WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

HANDLING PATIENT ANXIETY DURING ORAL SURGERY: NON-PHARMACOLOGICAL TECHNIQUES TO IMPROVE PATIENT COMFORT

Dr. Senthil[1], Dr. Sachin Jacobraj[2], Dr. Mohammed Afradh[3], Dr. Sathish Kumar[4]

Dr. MGR Educational and Research Institute

ABSTRACT :

Anxiety is a prevalent issue among patients undergoing oral surgery, significantly impacting their comfort and surgical outcomes. This review explores non-pharmacological techniques for managing patient anxiety, highlighting strategies such as hypnotherapy, aromatherapy, acupuncture, and Cognitive Behavioral Therapy (CBT). These methods have demonstrated effectiveness in reducing anxiety levels and improving patient experiences. Research indicates that approaches like music therapy, effective communication, and preoperative education can further enhance comfort. Techniques such as Virtual Reality Exposure Therapy (VRET) and auricular acupuncture have emerged as innovative solutions. While these interventions show promise, the evidence base remains limited, necessitating more research to validate their efficacy. Future studies should focus on integrating these techniques into clinical practice and developing standardized protocols to improve patient outcomes during oral surgery.

Keywords: Anxiety Management, Oral Surgery, Non-Pharmacological Interventions, Cognitive Behavioral Therapy, Hypnotherapy, Aromatherapy, Acupuncture, Patient Comfort

Introduction :

Anxiety is a prevalent and significant issue among patients undergoing oral surgery, with studies indicating that a substantial percentage of individuals experience varying levels of apprehension regarding dental procedures. This anxiety can stem from multiple sources, including fear of pain, concerns about the surgical process, and past negative experiences. The impact of anxiety on surgical outcomes is well-documented; it can lead to heightened stress responses, increased pain perception, and a greater likelihood of procedural complications.[1] Additionally, anxious patients may exhibit behaviors that hinder the surgical process, such as difficulty in following instructions, increased movement during procedures, and reduced cooperation, all of which can compromise patient safety and surgical effectiveness.[2] Managing anxiety in patients is crucial not only for improving their comfort but also for enhancing overall treatment outcomes. Traditionally, pharmacological interventions, such as sedation and anxiolytics, have been employed to mitigate anxiety.[3] However, reliance on medication may not always be feasible or desirable due to potential side effects, patient preferences, or contraindications. As a result, there is a growing recognition of the need for non-pharmacological techniques that can effectively reduce anxiety while promoting patient comfort.[4] Non-pharmacological approaches encompass a range of strategies designed to alleviate anxiety without the use of drugs. These techniques often focus on enhancing patient education, improving the surgical environment, and utilizing psychological strategies to promote relaxation and comfort. As healthcare professionals strive to create a more patient-centered care model, integrating non-pharmacological methods into clinical practice has become increasingly important.[5] This review aims to explore various non-pharmacological techniques for managing patient anxiety during oral surgery, assess their effectiveness, and provide insights into their implementation within dental practice.

Etiology of Dental Anxiety :

Dental anxiety is a multifaceted phenomenon that can significantly impact patients undergoing oral and maxillofacial surgery. One of the primary sources of dental anxiety is previous negative or traumatic experiences, particularly those that occurred during childhood. Such conditioning experiences can create lasting associations between dental settings and fear, leading to heightened anxiety in future encounters with oral health care. Additionally, vicarious learning plays a significant role; observing family members or peers exhibit anxiety or fear towards dental treatment can reinforce similar feelings in individuals, leading them to internalize these anxieties. Individual personality traits, such as neuroticism and self-consciousness, also contribute to dental anxiety. Patients with these characteristics may be more predisposed to perceive dental visits as threatening. Coping styles further influence how patients respond to anxiety-provoking situations.[6] Those with maladaptive coping mechanisms may struggle more with anxiety compared to individuals who employ more effective strategies. The dental environment itself can be a source of anxiety. Many patients may feel vulnerable when reclined in the dental chair, experiencing a loss of control over their surroundings. This sense of helplessness can exacerbate anxiety, particularly in the context of oral and maxillofacial surgery, where more invasive procedures are performed. Specific sensory stimuli present in the dental setting are notable triggers for

anxiety. The sight of needles and dental instruments, the sound of drilling, and even the smell of eugenol can provoke discomfort and fear. Furthermore, the sensations of high-frequency vibrations from dental tools may intensify the feeling of vulnerability, particularly during oral and maxillofacial surgical procedures that involve extensive manipulation of the oral structures.[7]

Common Fears Associated with Oral and Maxillofacial Surgery

Several fears are particularly relevant to oral and maxillofacial surgery, contributing to the experience of dental anxiety[1,6]:

Fear of Pain: Concerns about pain during and after surgery are paramount. The anticipation of discomfort can lead to significant anxiety before procedures such as tooth extractions, implant placements, or corrective jaw surgeries.
Fear of Blood and Injury: Given the invasive nature of oral and maxillofacial surgery, fears related to blood and potential injury can be heightened. The sight of blood or the anticipation of surgical trauma can be overwhelming for some patients.
Fear of Trust Issues: Patients may harbor distrust towards dental personnel, stemming from past experiences or perceptions of detachment. This lack of trust can amplify anxiety, particularly when patients feel uncertain about the procedures being performed on them.
Fear of the Unknown: The uncertainty surrounding surgical procedures, including what to expect during recovery, can exacerbate anxiety. Patients may fear complications or the potential for unexpected outcomes.
Fear of Gagging or Choking: The feeling of suffocation or the gag reflex can be a significant source of anxiety, especially for procedures involving the posterior teeth or surgical manipulation of the throat area.

Review of literature :

Numerous non-pharmacological interventions have demonstrated efficacy in managing anxiety among dental patients. Hypnosis has been established as an effective tool for anxiety management, facilitating relaxation and reducing fear during dental procedures (Puja et al., 2022). Similarly, Progressive Muscle Relaxation (PMR) aids patients in releasing neuromuscular tension, promoting emotional stability and lowering anxiety levels (Puja et al., 2022). Cognitive-Behavioral Therapy (CBT) has proven beneficial in mitigating preoperative anxiety by reshaping negative thought patterns (Wang et al., 2022), while Guided Imagery enables patients to visualize calming scenes, significantly decreasing anxiety prior to surgery (Wang et al., 2022). Additionally, Music Therapy has been extensively studied, showing a reduction in anxiety in over 70% of trials, making it a favored option in clinical settings (Weisfeld et al., 2021). Aromatherapy also contributes to a more tranquil surgical atmosphere, further enhancing patient comfort (Wang et al., 2022). In a study by Litt et al., dental patients were assessed using the Dental Fear Survey (DFS) and subsequently received one of five anxiety-reduction interventions before the extraction of third molars. These interventions included standard clinic treatment, oral premedication, and various relaxation-based techniques. The study found that patients could be categorized into three dental fear subtypes: low-fear, high-fear, and cue-anxious, with the latter exhibiting fear only in response to specific stimuli. Distinctions between these subtypes were evident through reported situational cognitions, and the interaction between fear subtype and the chosen anxiety intervention predicted levels of distress experienced by patients.[8,9,10,11]

Music therapy :

Music listening has emerged as an effective non-pharmacological intervention for reducing anxiety in dental patients. Neutral, relaxing music with a slow tempo (60-80 beats per minute) has been shown to lower physiological markers such as blood pressure, heart rate, and respiratory rate during dental treatments. The effects of music on anxiety management include suppression of the sympathetic nervous system, synchronization of body rhythms, and distraction from fear-inducing dental noises. Numerous studies support the efficacy of music in this context; for instance, Mejia-Rubalcava et al. (2015) found that patients exposed to calming music before and during dental procedures experienced reduced anxiety and lower cortisol levels.[12] A pilot study reported that 92% of patients listening to instrumental music during minor surgeries experienced decreased anxiety and pain. While some studies suggest that the type of music can influence outcomes—such as Turkish music promoting heart rate stability—other research indicates that regardless of the genre, music generally diminishes anxiety significantly. Moreover, binaural beats have shown potential in reducing preoperative anxiety, although further research is needed in this area. Overall, music listening triggers the parasympathetic nervous system, fostering emotional and physical relaxation. This approach has been demonstrated to lower the required doses of anesthesia and enhance patient satisfaction postoperatively. Given its affordability, safety, and effectiveness, music therapy is a valuable adjunct to traditional anxiety management techniques in dental settings, and the use of headphones is recommended to maximize benefits by masking disturbing environmental noises.[13,14]

Interview, Conversation, and Communication Strategies :

A strong patient-dentist relationship is vital for effectively managing dental anxiety, and effective communication strategies play a key role in this dynamic. Dentists should initiate a personal introduction and engage in calm, nonjudgmental conversations with patients, actively listening to their concerns and fears. This approach, known as the iatrosedative technique, involves gathering comprehensive information about the patient's dental issues and encouraging questions about the treatment process. Patients should be kept informed about what to expect before and during procedures, with ongoing assessments of their comfort levels. Establishing rapport is crucial for building trust and confidence, and clear, honest communication is preferred over false reassurances. Normalizing anxious feelings and avoiding negative language can further help alleviate anxiety. Nonverbal communication skills, such as maintaining eye contact, facing the patient, and using a gentle touch, contribute to a supportive environment. A friendly, empathetic demeanor can enhance patient comfort. Research has shown that effective communication strategies are commonly used by anesthesiologists to manage preoperative anxiety, with studies indicating that structured communication can significantly reduce anxiety levels. For example, one study involving 230 patients

undergoing surgeries found that effective communication between surgeons and patients correlated with lower anxiety scores. Another study highlighted that structured interviews between patients and anesthesiologists were more effective in reducing anxiety, particularly among younger patients, and required less time than standard interviews. Overall, evidence supports the notion that preoperative communication significantly influences anxiety levels in patients.[15,16]

Preoperative education

Preoperative education significantly reduces anxiety in patients undergoing third molar extraction. Research shows that watching an educational video that presents patient perspectives during surgery and offers relaxation suggestions can effectively lower dental anxiety. This video provides valuable information, reassurance, and relaxation techniques, all of which may contribute to the reduction in anxiety levels. While many preoperative videos depict actual or simulated surgical procedures, which could potentially heighten stress, those focusing on education and relaxation techniques are beneficial.[17] Regardless of previous experiences, all patients should receive comprehensive information about the extraction process, as this thorough preparation can help alleviate postoperative anxiety. According to a clinical study, concealing the patients' eyes during surgical extraction of their third molars may worsen dental anxiety in people with moderate dental anxiety. A clinical study found that covering patients' eyes during the surgical extraction of third molars may increase dental anxiety in individuals with moderate dental anxiety.[18]

Virtual reality

Exposure therapy is considered the preferred treatment for specific fears and anxieties, with Virtual Reality Exposure Therapy (VRET) emerging as an innovative cognitive-behavioral approach. VRET allows patients to confront their fears in a computer-generated virtual environment, which can be less intimidating and more effective than real-life exposure. Studies indicate that VRET can significantly reduce dental anxiety and behavioral avoidance, with patients experiencing lower heart rates and higher treatment acceptance rates. Further evaluations confirmed VRET's effectiveness, with patients reporting reduced anxiety levels and a higher willingness to undergo dental treatment without meeting diagnostic criteria for dental anxiety. VRET utilizes realistic sensory cues to help patients confront fears without adverse outcomes, thus diminishing their fear response. Immersive visualization (IV) is another distraction technique that employs specialized eyewear to reduce anxiety, pain, and fear without obstructing peripheral vision.[19] Research by Padrino-Barrios et al. showed IV eyewear to be an effective and safe method for managing short-term anxiety during dental procedures, emphasizing its non-invasive and economical nature. Overall, both VRET and IV represent promising non-pharmacological interventions for alleviating dental anxiety, enhancing patient comfort, and improving treatment compliance.[20]

Hypnosis

Hypnotherapy is a non-invasive technique that employs audio recordings, often with relaxation music, to alleviate fear, pain, and anxiety during dental treatments. It can be used alone or alongside other methods like anesthesia. Research indicates that hypnosis is effective for patients with mild to moderate anxiety, but those with severe anxiety may require more intensive psychotherapeutic approaches, such as cognitive-behavioral therapy (CBT). In studies, hypnosis has demonstrated a reduction in dental anxiety during procedures, with many patients finding the experience pleasant and reporting decreased anxiety levels.[21] However, evidence on its efficacy is still limited, necessitating further research. Comparative studies show that CBT is more effective than standardized hypnosis for managing dental anxiety, while individualized hypnosis also yields positive outcomes but with higher dropout rates. Hypnosis involves three phases: induction for relaxation, delivery of therapeutic suggestions, and return to normal consciousness. This technique has been used in surgical settings to reduce analgesic needs and improve overall patient experiences. Clinical trials have shown that hypnosis significantly lowers intraoperative anxiety compared to standard care, and its effects are comparable to those of midazolam in children. For instance, a study using a novel audio pillow to deliver hypnosis and relaxation music found that patients experienced significantly lower anxiety and physiological stress markers during dental procedures. Overall, while hypnotherapy is a promising adjunctive treatment for anxiety in dental surgery, further studies are necessary to solidify its effectiveness and optimize its application in clinical settings.[22]

Aromatherapy

Aromatherapy is an effective non-pharmacological method for reducing anxiety and promoting relaxation, utilizing essential oils to influence mood, emotions, and cognitive function. [23,24]

1.	Chamomile Oil: A randomized controlled trial found that inhaling chamomile oil during dental extractions significantly decreased patients' anxiety levels, promoting a calm mental state.
2.	Orange Oil: Known for its sedative and anxiolytic properties, orange oil can penetrate mucosal membranes, affecting the central nervous system. A study showed that the presence of orange fragrance during third molar surgery resulted in lower blood pressure, pulse rate, and respiratory rate, indicating reduced anxiety.
3.	Lavender Oil: This essential oil is widely regarded for its calming effects. Key component linalool acts on GABA-A receptors, leading to decreased anxiety and blood pressure. Studies have shown that lavender inhalation can significantly lower postoperative anxiety and physiological stress markers during dental procedures, potentially reducing the need for psychotropic medications.
4.	Lemongrass Oil: Research demonstrated that lemongrass aromatherapy reduced postoperative anxiety among patients undergoing fixed prosthetic dental treatment, providing a simple and cost-effective intervention.

Auricular acupuncture

Auricular acupuncture is a minimally invasive technique that effectively reduces general and preoperative anxiety by addressing imbalances in neurotransmitters such as GABA in the brain. This approach works by modulating the autonomic nervous system, suppressing sympathetic activity, and stimulating parasympathetic responses, which helps inhibit noradrenaline production and reduce sympathetic hyperactivity. Research, including a study by Michalek-Sauberer et al. found that auricular acupuncture applied to specific points (relaxation, tranquilizer, and master cerebral points) significantly decreases anxiety in patients undergoing dental treatments when administered 20 minutes prior to the procedure. Similarly, Hendrata et aldemonstrated that auricular laser puncture, which combines traditional acupuncture with laser stimulation, effectively lowers anxiety levels during dental procedures. The mechanism of action involves activating GABA-producing cells in the amygdala and hippocampus, leading to the release of serotonin and the restoration of neurotransmitter balance. Originating from China, acupuncture involves inserting needles into specific body points for therapeutic purposes and has gained popularity as a treatment for preoperative anxiety. Overall, auricular acupuncture presents a simple, cost-effective, and beneficial method for managing preoperative anxiety, although it requires specialized training and equipment for effective implementation, with the existing evidence supporting its efficacy being limited but of sound quality.[24,25,26]

Cognitive-Behavioral Therapy

Cognitive Behavioral Therapy (CBT) encompasses science-based interventions aimed at modifying both behavioral and cognitive patterns to treat anxiety disorders, making it the gold standard for such conditions. Behavioral interventions focus on increasing adaptive behaviors and decreasing maladaptive ones, while cognitive interventions aim to alter distorted beliefs and thoughts through techniques like recognizing inaccurate thinking and controlling automatic thoughts. Common CBT methods include exposure therapy—through imaginal, in vivo (real-life), and interoceptive techniques—and cognitive therapy. Factors such as catastrophizing, anxiety, and depression can exacerbate postoperative pain; thus, assessing these in the perioperative period can aid in reducing anxiety and enhancing recovery. Instruments like the modified Yale Preoperative Anxiety Scale (mYPAS) and the State-Trait Anxiety Inventory for Children (STAIC) serve as significant predictors of anxiety, particularly in children. A perioperative pain self-management (PePS) intervention rooted in CBT principles has been shown to help prevent chronic pain and minimize long-term opioid use. Studies have demonstrated the effectiveness of CBT interventions: a brief Managing Anxiety and Depression using Education and Skills (MADES) intervention before coronary artery bypass graft surgery improved symptoms of depression and anxiety, enhanced quality of life, and reduced hospital stays. Similarly, a randomized controlled trial indicated that a 10-week CBT intervention before bariatric surgery significantly alleviated preoperative anxiety and depression symptoms, while telephone-based cognitive behavioral therapy (Tele-CBT) also benefitted candidates for bariatric surgery. For children, active distraction through cognitive-behavioral play therapy proved more effective than traditional techniques in reducing preoperative anxiety. However, CBT-based pain education was not more effective than usual care following total knee arthroplasty in improving pain or physical activity.[27,28,29,30,31]

Conclusion :

In conclusion, various non-pharmacological interventions, including hypnotherapy, aromatherapy, acupuncture, and Cognitive Behavioral Therapy (CBT), have shown promising results in managing dental and preoperative anxiety. Each technique offers unique benefits, from reducing anxiety levels and improving patient comfort to enhancing recovery experiences. However, the current evidence base is still limited, and more research is necessary to validate the efficacy of these methods across diverse patient populations and clinical settings. There is a pressing need for further studies aimed at integrating these techniques into clinical practice. This includes the development of standardized protocols to ensure consistency and reliability in their application. By establishing evidence-based guidelines, healthcare providers can better implement these interventions, ultimately improving patient outcomes and experiences during medical and dental procedures.

REFERENCES :

1. Appukuttan DP. Strategies to manage patients with dental anxiety and dental phobia: literature review. Clin Cosmet Investig Dent. 2016 Mar 10;8:35-50. doi: 10.2147/CCIDE.S63626. PMID: 27022303; PMCID: PMC4790493.
2. Cohen SM, Fiske J, Newton JT. The impact of dental anxiety on daily living. Br Dent J. 2000;189(7):385–390. doi: 10.1038/sj.bdj.4800777.
3. Locker D, Shapiro D, Liddell A. Overlap between dental anxiety and blood-injury fears: psychological characteristics and response to dental treatment. Behav Res Ther. 1997;35(7):583–590. doi: 10.1016/s0005-7967(97)00016-8.
4. Qiao F, Zhang M, Zhang T, Zhu D. Dental anxiety is related to postoperative symptoms in third molar surgery. Front Psychiatry. 2022 Aug 18;13:956566. doi: 10.3389/fpsyt.2022.956566. PMID: 36061304; PMCID: PMC9433927.
5. Richter P, Bohl C, Berth H. Dental Anxiety and Stress in Patients during Different Types of Oral Surgery. *Oral*. 2022; 2(1):88-94. https://doi.org/10.3390/oral2010010
6. Ost LG, Hugdahl K. Acquisition of blood and dental phobia and anxiety response in clinical patients. Behav Res Ther. 1985;23(1):27–34. doi: 10.1016/0005-7967(85)90139-1.
7. Munafò MR, Stevenson J. Anxiety and surgical recovery: reinterpreting the literature. *J Psychosom Res.* (2001) 51:589–96. doi: 10.1016/S0022-3999(01)00258-6
8. Sabherwal, Puja., Kalra, Namita., Tyagi, Rishi., Khatri, Misri, Amit., Srivastava, Shruti. (2022). 1. A conceptual review on pretreatment anxiety management in a dental setting using hypnosis and progressive muscle relaxation. Archives of depression and anxiety, doi: 10.17352/2455-5460.000070

9. Rulin, Wang., Xin, Huang., Yucang, Wang., Masod, Akbari. (2022). 2. Non-pharmacologic Approaches in Preoperative Anxiety, a Comprehensive Review. Frontiers in Public Health, doi: 10.3389/fpubh.2022.854673
10. Carol, Cronin, Weisfeld., Jill, Turner., Jennifer, Bowen., Reem, Eissa., Brandi, Roelk., Arthur, Ko., Kim, Dunleavy., Kristen, Robertson., Erica, Benfield. (2021). 5. Dealing with Anxious Patients: An Integrative Review of the Literature on Nonpharmaceutical
11. Oosterink FM, de Jongh A, Aartman IH. What are people afraid of during dental treatment? Anxiety-provoking capacity of 67 stimuli characteristic of the dental setting. Eur J Oral Sci. 2008;116(1):44–51.
12. Hmud R, Walsh LJ. Dental anxiety: causes, complications and management approaches. J Minim Interv Dent. 2009;2(1):67–78.
13. Milgrom P, Weinstein P, Getz T. Treating Fearful Dental Patients: A Patient Management Handbook. Seattle: Reston Prentice Hall; 1995.
14. Armfield JM, Heaton LJ. Management of fear and anxiety in the dental clinic: a review. Aust Dent J. 2013;58(4):390–407. doi: 10.1111/adj.12118.
15. Burghardt S, Koranyi S, Magnucki G, Strauss B, Rosendahl J. Non-pharmacological interventions for reducing mental distress in patients undergoing dental procedures: Systematic review and meta-analysis. *J Dent*. 2018;69:22-31.
16. Wong NSM, Yeung AWK, Li KY, McGrath CP, Leung YY. Non-Pharmacological Interventions for Reducing Fear and Anxiety in Patients Undergoing Third Molar Extraction under Local Anesthesia: Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2022 Sep 6;19(18):11162. doi: 10.3390/ijerph191811162. PMID: 36141435; PMCID: PMC9517611.
17. Cottraux J. Nonpharmacological treatments for anxiety disorders. *Dialogues Clin Neurosci.* (2002) 4:305. doi: 10.31887/DCNS.2002.4.3/jcottraux
18. Lopez-Yufera E, López-Jornet P, Toralla O, Pons-Fuster López E. Non-Pharmacological Interventions for Reducing Anxiety in Patients with Potentially Malignant Oral Disorders. *Journal of Clinical Medicine*. 2020; 9(3):622. https://doi.org/10.3390/jcm9030622
19. Interventions to Reduce Anxiety in Patients Undergoing Medical or Dental Procedures.. Journal of Alternative and Complementary Medicine, doi: 10.1089/ACM.2020.0505
20. Moaddabi A, Hasheminia D, Bagheri S, Soltani P, Patini R: Effect of opaque eye coverage on anxiety in candidates for surgical removal of impacted third molars: a randomized clinical trial. Oral Surg Oral Med Oral Radiol. 2021, 1:267-72.
21. Kekecs Z, Jakubovits E, Varga K, Gombos K. Effects of patient education and therapeutic suggestions on cataract surgery patients: a randomized controlled clinical trial. *Patient Educ Couns.* (2014) 94:116–22. doi: 10.1016/j.pec.2013.09.019
22. Hoffmann, B., Erwood, K., Ncomanzi, S., Fischer, V., O'Brien, D. and Lee, A. (2022), Management strategies for adult patients with dental anxiety in the dental clinic: a systematic review. Aust Dent J, 67: S3-S13.
23. Ali B, Al-Wabel NA, Shams S, Ahamad A, Khan SA, Anwar F. Essential oils used in aromatherapy: a systemic review. Asian Pac J Trop Biomed. (2015) 5:601–11. doi: 10.1016/j.apjtb.2015.05.007
24. Bozkurt P, Vural Ç. Effect of lavender oil inhalation on reducing presurgical anxiety in orthognathic surgery patients. J Oral Maxillofac Surg. (2019) 77:2466. e1–7. doi: 10.1016/j.joms.2019.08.022
25. Corman HH, Hornick EJ, Kritchman M, Terestman N. Emotional reactions of surgical patients to hospitalization, anesthesia and surgery. *Am J Surg.* (1958) 96:646–53. doi: 10.1016/0002-9610(58)90466-5
26. McClurkin SL, Smith CD. The duration of self-selected music needed to reduce preoperative anxiety. *J Perianesth Nurs.* (2016) 31:196–208. doi: 10.1016/j.jopan.2014.05.017
27. Hermes D, Gerdes V, Trübger D, Hakim S, Sieg P. Evaluation of intraoperative standardized hypnosis with the state-trait anxiety inventory. *Mund Kiefer Gesichtschir.* (2004) 8:111–7. doi: 10.1007/s10006-004-0533-0
28. Butler AC, Chapman JE, Forman EM, Beck AT. The empirical status of cognitive-behavioral therapy: a review of meta-analyses. *Clin Psychol Rev.* (2006) 26:17–31. doi: 10.1016/j.cpr.2005.07.003
29. Arch JJ, Craske MG. First-line treatment: a critical appraisal of cognitive behavioral therapy developments and alternatives. *Psychiatric Clinics.* (2009) 32:525–47. doi: 10.1016/j.psc.2009.05.001
30. Kupeli I, Gülnahar Y. Comparing different music genres in decreasing dental anxiety in young adults who underwent third molar surgery in turkey: randomized controlled trial. *J Oral Maxillofac Surg*. (2020) 78:546.e1–7. doi: 10.1016/j.joms.2019.11.029
31. Bae H, Bae H, Min B-I, Cho S. Efficacy of acupuncture in reducing preoperative anxiety: a meta-analysis. *Evid Based Complement Alternat Med.* (2014) 2014: 850367. doi: 10.1155/2014/850367