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ALTERNATIVE TREATMENTS TO CONTROL ANXIETY BEFORE DURING AND AFTER DENTAL TREATMENT

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SUMMARY
Anxiety is a normal emotion that every human beingexperience in situations in which the subject feels threatened by external orinternal danger. Sometimes, some people express that sensation caused by dentaltreatment, creating barriers that cause patients to stop coming to consult. The identification, management and control of anxietybefore, during or after a treatment is of great importance, it is whereadaptation and intercommunication between patient, environment and dentistbegins to be created. Different causes influence anxiety to manifest, such asfear transmitted by the environment, post traumatic experiences, long waitingtimes before the consultation, and long-term appointments. There are variations in prevalence and levels ofanxiety such as biological, cultural, economic and social factors. As dentists, we must to ensure that patients remain relaxed and under control during theconsult, allowing good collaboration during treatment, preventing that anxietylimits cooperation and affecting the outcome of the treatment. There are alternatives to conventional treatments(medications) to control anxiety, such as aromatherapy and the use ofaudiovisuals aids. In the present investigation, alternatives were applied tocontrol or reduce anxiety and verify their effectiveness in patients thatrequires dental consultation who attend the Dentalli clinic in the town of Ometepec, Guerrero. Efficacy and better effect on patients wereanalyzed, establishing safe administration protocols and thus providingeffective alternatives to patients facing this type of problem. Using the Kruskall-Walls test, both therapies werecompared, resulting in aromatherapy as the most effective alternative.

KEYWORDS: Anxiety, alternative treatments, aromatherapy, audiovisuals, dental care.

INTRODUCTION

The increased prevalence of mental disorders is considered a public health problem. The diagnosed disorders are: schizophrenia, depression, conduct disorder and anxiety, the latter being the most common at any age (childhood, adolescence and adulthood).[1]

Anxiety is considered a negative emotional attitude, nervousness or temporary fear, it usually shows symptoms produced by panic attacks, it can occur when the patient is exposed to stimuli that cause fear (dental consultation). Between 10% and 15% of the world's population experiences anxiety states generated by dental treatment, representing a growing public health problem.[1,2] It is common for the condition to present symptoms at different levels.[3] According to the World Health Organization (WHO), in 2019, in Mexico anxiety disorders had a prevalence of 12% in the adult female population between 15-45 years old. The prevalence varies according to stressful situations and the ability to react to adversity. An example was the Covid-19 pandemic, where increases in the number of people with anxiety were reported, increasing the number of patients by up to 28.3%[4], demonstrating that the pandemic turned out to be an aggravating factor for already diagnosed patients, further reducing the patient's mental health and increasing fear of oral health care by not attending scheduled consultations.[5] The Pan American Health Organization (PAHO), together with the WHO, reveal anxiety disorders as the second most disabling mental disorder in American countries. It is related to lower life expectancy, so it is of utmost importance to treat them in time and prevent them.[6] According to the Sociological Research Center of Spain, it indicates that more than 50% of the population has felt some type of anxiety.[7] Between 3% and 20% of the population in South America has suffered from anxiety disorders during dental procedures.[8]

It is important that dental health professionals constantly update themselves and study new forms of treatment to eliminate or control difficulties during the consultation.[9, 10] To reduce or eliminate these anxiety states, there are alternatives such as audiovisual therapy, music therapy and aromatherapy. The first is a method used in stomatological scenarios with the patient, it is a psycho-behavioral therapy to change the patient's discomfort and create pleasant experiences. It consists of immersing the patient in a three-dimensional environment with the help of a computer. The patient has the sensation of physically being in another place, reducing anxiety, reducing pain, heart rate, in addition to appearing more cooperative with the staff and increasing the desire to continue with treatment.[4,5,6]

The technique with audiovisuals and music therapy in anxiety treatment has shown that between human beings and music there is a special relationship, which encompasses emotional and cognitive aspects, a person can alter their mood with a certain type of melody, taking it to the stress or relaxation[11] represents an economical, conservative and widely accepted method by patients and clinicians. In Mexico it has not been sufficiently disseminated and is not included in educational programs that train dentists; occasionally, it is used in pediatrics, forgetting that between 10 to 15% of the world's population goes through episodes of anxiety when going to consult.[2] More than 80% of patients treated with music therapy have a reduction in heart palpitations, an alternative in patients with contraindications for pharmacological techniques, beneficial in emotional and affective areas, generates release of anxiety and boosts senses such as touch and hear.[12]

Another alternative is aromatherapy, which is olfactory stimulation by inhalation of essential oils, chemically complex products, causing psychophysiological effects that act on the patient's emotions and mood, used in the treatment of anxiety, insomnia and depression. Lavender essential oils have a sedative or stimulating effect depending on their different chemical composition.[7,8]

Aromatherapy has ancient roots, Ayurveda medicine in India used aromatic plants to treat diseases, certain plants balanced or normalized the body's responses, promoting resistance to stress that can alter the functioning of the body.[19] Olfactory stimulation through the inhalation of essential oils develops psychophysiological effects that affect emotions and mood.[13] with the advantage that they are better tolerated than conventional drugs and do not produce dependence. At a physiological level it causes changes in blood pressure, pulse and heart rate, muscle contractions, pupillary reflex, increasing the resistance to pain. Increases muscle activity. Social effects: provokes and encourages self-expression, suggests feelings and ideas without the need for words, language and the ability to socialize. And finally, in the intellectual changes we can observe that it allows the development of sustained capacity, stimulates the imagination and develops memory.[14]

Methodology of the study

Experimental, prospective and longitudinal study, with a sample of 150 patients aged 18-45 years, both sexes, who attend a dental consultation at the Dentalli clinic located in Ometepec Guerrero, (November 2021-February 2022). The informed consent was signed, the sample was randomly divided into groups to receive alternative therapy. Previously, the instrument was validated, the variables were measured, replicating the measurements in the same individual at different times, it is necessary for it to be stable and initial tests to be taken.

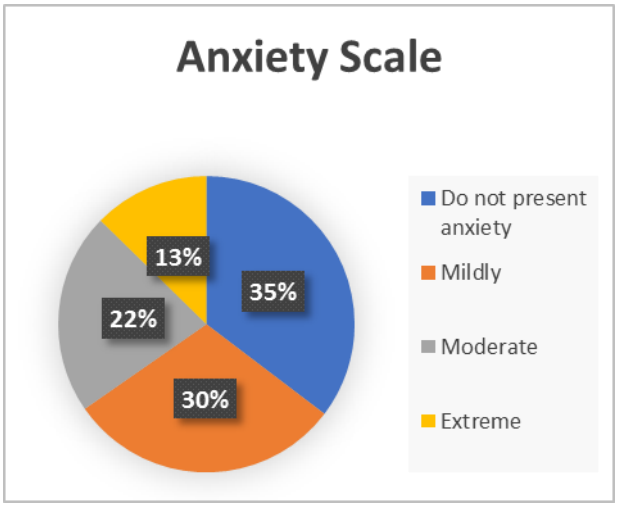
The EQ-SDAI scale was applied through an evaluation instrument (survey) to measure anxiety levels, dividing them into mild, moderate or severe anxiety. To apply the alternative therapy, a protocol was previously established for the interview with the patient, it was explained individually and verbally in detail what the study consisted of, the importance and advantages of participation, the informed consent was read and given to signature in case of agreeing to participate, then vital signs indicative of anxiety (pulse and blood pressure) were verified before, during and after applying the therapy. Subsequently, the dental anxiety scale (SDAI) was applied and, using an evaluation instrument, the level of anxiety that the patient presents at the time of performing a dental procedure is verified. Non-pharmacological therapies (music therapy and aromatherapy) were applied and vital signs were evaluated again to verify the functioning of the alternative therapy.

The Kruskall-Walls H test was performed to corroborate whether there are relevant differences at a statistical level and to compare effectiveness between both therapies.

RESULTS

The results of the H Kruskall-Walls test indicate the existence of relevant differences at a statistical level with a value of $p<0.05$, resulting in aromatherapy as the most effective alternative therapy. From the 150 patients who met the established inclusion criteria, they were divided by age, rank 1: 18-27 years, rank 2: 28-36 years, rank 3: 37-45 years. From 99 women (66% of the population, distributed in rank 1: 50 women, rank 2: 31 women, rank 3: 18 women.)

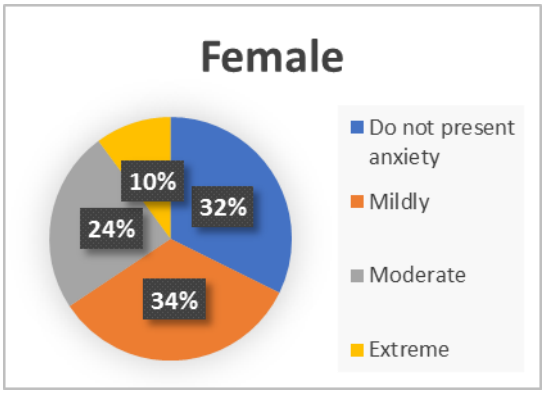
For 51 men (34% of the population, distributed in rank 1: 27 men, rank 2: 17 men, rank 3: 7 men) of the population served, regarding the results of the Q-SDAI anxiety scale, they indicate that Of the patients treated, 35% do not present anxiety, 30% present a range considered “mildly anxious”, 22% “moderately anxious” and 13% present “extreme anxiety” (Graph 1).

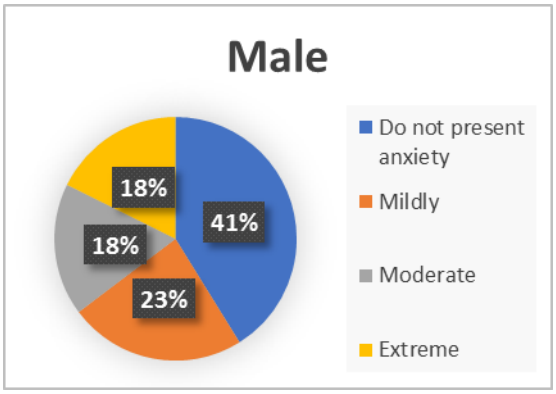


Graph 1. Results of the Q-SDAI anxiety scale of the population studied (both sexes)

Source: own elaboration

Regarding the results between male and female patients of 100% of the patients, the male patients (41%) do not present anxiety, compared to the female patients (32%). With extreme and moderate anxiety, the male gender represents 18% in both cases; unlike the female sex, 10% and 24% respectively, therefore, the female sex denotes double. (Graphs 2 and 3)

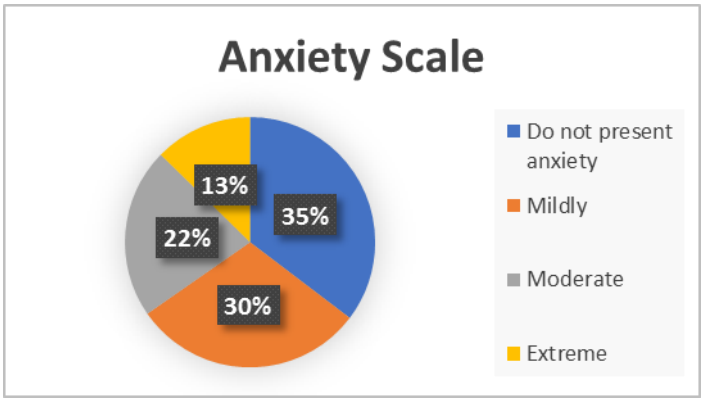




Graphs 2 and 3. Level of anxiety in female and male patients using Q-SDAI scale.

Source: own elaboration

About the results regarding the application of the Q-SDAI scale for 100% of the sample, they indicate that 35% DO NOT present anxiety, 30% are in the "mildly anxious" range, 22% are "moderately anxious." and 13% "extreme anxiety." (Graph 4)

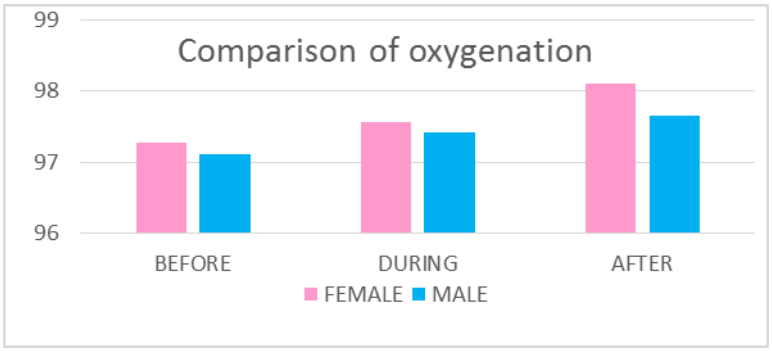


Graph 4.- Anxiety level using Q-SDAI scale.

Source: own elaboration

Regarding the non-pharmacological therapies used, they were distributed as follows: 56.6% of the patients (aromatherapy) and 43.3% (music therapy). Oxygenation saturation was taken into account because alterations in these levels are characteristic of patients with anxiety.

The results without pharmacological treatment for both sexes during pre-treatment in female patients present a range of 97.27 SpO2, during treatment 97.56 SpO2 and after treatment it increased to 98.10 SpO2. In male patients, pre-treatment: 97.11 SpO2, during treatment 97.41 SpO2 and post: 97.66 SpO2, with no significant changes in both as in the female sex. (Graph 5)

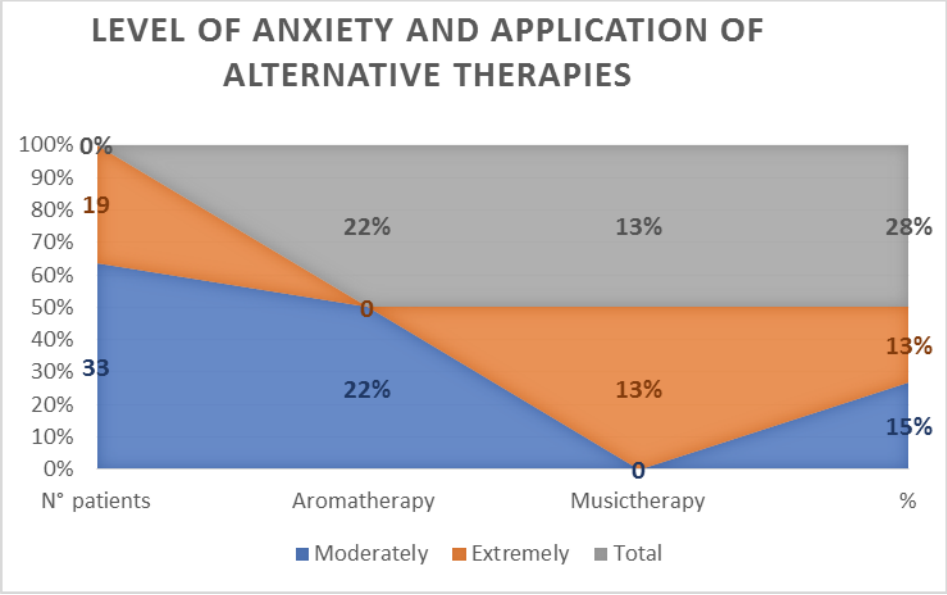


Graph 5.- Comparison of oxygenation between men and women.

Source: own elaboration

Similarly, blood pressure levels are quantified, the results were divided by sex, for the female the mean result before the alternative treatment was 127.77/82.13 mmHg, during the dental treatment it was 122.96/82.02 mmHg and at the end 122/82.02 mmHg. 81.62 mmhg. In men, the average result before starting therapy alternates 124/82.23 mmHg, during treatment an average of 123.96/82.14 mmHg and at the end 123.19/82.56 mmHg.

To apply the therapy, patients were considered according to the results of the Q-SDAI anxiety scale with 22% moderately anxious and 13% extremely anxious. Greater effectiveness was observed in aromatherapy since 100% of the patients relaxed and contributed calmly during the treatment and with the patients who received music therapy. (Graph 6)



Graph 6. Level of anxiety and application of alternative therapies.

Source: own elaboration

DISCUSSION

We can analyze the changes that alternative therapies have had to control anxiety. Antonio J. Rodriguez mentions that currently plants, such as valerian, are important to control anxiety, although they are not given the same value as before since it was more common to use plants. as a first option, so this type of research allows us to return to old alternative methods in order to reinforce care protocols.[15] About music therapy, Jaques-Falcroze Emile at the end of the 19th century developed methods to improve learning and experimentation of music. This therapy is recognized as a science in countries such as Chile, Peru and Europe, studies have been carried out in this area; however, in Mexico there is

no evidence of the use of music in favor of the physical and emotional health of human beings, so it is important to create awareness and studies that verify its effectiveness to scientifically endorse it.[16]

Dental anxiety is considered a powerful predictor of caries risk, mostly in women, coinciding in the present study that it is precisely in this population where there is a higher rate of anxiety, especially in the 18 to 27 age range, so this type of The analysis allows us to identify the population at risk and suggest treatments with adequate skill in terms of managing the patient who suffers from anxiety with alternative therapies, whether with music therapy, aromatherapy, acupuncture, physiotherapy or some alternative.[17]

CONCLUSION

After the results obtained, we conclude that the 2 therapies have a high safety profile, do not present interactions with any other treatment, without side effects and are an economical alternative compared to conventional therapies.

Aromatherapy proved to be a more effective therapy, is an option extracted from natural essential oils of plants, flowers and trees. The results obtained from the patients after taking vital signs such as heart rate and oxygenation showed that notable values were maintained; at the end of the therapy, 92% of the patients studied agreed that they felt relaxed after use the alternative therapies.

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