tell us that studies clearly proven dental anxiety is disappearing over the years, experiences help the change is given slowly but over time will be effective in reducing these fears and traumas.<sup>(6)</sup>

Many patients throughout their lives suffer drastic diseases that affect and involve their physical health, due to this they go through various treatments to kill the pathologies that are in their organism, some more serious diseases is cancer in any part of the body, treatments to disappear and control this deadly disease are very consequent to effects, hair loss, emotional wear, the daily life of these people is not the same and their mental health goes through different disorders, when treating patients with these sequels of diseases or people who suffer at that moment these pathologies we must be very cautious, even more if we deal with another intimate part of the human being that is the oral cavity, the relationship between patient and dentist must be pleasant, because they go through a very strong moment of anxiety.<sup>(7)</sup>

The consideration when treating patients with disabilities is very large, because the population with disabilities has increased worldwide, therefore society today is looking for a more egalitarian and inclusive community. Most of these cases are taken by pediatric dentists, due to the high impact to manage these patients at the time of treatment, anxiety, depression, involuntary behaviors, tachycardia, among other events, are just some of the complexities that a patient with disabilities goes through.<sup>(8)</sup>

The general objective of this research is to determine the specific causes for which patients suffer from dental anxiety during dental treatment.

## METHODS

An observational, descriptive, cross-sectional, cross-sectional research was carried out by means of a survey method that made it possible to identify the percentage of patients who suffer from dental anxiety during dental treatment and the causes that originate it in the province of Santo Domingo de los Tsáchilas in the Ciudad Nueva cooperative.

The universe and the sample consisted of 40 patients; the sample was selected intentionally according to the inclusion and exclusion criteria. The data were obtained from a survey made for such purposes and applied to the patients.

### **Inclusion Criteria:**

- Patients of both sexes who had not attended a dental consultation in the last few months.
- Patients who present willingness to collaborate with the research.

### **Exclusion Criteria:**

- Patients of both sexes who have attended dental consultation in the last few months.
- Patients who did not agree to collaborate with the study.

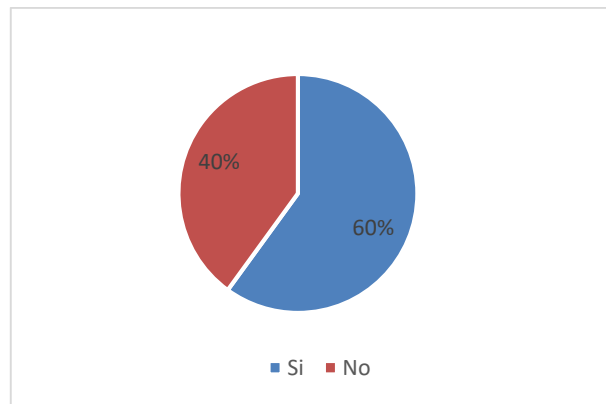
The variables used were: dental consultation attendance, mood, last appointment, fear of a dental appointment.

To carry out this research we had the authorization of the president of the board of directors of the Ciudad Nueva cooperative and the only dental office "Smile" located within this cooperative who provided us with information, experiences and the collection of data from the inhabitants of the community and with the consent of those surveyed who deliberately answered the questions about their experiences in oral treatments that have marked a before and after in their clinical history.

The principles of medical ethics and the aspects established in the Declaration of Helsinki were complied with.

## RESULTS

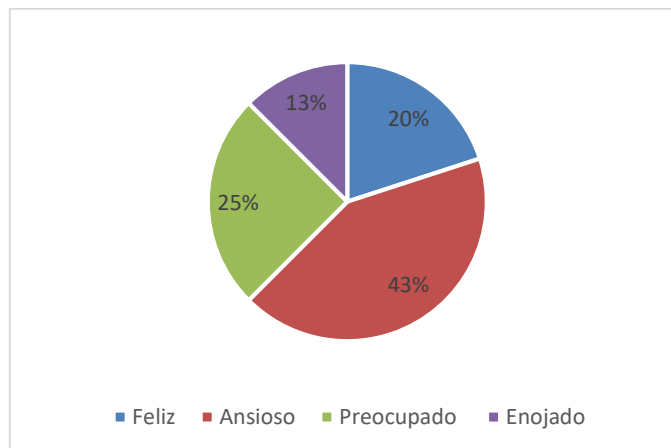
Through the survey carried out, this question in particular was quite controversial, because it was noted that a large percentage of people in this cooperative have never attended a dental consultation, due to different risk factors, fear and carelessness that are present in their lives. We can see that 60 %, that is, 24 people have attended their check-ups or have ever been to the dentist, while the remaining 40 %, that is, 16 people have never attended a dental check-up or appointment.(Graph 1)



Source: Statistical Analysis

**Graph 1.** Attendance at dental visits.

Some of the factors that cause people not to go to dental appointments or check-ups depend on their state of mind during dental treatment, according to the analysis we can see that most individuals feel anxious and therefore panic or worry (Graph 2).



Source: Statistical Analysis

**Graph 2.** Mood during dental treatment.

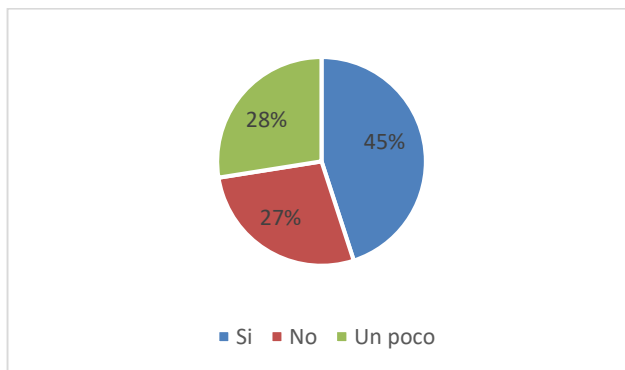
By means of the questions asked during the research, we obtained the results, which tell us that 40 % have recently gone to a dental appointment, 33 % have not visited a dental office for a long time and the remaining 28 % do not remember when their last oral appointment was (Graph 3).



Source: Statistical analysis

**Graph 3.** Last dental appointment

Dental anxiety produces fear, dread and stress, which is why this question is conclusive in order to advance with the investigation. Of the persons surveyed, 45 %, the majority, 18 persons said yes, then 27 %, that is 11 persons indicated no and the other 28 % indicated that they were a little afraid of attending a dental appointment. (Gráf. 4)



Source: Statistical analysis

**Gráf. 4** Fear of a dental appointment

**DISCUSSION**

Since childhood experiences are created, as well as traumas that are stored in our memory, a bad dental practice can easily damage and fracture the confidence to attend an appointment with the dentist, many times the traumas are also created by the parents with their strict order when the children reach the age of removing their primary teeth, also known as milk teeth, At the moment of pulling them out, traumas are created in the children by the abrupt way of trying to pull them out, as well as the methods that are known from generation to generation by our ancestors, such as pulling the tooth, tying it with a thread to the door and closing it tightly. The milk teeth begin to develop in the fetus between the sixth and eighth week of gestation and appear between six months and 12 months in babies and these begin to loosen from the age of six years.<sup>(10)</sup>

Everything starts when we are very young, in general children are excellent patients, the behavior inside the dental office can vary and transform into aggressions, fears or phobias that develop throughout their lives until they become adults and continue with the same fear, some variables that influence the behavior of the patients so that through this the emotion is activated or in other more severe cases the dental anxiety disorder are:

Dental environment, the dentist (his uniform, artifacts or clothing), auxiliary personnel, parents, more people attentive, the noise of the instruments, their first dental appointment, rough handling by the professional, low tolerance, sensitivity to painful treatments, transmission of unfavorable attitudes or horror stories of ancestors.

Each staff has the obligation to develop methods that help the patient feel confident about the treatments that need to be performed, therefore the dentist is responsible for reducing stress, anxiety and fear within the facility.<sup>(11)</sup>

The patient's condition influences the effectiveness and quality of dental treatments, anxiety causes that most people never finish what they started, that is, a great example is orthodontics, which is a specialty of dentistry that allows to accommodate the teeth, put them straight, regulate the bite from top to bottom, it is a long, tedious and somewhat painful process but in the end it is completely worth it, for these reasons people abandon their treatment, are harassed, are removed or simply never return for fear of more pain and more time.

Bruxism is the massive grinding of the teeth when the person sleeps, it happens when stress is present and that is when it can also occur during the day without realizing it, thus producing a wear of the teeth, the widening of spaces between each one and strong headaches.<sup>(12)</sup>

Dental anxiety is a very controversial topic, because people are afraid or ashamed to talk about the direct reasons why they do not attend a dental office constantly, despite having centers, clinics or dental offices nearby they prefer not to attend, let time pass, let food debris accumulate in the oral cavities for days, months and in extreme cases for years, which by neglect causes strong diseases or oral pathologies that although they seem bacteria or insignificant things often cause even death.

"Most explanations point to psychological processes related both to the learning of this attitude, either at the individual and/or social level, and to the psychosocial meaning given to the mouth".<sup>(13)</sup> When detecting a complexity in the consultation due to dental anxiety, measures or techniques are used that help to control the patient's behaviors, therefore the dentist should be trained to intervene in these techniques that are used more in children but because they are so effective they are applied in adolescents and adults as well, they are the following psychological methods:

Preliminary visit: This consists of the patient going to the dentist's office beforehand, familiarizing himself with the environment, the instruments, the receptionist, the auxiliary staff and of course the dentist, who will be in charge of explaining that nothing will be done at that moment, so that at the time of the appointment the patient feels comfortable and has stored in his memory that he has already seen that place before. Tell-show-and-do: This technique consists of familiarizing the patient with the procedures, instruments and the environment in which the procedures to be performed are carried out, as well as showing the patient with didactic images the process and doing it, so that this will reduce stress and anxiety on the part of the patient with an appropriate and friendly language.

Voice control: It is important to create a bond and trust with the patient so that he/she feels close to the doctor, loses fear, embarrassment and fear of the instruments, the dentist, the noises and above all forgets that he/she is in a dental office, feels completely comfortable, for this reason this technique consists of the tone of voice being extremely important for the dentist-patient relationship, the expressions, rhythm and tone that we use with the patient should be soft, cheerful, friendly and respectful, in this way no one will feel intimidated. Positive reinforcement: It consists of regulating the behavior on the part of the patients and seeks to reinforce a desired one, positively congratulating the person in as many cases as possible for a good attitude or action that he/she has demonstrated, giving him/her full encouragement and encouragement or rewarding him/her so that he/she feels at ease with his/her practice and happy to do things well, therefore he/she will continue to behave in the same way.

Negative reinforcement: it is intended to modify an undesired behavior by expressing absolute rejection, this should be done constantly, quickly and repeatedly, this should not be confused with punishment, on the contrary is to inform the patient that his actions are not correct, that could damage the procedure that is being performed and explain to him why it is not right in an empathetic and kind manner. Contingent distraction: This technique is used to divert the patient's attention on a certain procedure and in this way achieve to decrease attention, in children televisions are used with entertaining programs and visual games that take away their attention, in adults it can be through conversations unrelated to the subject.

Desensitization: It is a technique used to reduce fears that were produced by the experience of chaos where dental negligence was applied, this technique includes teaching forms of relaxation to the patient and describing circumstances that are related to their fears in a correct and easier way. Extinction: It consists of not paying attention to the individual (patient) when he/she refuses some treatment or consultation, applying the lack of attention until the behavior ends up disappearing, due to the fact that human beings sometimes need to realize for ourselves the mistakes we are making and what we are failing to correct them, this technique is used more in children.<sup>(14)</sup>

Dental anxiety is a challenge when it comes to be treated, but the important thing is that we must know that oral health is not a game, it must be treated in advance, because there are serious consequences if dental pathologies are not treated in time, dentists must play a key role in this process and not promise things they can not deliver, This damages the relationship and trust with the patient, because when they feel supported and understood they tend to put more of their part, also it does not put any obstacle to the doctor to try new treatments and advances to improve and facilitate the procedure to be performed, once the patient enters in confidence will understand how important is the prevention, maintenance and care of oral health.<sup>(15)</sup>

Dental anxiety is currently considered to be a negative state of mind, which causes or can be identified by various symptoms and body signs such as tachycardia, palpitations, difficulty breathing, sweating, pallor, nausea, diarrhea and headaches. It is also important to note that there are two types of anxiety such as trait anxiety and state anxiety, the first is defined as a more or less stable component of chronic personality and is related to unhealthy habits that perpetuate the disease and state anxiety as the individual feels at a specific time.<sup>(16)</sup>



It is essential that the treatment of the dentist with the patient is pleasant and should not transmit fear, fear or concern about the procedure to be performed, the professional career of medicine is quite complex, because there are many things to learn and time is a factor against, internists, mid-career practitioners at the beginning start with fear and it is not something to question, Since dealing with the oral health of people is not a game, it is a respectable job, therefore, we must provide maximum attention to the patient, studying dentistry can cause high stress and anxiety, the important thing is how we treat it so that in the relationship with the patient, our work is not affected and most importantly the patient's oral health is not affected either.<sup>(17)</sup>

Medications and implements to relieve pain and needs suffered by the patient with oral treatments are necessary, it is no secret that these situations produce ailments, even if they are minimal but still occur, for this reason the pain is treated with drugs that the dentist is required to prescribe for the patient's process is not so traumatic and avoid anxiety at later times.<sup>(18)</sup>

In the case of pregnancy it is important to emphasize that the woman undergoes different changes both physical and hormonal, a series of physiological and behavioral alterations according to Suazo,<sup>(19)</sup> "In the absence of microorganisms associated with bacterial plaque, hormonal changes in pregnancy are not capable of developing periodontal disease" for this reason dental anxiety remains during this process of gestation, due to the fact that the mother remains concerned about the changes to the fetus.

Therefore, changes in dental anxiety should be prioritized, because the most affected system is the nervous system, blood pressure is the most affected, stress events, such as oral surgery, can raise levels of circulating catecholamines producing a rise in blood pressure to levels harmful to the body, professionals should use techniques to appease this issue and that the work they have done is not affected.<sup>(20)</sup>

By means of the questions and results acquired we arrive to a constant doubt, is it the noise of the instruments, the tension and the environment of the place that cause anxiety during the oral treatments in people? Due to the results obtained we can denote that most people feel anxious and worried before and after the consultation, as well as several people have felt alluded since childhood and were drastically involved in a medical negligence, which over time causes trauma until the time when they have to face a new dental procedure, This is why dental anxiety intensifies and many times the dentist ends up highly damaged, with blows, insults, shouting and a large part of this occurs because not all dental doctors are trained to deal with this trauma that a large part of the population faces on a daily basis.

The information collected in comparison with the findings at the Smile clinic located in the Ciudad Nueva cooperative, the place where the research was based, gives the same result with anecdotes that have been told by patients as to why they are so afraid to attend an oral check-up, simply by stepping into an environment that has to do with checking their oral health.

## CONCLUSIONS

Dental anxiety is a challenge when it comes to being treated, but the important thing is that we should know that oral health is not a game, it should be treated in advance, because there are serious consequences if dental pathologies are not treated in time, dentists should play a fundamental role in this process and not promise things that they cannot fulfill, because this damages the relationship and trust with the patient.

### Conflicts of Interest

The authors declare no conflicts of interest in relation to the present investigation.

### Declaration of Authorship

All authors participated in the conceptualization, research, writing - initial draft, writing - revision and editing.

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