ANXIETY IN DENTAL CARE DURING THE COVID-19 PANDEMIC

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ABSTRACT.

Dental care is necessary to adequately maintain oral hygiene and quality teeth, a task entrusted to dental personnel who were affected during the Covid-19 pandemic period in Peruvian territory. Among the measures that were necessary to adopt was the closure of premises and services, among which were the dental clinics, whose staff had to continue remote care through different applied variants, but which generally affected people's oral health. In the study, an analysis of the behavior is carried out in a sample of patients, with respect to dental anxiety and the main manifestations within it, as well as its influence and interrelation with dental indifference. During this period, an increase in both dental and Covid-19 anxiety was evidenced, which led to greater dental indifference in oral care and hygiene, causing the appearance of a greater number of oral conditions such as cavities, which was evidenced in greater quantity within the group of men. Anxiety disorders and dental indifference, although they always manifest themselves, were aggravated during the pandemic period.

Keywords: dental anxiety, dental indifference, oral hygiene, teeth, pandemic, dental care.

INTRODUCTION.

In the current era, it has come to be recognized that mental health is an ever-changing state that promotes well-being and allows people to exhibit their capabilities when facing the various demands of life. In addition, it allows them to perform productively in the workplace and make valuable contributions to their communities. (Amaíz Flores & Flores, 2016). Thus, achieving optimal oral health involves avoiding facial suffering, throat cancer, sores, infections, cavities, gum disease, tooth loss and other impediments that affect the ability to bite, chew, laugh and speak. (Rambabu & Koneru, 2018).

The SARS-CoV-2 virus (COVID-19) is an infection that has caused thousands of deaths worldwide, and can be spread in dental clinics through four main routes: droplets containing infections and aerosols caused by coughing and talking without a mask, contact with mucous membranes (nasal cavity, oral cavity and conjunctiva) and secretions of the patient, inhalation of airborne particles and indirect contact with contaminated surfaces or equipment (Daza-Henriquez, 2021). However, in these circumstances, access to dental services is considered a necessary condition for achieving oral health and well-being at the population level. (Arias Molina, Herrero Solano, Cabrera Hernández, Guyat, & Mederos, 2020).

The lack of knowledge worldwide and the effects caused by the COVID-19 pandemic in its beginnings, caused dental care to be suspended in both the public and private sectors, in order to control the spread of the infection (Guiñez-Coelho, 2020).

Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7229

This action leads to an increase in dental diseases with a psychosomatic component, which can worsen because they are not treated in a timely manner. (Aquino-Canchari, 2020). In this way, changes in behavior and hygienic habits are observed; Patients have poor oral hygiene, caused by loss of interest (Heredia, 2018).

Anxiety disorders group together different high-prevalence mental health conditions that can have a debilitating impact on daily functioning and well-being. (Yildirim et al., 2017). In this sense, anxiety is referred to as a complex pattern of behavior, which manifests itself through a physiological activation occurred in response to two types of stimuli, internal (cognitive and somatic) and external (environmental). (Piano, 2019). Also, this disorder is characterized by a feeling of tension, oppression and persistent worry, perceiving a feeling of imminent evil or being at the mercy of a threat, restlessness, nervousness, fatiguability, insecurity, worry, instability; as well as psychosomatic manifestations of facial flushing, sweating, restlessness, insomnia, agitations and palpitations (Jeddy, 2018), which puts the person in a negative state independent of the existing situation of the pandemic.

Other authors consider that anxiety is a phenomenon that can be characterized by feelings of tension, apprehension, nervousness and worry, and that are experienced by an individual at a particular time. Such a problem arises from the mental representation that supposes a memory or an expectation that generates uncertainty in situations that are anticipated as threatening. (Miguel-Tobal, J. & Cano Vindel, 1995).

In this regard, COVID-19 anxiety has also been referred to as coronaphobia, defined as an exaggerated response that is triggered by the fear of contracting COVID-19 infection, is accompanied by physiological symptoms, significant stress due to singular and occupational loss, increased safety-seeking and tranquility-seeking behaviors, and, avoidance of public places and situations, that causes a marked deterioration in the management of daily life (Arora, Jha, Alat, & Das, 2020) (Lee, Mathis, Jobe, & Pappalardo, 2020).

Some authors have called the episodes of anxiety that patients present before stimuli specifically linked to the dental area as: dental anxiety or dental anxiety, anxiety is fearing or rejecting dental treatment, is a negative emotional reaction manifested by cognitive, physiological and motor responses, which are associated with visits to the dentist or dental treatment (Yildirim et al., 2017). It is characterized by the avoidance behavior of the patient, so it is difficult for him to go to periodic dental check-ups, postponing consultations and only receiving dental care when pain occurs. In this way, it constitutes one of the main obstacles to the success of treatment in dental care. (Levin et al., 2018), (Benites, Morales Cobos & Sánchez Sánchez, 2022).

Anxiety does not always fulfill a role of biological and human functionality, and thus leads to forms of maladaptive, dysfunctional, pathological, unhealthy behaviors that produce suffering, maladjustment and unhappiness in people. (Miguel-Tobal, J. and Cano Vindel, 1995). Therefore, it is important that the dentist knows at all times how to handle the necessary tools to be able to identify this type of disorders and adopt the most relevant measures for each particular case. Currently, anxiety is one of the main obstacles to achieving therapeutic success in dental care. Despite technological advances and scientific development, many people express anxiety about dental care; therefore, reducing or controlling this situation represents a challenge for modern dentistry, which requires the support of clinical psychology. (Amaíz Flores & Flores, 2016).

It has been shown that, during the dental consultation, patients can suffer from anxiety. The analysis of several studies shows that between 8 and 15% of the population has phobias when receiving dental office and receiving dental care. However, it is the duty of the professional to establish in advance the level of anxiety that the patient presents when receiving the consultation, to establish on that basis the therapy to follow. Anxiety can vary both in intensity and duration, hence the importance of knowing the classification of anxiety disorders in the dental patient (Carballo, 1997):

- Mild or low: Calm prevails (organic homeostasis). There is slight difficulty in performing the examination, diagnosis or dental treatment.
- Moderate: Characterized by bewilderment, apprehensive attitudes and psychomotor agitation. There are signs and symptoms of psychological-functional deterioration intense enough to hinder dental examination, diagnosis or treatment, forcing a change in the dentist's routine. It is usually accompanied by uncertainty, apprehension and nervousness.
- Severe or high: It is characterized by fear and intense fear, which can be accompanied by panic. Various signs and symptoms of functional psychological deterioration are detected that prevent the realization of the examination, diagnosis and dental treatment in the scheduled appointment, forcing a change in the day of the appointment, or the

Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7230

refusal by the patient, the dentist or both to continue the treatment. In these cases, a response of fear and intense fear emerges, accompanied by panic behavior (avoidance – flight – despair).

Anxiety as an emotional state helps individuals under normal conditions defend themselves from a wide variety of threats. However, the disorders of such a problem are a dysregulation of these normal defensive mechanisms, either as excessive or deficient responses (Gutiérrez & Gutiérrez, 2006). That is why it is important to consider and study anxiety disorders linked to dental care, as well as another process called dental indifference.

According to Marshman (2014), indifference to dental treatment is an "attitude defined as an underestimation of teeth or lack of interest in oral health", manifested mainly by poor dental care, lack of compliance with professional recommendations, poor commitment in attending dental appointments due to various misjudgments such as downplaying these procedures or choosing the inappropriate dental treatment or the fastest according to the patient's judgment.

The gender of the person plays a role in dental indifference, usually it is women who care more about their aesthetics and physique, instead men go to the background the aesthetic part and traditionally focus more on being providers of the home, a lag of the macho culture that still persists in much of the Peruvian population. The economic aspect also influences this, because expenses are prioritized and in many cases dental care is not contemplated in its budget mainly because there is no preventive culture; This is how people with higher incomes can more easily access dental care than those who do not have it. Likewise, the cultural field plays a predominant role, ignorance or knowledge of oral health also contributes to indifference and dental adherence, in many cases patients underestimate the consequences or were misinformed of them. (Pacheco Pacheco, 2021).

Therefore, the assessment of anxiety and indifference is important for two reasons: to assist the dentist in treating anxious patients to give optimal and comprehensive patient care and to provide evidence-based research. Given all this, during the pandemic period, dental care was reorganized, with priority to face-to-face urgent and emergency care, together with remote care via telephone call, the use of communication and information tools, priority was given to meet the demand identified in the care records, which are essential for a person to maintain their oral functionality, as well as to avoid acute pain, so that patients are avoided by emergencies and dental emergencies culminate in hospital admissions. The work aims to determine the relationship between anxiety and indifference in dental care during the COVID-19 pandemic.

MATERIALS AND METHODS.

The research carried out a quantitative, prospective, correlational, cross-sectional and descriptive design study carried out in 173 elderly patients, attended in the dentistry service of the dental clinic of a medical center in Chimbote (Peru), who accepted their participation through informed consent. The patients were selected through a stratified probability sampling of the average care of the last four months, proportional affixation was used, allowing to improve the precision of estimates in the study, by presenting a population divided into subgroups according to the month of care and the magnitude of each stratum.

The survey was used as a technique and as instruments, the COVID-19 anxiety questionnaires, modified dental anxiety and the dental indifference scale. The COVID-19 anxiety questionnaire consists of 5 items that can detect the frequency of physiological symptoms caused by thoughts and information related to COVID-19 in the last two weeks, based on five aspects: stomach problems, loss of appetite, tonic immobility, sleep disturbance and dizziness. It was classified into four levels: minimal (0 to 4 points), mild (5 to 9 points), moderate (10 to 14 points) and severe (15 to 20 points) (Lee, Mathis, Jobe, & Pappalardo, 2020), (Caycho-Rodriguez et al., 2020).

In the case of the dental anxiety questionnaire (Ríos-Erazo, Santibañez, Treek, Herrera-Ronda, & Rojas-Alcayaga, 2020) It is made up of 5 items that seek to evaluate through various dental situations, the levels of dental anxiety, which are based on the aspects: clinical-stomatological environment and dental procedures. It was categorized into four levels: minimal (0 to 5 points), mild (6 to 11 points), moderate (12 to 18 points) and severe (19 to 25 points). The dental indifference questionnaire consists of 8 items based on two aspects: oral hygiene and access to dental services and was classified as: low (0 to 1 points), medium (2 to 4 points) and high (5 to 8 points).

With respect to the validity of the content of the instruments used, the questionnaires had ratings of V Aiken greater than 0.98, with the participation of 10 expert professionals in the subject analyzed; in the case of reliability, the pilot test was used from 20% of the total sample from a different medical center, with the same level of care, and Cronbach and Kuder-Richardson alpha values greater than 0.9 were obtained; so it is considered valid and reliable for its application to the context of Peru.

Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7231

For the application of the instruments, Google Forms was used, when considering the state of emergency that was presented in the state, in order to avoid the possible contagion by COVID-19, when doing it in person, so previously there was a relationship of the patients with their respective telephone numbers. The data obtained were analyzed using descriptive and inferential statistics, the Statistical Package for the Social Sciences program was used and a 95% reliability level was assumed.

RESULTS.

In the development of the study, 173 patients treated in the dentistry service of a medical center in Chimbote (Peru) who presented symptoms of anxiety were analyzed. The instruments allowed us to determine that 66% presented moderate dental anxiety (Figure 1), while COVID-19 anxiety was presented in the same way in 44% of patients (Figure 2).
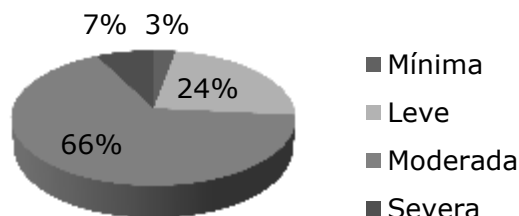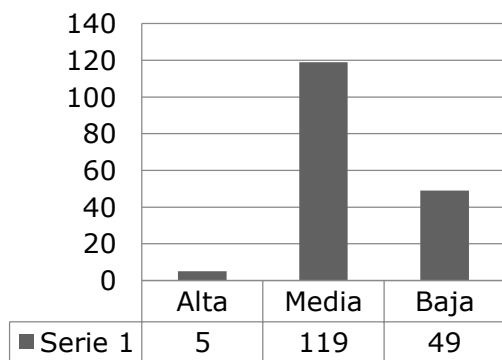

Figure 1. Result of patients with dental anxiety. Source: Authors.
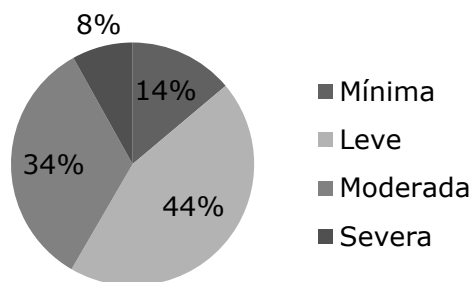
Figure 2. Outcome of patients with Covid-19 anxiety. Source: Authors.

When assessing the level of indifference in dental care presented by patients (Figure 3), the highest frequency was evidenced in the medium (68.8%) and high (2.9%).

Figure 3. Level of indifference in dental care. Source: Authors.

This fact shows that a high number of people during this stage frequently stopped attending to their dental care habits, which could favor the appearance of new conditions in people at different levels. The greatest care was directed in that period to the prevention of contagion by the Covid-19 virus, largely neglecting the rest of the care and in this case the mouth.

Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7232

On the other hand, when establishing the relationship between anxiety and indifference using Pearson's bivariate test (Table 1), only a significant difference was found in dental anxiety ($p<0.01$).

Table 1. Relationship between anxiety and indifference.

| Pearson Bivariate Correlation Between Coronavirus and Dental Anxiety vs. Indifference in Dental Care During the COVID-19 Pandemic			
Variables	1	2	3
Covid-19 anxiety	1.000		
Dental anxiety	0.321**	1.000	
Indifference	0.068	0.170*	1.000
** The correlation is significant at the level 0.01 (2 tails).			
* The correlation is significant at the level 0.05 (2 tails)			

Source: Authors.

When a more thorough study is carried out from the instruments, with respect to the features of the state of anxiety manifested by the patients, it is determined that most of them find it difficult to go to periodic dental check-ups, postponing consultations and only receive dental care when pain occurs and therefore requires mandatory attention, representing 56.6% of patients (Figure 4).
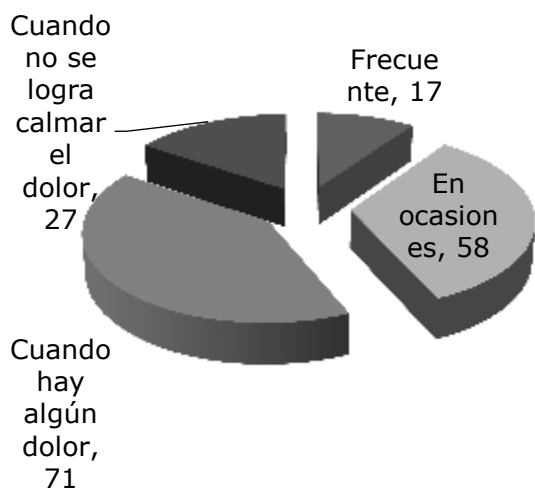

Figure 4. Assistance of patients to consultations. Source: Authors.

To analyze the states or feelings suffered by the patient when attending dental consultations, the instruments asked questions about the different situations that may arise (Figure 5), where it was possible to observe the existence in patients of high levels of each element that characterizes dental anxiety states and that require in each case the attention of the stomatologist during the consultation for an efficient work with the patient.
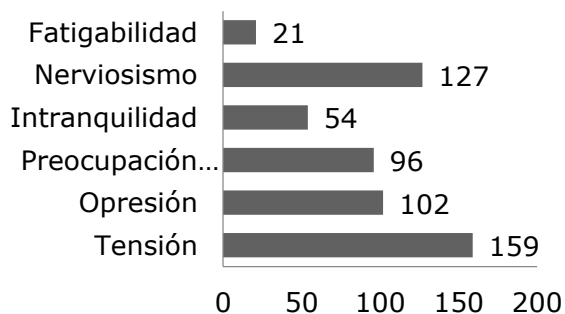

Figure 5. Most frequent characteristics in patients. Source: Authors.

It is evident that 91.9% of patients have levels of tension when attending dental care, 21.9% manifest states of nervousness and only 12% manifest some level of fatigability. In other more general characteristics presented in the patients, the manifested levels of insecurity, worry and instability could be observed, where the lowest cases are of instability (Figure 6).

Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7233
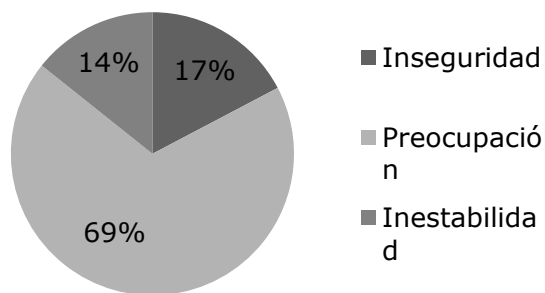
Figure 6. Manifestation of greater states in patients. Source: Authors.

Patients recognize that during care or when they know they should attend it, they have presented other characteristics of anxiety, such as psychosomatic manifestations of facial flushing, sweating, restlessness, insomnia, agitation and palpitations (Figure 7), which have occurred less frequently than the previous ones, but constitute manifestations of dental anxiety in patients. The greatest manifestations are restlessness and sweating, while on a smaller scale is agitation and insomnia.
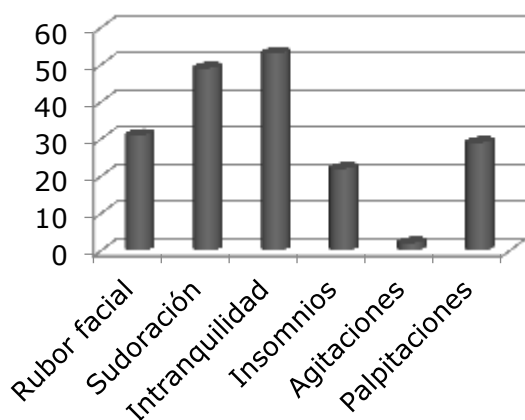
Figure 7. Manifestations of dental anxiety Source: Authors.

In a more detailed analysis of elements on indifference, the results showed that in the pandemic stage the neglect of the teeth had a considerable increase, a significant part of the patients surveyed recognize having abandoned the level of hygiene they previously had (Figure 8), with less brushing of the teeth and fewer times a day.
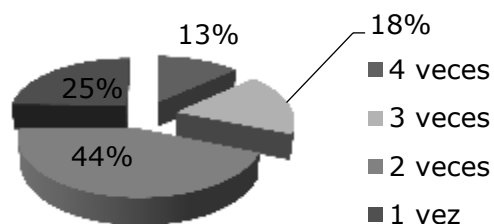
Figure 8. Frequency of brushing per day in the pandemic stage. Source: Jointly prepared.

When performing the analysis of the concern for dental care among men and women within the patients surveyed (Figure 9), it could be observed that there is a greater concern for dental care by women than men, but in both cases it denotes a growing decrease in dental care during the pandemic period, taking into consideration at least two brushings a day.

Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7234

Figure 9. Tooth care during COVID period. Source: Jointly prepared.

DISCUSSION.

The research focuses on the issues of anxiety and indifference that present themselves in the context of dental care during the COVID-19 pandemic. The moderate level of dental anxiety could indicate that patients who go to the dentist have fears that usually originate from previous negative experiences in previous consultations, as well as inappropriate comments or erroneous beliefs. Historically, the dentist has been associated with pain due to scientific advances that have occurred in dental techniques and procedures. Anxiety is a feeling of fear that arises in the face of a threat or stressful situation, and is a normal response to the presence of danger. However, if this feeling is overwhelming or persistent, it can be considered an anxiety disorder.

In addition, it is important to take into account the situation of the COVID-19 pandemic, which has generated an environment of fear due to the risk of contagion present in dental care. In this context, dentists are among the high-risk health professionals, since their work is carried out in the oral cavity, which is closely related to the nasopharynx area and is located at a shorter distance than recommended to prevent infections.

Regarding the anxiety caused by COVID-19, in the case of a mild level, the patient experienced a sense of security at the beginning of the vaccination process and when it was demonstrated that dental offices are not a place of contagion, since it is considered the health branch with fewer cases of transmission attributed. At the same time, the dentist strictly followed biosecurity protocols and special measures to control COVID-19. Only urgent and emergency treatments were carried out, and the professional assumed the responsibility of learning and recognizing the transmission routes, the initial clinical symptoms and the characteristics of the SARS-CoV-2 virus that would allow the identification of infected patients. This led to the implementation of preventive measures to stop the spread of the virus.

In this way, COVID-19 spreads quickly and has an approximate mortality rate of 2%. There are numerous uncertainties as to its nature, origin and evolution. The population is not sufficiently informed about the proper use of surgical masks and gloves, despite the fact that health authorities warn that they are not necessary to prevent infection in healthy people. It is therefore crucial to pay attention to effective communication of public health risks. Both medical personnel and authorities must be prepared to effectively communicate preventive measures for COVID-19 transmission.

In contrast, mid-level dental indifference indicates a psychological state in which patients show a certain degree of disinterest in their oral health. This is because they perceive that not maintaining proper dental hygiene would lead to additional expenses. In addition, taking into account that in Peru work suspension has been implemented in certain sectors, patients try to comply with basic hygiene habits. To address dental indifference, it is important to research and understand the reasons behind this attitude. The family plays a critical role in overcoming this problem, although the help of a professional in psychology is often required. Indifference in dental care, manifested through avoidance behaviors, is among the main reasons for canceled appointments or lack of interest in dental treatment. This, in turn, could increase the prevalence of cavities, decrease self-esteem, and affect quality of life.

The instruments applied allowed to determine that among the factors that are part of or cause anxiety, tension, nervousness, oppression and persistent worry stand out among a greater number of patients. On the other hand, these may show to a greater degree levels of concern in general and insecurity in each case that goes or should do so to dental care. There are

many reactions that are manifested, but among them stand out the restlessness and sweating during the development of care by the doctor.

During the COVID stage, oral care and hygiene actions were greatly reduced, by paying more attention to health care to avoid the spread of Covid-19. This led to a greater number of oral conditions appearing in the population, more frequently in men, who gave priority to other activities required at home and work, over their oral care, although in both sexes a decrease in the care of teeth in general and their daily hygiene was observed.

The important relationship between anxiety and dental indifference is based on the theories of Spielberger, who argues that, to properly understand anxiety, one must consider the distinction between anxiety as a characteristic of personality and as an emotional state. According to the state and trait theory of anxiety, this depends on how a person values and appreciates specific situations, which will determine whether or not they experience a state of anxiety, and to what extent and duration. Because of this, people may prioritize other needs and neglect their oral health. It can also be the result of various factors, such as a lack of empathy on the part of health professionals, which makes the patient feel that their problem is not understood from the beginning.

CONCLUSIONS.

Dental anxiety is one of the most frequent disorders in patients before dental care, which manifests itself from different forms and negatively influence the quality of care of the dentist, by decreasing the collaboration of the patient himself, in these manifestations nervousness, insecurity and concern stand out. The period of pandemic by Covid-19 brought the adoption of a group of measures that decreased dental care to patients in person, although care was maintained by different ways at a distance, there was as a consequence an increase in oral conditions such as cavities. Dental anxiety and indifference, in their relationship during the pandemic, caused a growing decrease in dental care and oral hygiene, which manifested itself to a greater extent within male patients compared to women, but in general in both a considerable decrease in oral care and hygiene was observed during the pandemic.

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7236

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Eur. Chem. Bull. 2023, 12 (Special Issue 5), 7229 – 7237

7237