

Management of Anxiety in Dental Patients: Practices Used by Dentists

Manejo da Ansiedade em Pacientes Odontológicos: Práticas Utilizadas por Cirurgiões-Dentistas
Manejo de la Ansiedad en Pacientes Dentales: Prácticas Utilizadas por los Dentistas

RESUMO

Objetivo: Analisar os métodos utilizados por cirurgiões-dentistas para o manejo da ansiedade em pacientes odontológicos, por meio de revisão integrativa da literatura. **Método:** Foram incluídos dezessete artigos publicados entre 2019 e 2024, selecionados nas bases SciELO, Biblioteca Virtual em Saúde e Google Acadêmico, conforme critérios pré-estabelecidos. **Resultado:** As estratégias identificadas dividem-se em métodos farmacológicos, não farmacológicos e mistos. Técnicas não farmacológicas apresentaram boa aceitação, fácil aplicação e baixo custo, sendo eficazes em casos leves e moderados. Métodos farmacológicos mostraram-se essenciais em quadros severos, exigindo preparo técnico e infraestrutura adequada. Estratégias combinadas favoreceram atendimento mais humanizado e eficaz. **Conclusão:** O manejo adequado da ansiedade requer identificação do nível de ansiedade do paciente e adoção das intervenções mais apropriadas, contribuindo para o sucesso terapêutico e para o bem-estar do paciente.

DESCRIPTORES: Ansiedade; Tratamento Odontológico; Controle da Ansiedade.

ABSTRACT

Objective: To analyze the methods used by dental surgeons to manage anxiety in dental patients through an integrative literature review. **Method:** Seventeen articles published between 2019 and 2024 were included, selected from SciELO, Virtual Health Library and Google Scholar databases according to pre-established criteria. **Result:** The identified strategies are divided into pharmacological, non-pharmacological and mixed methods. Non-pharmacological techniques showed good acceptance, easy application and low cost, being effective in mild and moderate cases. Pharmacological methods proved essential in severe cases, requiring technical preparation and adequate infrastructure. Combined strategies promoted more humanized and effective care. **Conclusion:** Proper anxiety management requires identifying the patient's anxiety level and adopting the most appropriate interventions, contributing to treatment success and patient well-being.

DESCRIPTORS: Anxiety; Dental Treatment; Anxiety Control.

RESUMEN

Objetivo: Analizar los métodos utilizados por cirujanos dentistas para el manejo de la ansiedad en pacientes odontológicos mediante revisión integrativa de la literatura. **Método:** Se incluyeron diecisiete artículos publicados entre 2019 y 2024, seleccionados en SciELO, Biblioteca Virtual en Salud y Google Académico, según criterios preestablecidos. **Resultado:** Las estrategias identificadas se dividen en métodos farmacológicos, no farmacológicos y mixtos. Las técnicas no farmacológicas mostraron buena aceptación, fácil aplicación y bajo costo, siendo efectivas en casos leves y moderados. Los métodos farmacológicos resultaron esenciales en casos graves, requiriendo preparación técnica e infraestructura adecuada. Las estrategias combinadas favorecieron una atención más humanizada y eficaz. **Conclusión:** El manejo adecuado de la ansiedad requiere identificar el nivel de ansiedad del paciente y adoptar las intervenciones más apropiadas, contribuyendo al éxito del tratamiento y al bienestar del paciente.

DESCRIPTORES: Ansiedad; Tratamiento Odontológico; Control de la Ansiedad.

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INTRODUCTION

Fear is a primary and instinctive emotion essential for human survival, characterized by physiological reactions to threats, such as increased heart rate and the release of adrenaline. However, it can arise even in the absence of real risks, resulting in emotional problems such as phobias—intense and irrational fears of specific situations or objects^(1,2).

Anxiety, which is closely related to fear, refers to a state of apprehension in the face of stressful or uncertain situations. At moderate levels, it can be beneficial, but when it is intense and persistent, it compromises quality of life and may constitute a psychological disorder. Environmental and psychological factors, such as stress, trauma, and significant life changes, are among the main triggers of anxiety⁽²⁾. Treatment for anxiety generally combines psychotherapy—especially cognitive-behavioral therapy—with relaxation techniques, meditation, physical exercise⁽³⁾, a balanced diet, and adequate sleep⁽³⁾.

In a dental context, fear of dental care is a common cause of anxiety and may result from previous negative experiences, family influences, the media, or sensory stimuli, such as the sound of dental instruments. This fear affects the relationship between patient and dentist and may, for example, compromise the effectiveness of anesthesia due to reduced pain tolerance during states of high anxiety⁽⁴⁾.

During dental appointments, it is possible to identify certain signs of anxiety in patients, including restlessness,

pallor, excessive sweating, tingling, hyperventilation, crying, tachycardia, and gastrointestinal disturbances. In severe episodes of anxiety, patients experience intense feelings of apprehension and nervousness, which activate the autonomic nervous system and can lead to irrational behavior, hindering care and compromising the effectiveness of treatment. Therefore, it is essential that the dentist adopt anxiety-management strategies, which may include pharmacological methods such as benzodiazepines, conscious sedation, or even general anesthesia (in more severe cases), as well as non-pharmacological approaches, such as iatrogenic sedation, hypnosis, cognitive-behavioral therapy, aromatherapy, and also combined techniques that integrate behavioral, sensory, pharmacological, or non-pharmacological methods⁽⁵⁾.

Therefore, this study aims to analyze the methods used by dental surgeons to reduce anxiety and fear associated with dental treatment, with the goal of promoting more humane and effective care.

METHODOLOGY

This study is an integrative literature review, a type of study designed to systematically and comprehensively gather, synthesize, and critically analyze the findings of previously published research on a specific topic. To conduct this study, we followed the six fundamental steps that structure this type of review: (1) formulation of the guiding research question; (2) identification and selection of relevant literature; (3) extraction of relevant data; (4) critical evaluation of the included studies;

(5) interpretation and discussion of the results obtained; (6) final presentation of the integrative review.

Searches were conducted in the following databases: SciELO (Scientific Electronic Library Online), the Virtual Health Library (VHL), and Google Scholar. The search terms were combined within each database using the Boolean operators **AND** and **OR**, which allowed for the strategic cross-referencing of terms to broaden and refine the search results, as shown in Table 1.

Table 1 – Combination of search terms with Boolean operators

Search Strategy	Boolean Operators and Descriptors
Virtual Health Library (VHL)	(dental treatment anxiety) AND (year_cluster:[2019 TO 2024]) dental treatment anxiety AND la: ("en" OR "pt") AND (year_cluster:[2019 TO 2024]); dental treatment anxiety AND fulltext(FULL TEXT) AND mj: ("Dental Anxiety") AND la: ("en" OR "pt") AND (year_cluster:[2019 TO 2024]);
SciELO (Scientific Electronic Library Online)	(dental treatment) AND (anxiety); (dental treatment) AND (anxiety) AND (year_cluster:[2019 TO 2024]) Google Scholar

Source: Prepared by the author, 2025

The inclusion criteria adopted for this integrative review were: articles available free of charge in full; full-text articles; studies whose approaches were compatible with the proposed topic; publications written in Portuguese or English; and works published between 2019 and 2024. Conversely, the exclusion criteria included: publications prior to 2019; incomplete texts; titles unrelated to the topic in question; overlapping approaches among the selected studies; and abstracts that did not demonstrate compatibility with the research

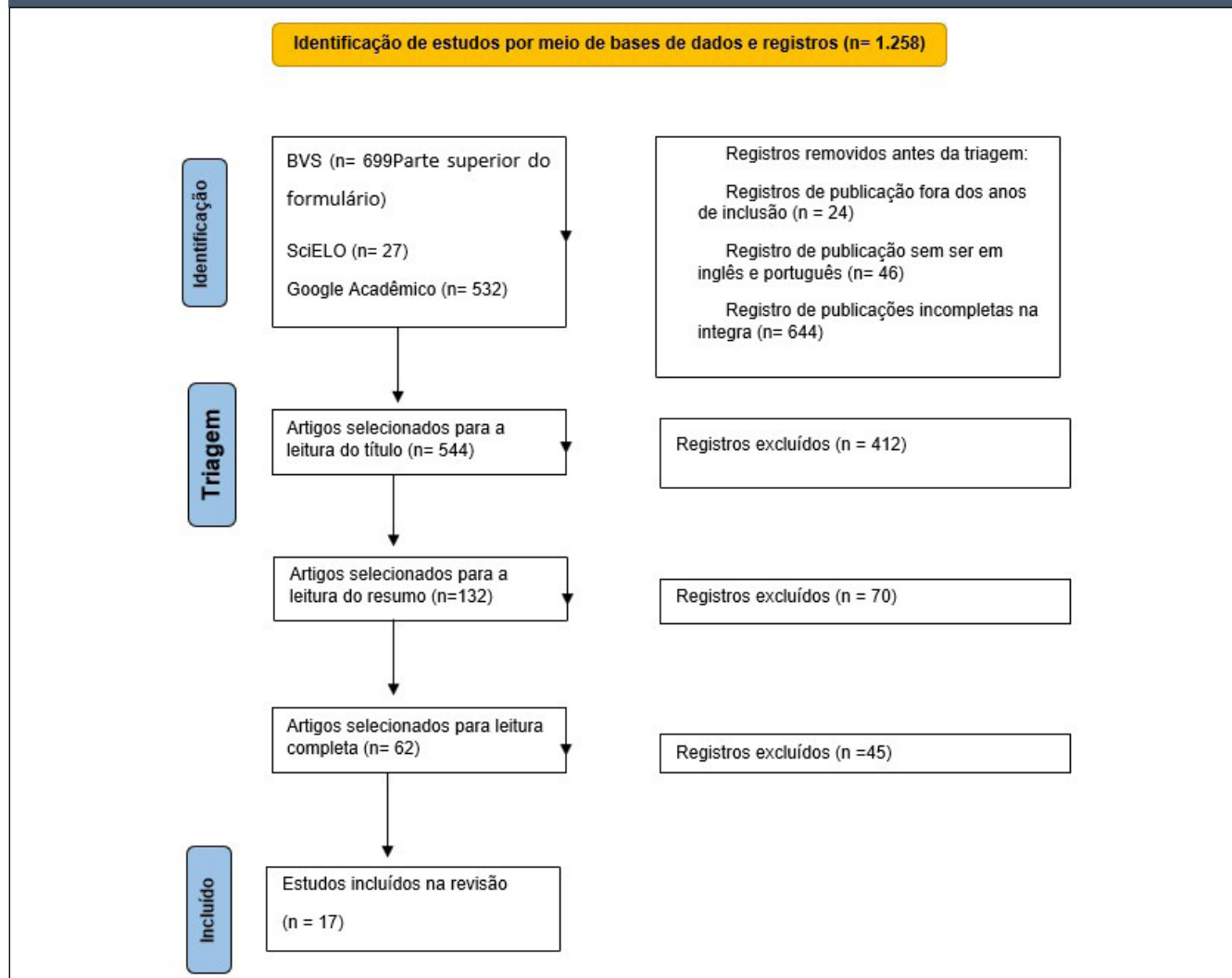
objective.

The initial search yielded a total of 1,258 articles, distributed as follows: 699 in the Virtual Health Library (VHL), 27 in the SciELO database, and 532 on Google Scholar. After applying the exclusion criteria, 24 articles were eliminated because they fell outside the established time frame; 46 because they were not in the selected languages; and 644 because they were incomplete. Articles that did not contain sufficient information for the immediate application of the exclusion criteria were forwarded to the next

phase of analysis.

In the first screening stage, 544 articles were selected for title review, of which 132 were deemed suitable to advance to the next stage. In the second stage, the abstracts were reviewed, resulting in the selection of 62 studies for the third and final stage, which consisted of reading the full texts. At the end of this process, 17 articles were included in the review. This entire selection process is illustrated in Figure 1. PRISMA Flowchart.

Figure 1 – Research method used



Source: Prepared by the author, 2025

RESULTS

Seventeen articles were included in the results, selected using the inclusion and exclusion criteria presented

in the methodology. The studies address pharmacological, non-pharmacological, and mixed strategies for managing anxiety in dental settings. Table 1 presents a summary of the

articles included in this review, detailing the authors, the main method used, the type of technique, the methodological design, and the main conclusions.

Table 1 – Summary of articles included in the integrative review

Author	Main Method	Type	Methodology	Conclusion
Almeida et al. (2022)	Audiovisual distraction	Non-pharmacological	Clinical trial with 48 children (6-10 years old) at UFPEL in various procedures.	Audiovisual distractions were effective in managing pain, behavior, and anxiety.
Abdulhameed et al. (2024)	Music and informative videos	Non-pharmacological	Clinical trial with 90 patients undergoing root canal treatment. Three groups: music, video, and control.	Music reduced anxiety more than video or control.
Quek et al. (2022)	Audiovisual distraction	Non-pharmacological	Systematic review based on the Joanna Briggs Institute.	Audiovisual techniques are effective in children and adolescents.
Salehabadi et al. (2024)	Binaural beat music	Non-pharmacological	Clinical trial with 80 patients undergoing wisdom tooth surgery.	Binaural beats significantly reduced anxiety and pain.
Aravena et al. (2020)	Music (frequencies)	Non-pharmacological	Clinical trial with 42 patients undergoing tooth extractions.	Music at 432 Hz reduced anxiety and salivary cortisol more than 440 Hz or absence of music.
Lins et al. (2023)	Aromatherapy	Non-pharmacological	Systematic review in major databases (PRISMA).	Aromatherapy is safe and effective in tooth extractions.
D'Arc et al. (2024)	Essential oils	Non-pharmacological	Integrative review (2019–2024) in LILACS, PubMed, and ScienceDirect.	Essential oils were effective in reducing dental anxiety.
Peruchini et al. (2024)	Auriculotherapy	Non-pharmacological	Clinical trial with patients undergoing third molar extraction.	Auriculotherapy reduced postoperative pain and anxiety.
Monte et al. (2020)	Communication	Non-pharmacological	Cross-sectional study with questionnaires administered to 100 dentists.	Most use conversation and reassurance, without routine use of anxiolytics.
Levi et al. (2022)	Diaphragmatic breathing	Non-pharmacological	Clinical study with children undergoing pediatric dental treatment.	Technique reduced distress and consultation time.
Mascarenhas (2022)	Conscious sedation	Pharmacological	Broad literature review focusing on sedation and GABA-A.	Sedation is effective with the need for proper technical care.
Correia (2024)	Benzodiazepines	Pharmacological	Literature review across multiple databases and sources.	Sedation contributes to more comfortable and effective care.
Steenen et al. (2024)	Hypnosis and benzodiazepines	Pharmacological	Systematic review with registered PRISMA protocol.	Hypnosis and benzodiazepines are effective in controlling anxiety.
Sena et al. (2024)	Aromatherapy, music, hypnosis, distractions	Mixed	Review of 42 articles (PubMed and Google Scholar).	Complementary techniques proved effective in reducing pain and anxiety.
Kong et al. (2024)	Music and hypnosis (in children)	Mixed	Systematic review in multiple databases up to August 2024.	Music recommended for anxiety; hypnosis for heart rate control.
Lal et al. (2024)	Iatrosedation and music	Mixed	Clinical trial with 60 adults divided into 3 groups	Iatrosedation had better results than music or control.
Gomes, Stabile & Ximenes (2020)	Pharmacological and non-pharmacological techniques	Mixed	Integrative review in VHL, LILACS, Google Scholar.	Emphasis on the importance of professional-patient trust for better anxiety control.

Source: Prepared by the author, 2025

DISCUSSION

Dental anxiety is a common condition characterized by intense fear and unease regarding dental procedures, even the simplest ones. This anxiety not only negatively affects oral health by preventing people from seeking dental care—which can further aggravate existing clinical conditions—but also impacts psychological health, as individuals suffering from high levels of dental anxiety may exhibit physical symptoms such as excessive sweating, palpitations, and, in more severe cases, panic syndrome ⁽⁶⁾. The studies analyzed in this integrative review demonstrate a variety of strategies for managing dental anxiety, covering different age groups, including both adults and children. These strategies include pharmacological, non-pharmacological, or combined interventions.

Nonpharmacological methods offer a variety of approaches with proven effectiveness. Methods that use visual and auditory distraction, such as videos, animations, and music, have been shown to be effective in reducing anxiety ^(7,8). For example, music therapy has proven to be an effective therapeutic tool for regulating the emotional state of anxious patients during dental appointments. This approach demonstrates the ability to reduce signs of stress, such as salivary cortisol levels, as music has the capacity to elicit emotional and positive responses in the face of dental phobia ⁽⁹⁾.

Aromatherapy has gained popularity due to its non-invasive nature and its applicability in various clinical contexts, such as tooth extractions. The use of essential oils in aromatherapy does not cause psychological dependence nor does it compromise the patient's autonomy ^(10,11). In addition, simple behavioral control techniques—such as empathetic communication, a welcoming approach, and

diaphragmatic breathing—are highly valued by dental surgeons. This is because they are easy to apply, low-cost, and effective in promoting relaxation during dental treatment ^(12,13).

Pharmacological techniques, such as conscious sedation with benzodiazepines and nitrous oxide (N_2O), are particularly indicated in cases of severe dental anxiety. Benzodiazepines act on the central nervous system by enhancing the action of gamma-aminobutyric acid (GABA), which is the primary inhibitory neurotransmitter, producing anxiolytic, sedative, and muscle-relaxing effects, thereby promoting patient cooperation and facilitating dental treatments. Among the most commonly used drugs are diazepam and midazolam ⁽¹⁴⁾.

Sedation with nitrous oxide (N_2O) is a safe and widely used option, especially for children and patients with special needs, because it helps reduce anxiety and promotes a state of relaxation. However, it is important for the dentist to have specific training from the Federal Council of Dentistry (CFO) to use this technique. N_2O is a colorless, non-irritating gas that acts gently on the cerebral cortex, promoting relaxation without compromising natural reflexes or breathing. When combined with oxygen or other sedative agents, it can provide varying levels of sedation, ranging from mild relaxation to general anesthesia

⁽¹⁵⁾. Despite its proven effectiveness, some professionals are still reluctant to use this technique. This is due to the need for adequate technical knowledge, a safe environment, and a careful assessment of the patient's medical history ⁽¹²⁾.

There is also a growing appreciation for blended strategies, which integrate different methods—such as behavioral, sensory, and pharmacological approaches—thereby helping to create a more humanized and patient-centered care experience. One example is the combination of music

therapy and/or aromatherapy with behavioral control techniques, such as the “tell-show-do” approach, relaxation breathing exercises, and positive reinforcement. The combination of these approaches has demonstrated significant benefits and helped many people feel more at ease during dental treatments ⁽⁶⁾.

Although nonpharmacological methods, such as music therapy, aromatherapy, and behavioral control techniques, are less effective than pharmacological methods, they have gained prominence due to their simplicity, low cost, and high patient acceptance. In contrast, pharmacological methods remain indispensable for managing severe cases, although they require adequate infrastructure and specific training on the part of dentists.

The integration of combined strategies—which incorporate behavioral, sensory, and pharmacological interventions, when necessary—represents a promising alternative. This approach promotes more patient-centered care that is aligned with patients' emotional and clinical needs. It is essential that dental surgeons be prepared to identify their patients' anxiety levels and, based on this assessment, choose the best strategies for managing dental phobia. These approaches not only make treatment more effective and preserve oral health but also ensure comfort and safety and help build a relationship of trust between the professional and the patient.

CONCLUSION

Therefore, dental anxiety poses a major challenge to the promotion of oral health, as it directly affects treatment and patients' well-being. This integrative review demonstrates the existence of a variety of effective strategies for managing anxiety in the dental setting. However, it is essential

that dental professionals be trained to identify levels of anxiety and select, on an individualized basis, the most appropriate strategies for each case, thereby promoting not only oral

health but also patients' comfort and confidence during treatment.

It is important to note that, despite the progress made and the proven effectiveness of various approaches, it is

still essential that further studies be conducted in this area. This will help deepen our understanding and develop protocols to manage dental anxiety even more effectively.

REFERENCES

1. Fernandes L, et al. Transtornos de ansiedade: guia de educação em saúde para enfermeiros. 2023. Disponível em: https://efivest.com.br/wp-content/uploads/2023/09/guia_ansiedade.pdf
2. Szuhany KL, Simon NM. Anxiety disorders: a review. *JAMA*. 2022;328(24):2431–45. DOI: 10.1001/jama.2022.22744.
3. Oliveira VA, et al. Benefits of regular practice of physical activity in the treatment of depression: a narrative review of the literature. *Res Soc Dev*. 2024;13(5):e8013545827. DOI: 10.33448/rsd-v13i5.45827.
4. Alves de Souza A, et al. Medo e ansiedade no tratamento odontológico. *Revista Científica FACS*. 2019;19:24–9.
5. Guimarães BDB, Oliveira CB, Soares KS, Cruz PEA, Guimarães CD. Controle da ansiedade no ambiente odontológico. *Revista Ibero-Americana de Humanidades, Ciências e Educação*. 2023;1(1):200–10. DOI: 10.51891/rease.v1i1.10507.
6. Gomes GB, Stabile CLP, Ximenes VS. Avaliação e manejo da ansiedade e fobia odontológica: a psicologia na formação do cirurgião-dentista. *Rev Fac Odontol Porto Alegre*. 2020;61(2):80–94. DOI: 10.22456/2177-0018.101020.
7. Almeida FV, et al. Eficácia de distrações audiovisuais em crianças no comportamento, controle da dor e da ansiedade durante procedimentos odontológicos: um estudo transversal. *Rev Fac Odontol Porto Alegre*. 2022;63(2):24–41.
8. Abdulhameed SA, et al. A randomized clinical trial comparing the effects of music and informative videos on patient anxiety during root canal treatment and retreatment. *PubMed*. 2024 Jul 30;0(0).
9. Aravena PC, Almonacid C, Mancilla MI. Effect of music at 432 Hz and 440 Hz on dental anxiety and salivary cortisol levels in patients undergoing tooth extraction: a randomized clinical trial. *J Appl Oral Sci*. 2020;28:e20190601.
10. Lins FM, et al. Use of aromatherapy in the care of anxiety in the process of tooth extractions: a review study. *Concilium*. 2023;23(12):320–36.
11. D'Arc et al. Óleos essenciais na redução da ansiedade odontológica: revisão integrativa (2019–2024). *LILACS/ PubMed/ScienceDirect*, 2024.
12. Monte IC, et al. Uso de métodos para controle do medo e da ansiedade odontológicos por cirurgiões-dentistas da cidade de Fortaleza. *Braz J Dev*. 2020;6(8):56894–916. DOI: 10.34117/bjdv6n8-194.
13. Levi M, et al. Breathing out dental fear: a feasibility cross-over study on the effectiveness of diaphragmatic breathing in children sitting on the dentist's chair. *Int J Paediatr Dent*. 2022;32(6):801–11.
14. Correia B. Técnica de sedação consciente com benzodiazepínicos em odontologia: uma revisão bibliográfica. *Braz J Implantol Health Sci*. 2024;6(11):728–43. DOI: 10.36557/2674-8169.2024v6n11p728-743.
15. Mascarenhas LB. Sedação leve e moderada em odontologia: indicações e riscos. *Bahiana.edu.br*; 2022.
16. Quek J, et al. Non-pharmacological management of dental fear and anxiety in children and adolescents: an umbrella review. *PubMed*. 2022;23(3):230–42.
17. Salehabadi N, et al. Can binaural beat music be useful as a method to reduce dental patients' anxiety? *Int Dent J*. 2024;74(4):553–8.
18. Peruchini LFD, et al. Uso da auriculoterapia no manejo da ansiedade e da dor trans e pós-operatória nas exodontias. *Ciência, Cuidado e Saúde*. 2024;4:233–47.
19. Steenen SA, et al. Interventions to reduce adult state anxiety, dental trait anxiety, and dental phobia: a systematic review and meta-analyses of randomized controlled trials. *J Anxiety Disord*. 2024;105:102891.
20. Sena DS, et al. Eficácia das técnicas de aromaterapia, musicoterapia e hipnose no controle do medo, dor e ansiedade no consultório odontológico. *E-Acadêmica*. 2024;5(1):e0551535. DOI: 10.52076/eacad-v5i1.535.
21. Kong X, et al. Non-pharmacological interventions for reducing dental anxiety in pediatric dentistry: a network meta-analysis. *BMC Oral Health*. 2024;24:1151.
22. Lal et al. Iatrosedação e música no controle da ansiedade em adultos. *Ensaio Clínico*, 2024.

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Conflict of interest: The authors declare that there is no conflict of interest.

Data availability: The data supporting the findings of this study are available upon request from the corresponding author.