



# Exploring Patient Experiences with Dental Anxiety Management Techniques in Dentistry

**Angela Shannen A. Capillo<sup>a\*</sup>, Justine Crisselle Beling<sup>a</sup>,  
Maria Kayla Araceli R. Garcia<sup>a</sup>, Chlowee Lie S. Lagmay<sup>a</sup>,  
Sheberlyn Kye R. Mayormita<sup>a</sup> and Matt Earl B. Rañeses<sup>a</sup>**

<sup>a</sup> Mindanao Medical Foundation College, Philippines.

## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: <https://doi.org/10.9734/jesbs/2024/v37i61342>

## **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here:

<https://www.sdiarticle5.com/review-history/123870>

**Original Research Article**

**Received: 23/07/2024**

**Accepted: 25/09/2024**

**Published: 19/10/2024**

## **ABSTRACT**

Dental anxiety is a prevalent issue affecting patients and dental healthcare providers alike, leading to avoidance of treatment and poor oral health outcomes. This study investigates dental anxiety management techniques and their effectiveness in promoting patient comfort, improving oral behavior, and increasing satisfaction during dental care. The research was conducted in Davao City, Philippines, utilizing a qualitative, descriptive phenomenological approach through in-depth interviews with eight participants who experienced dental anxiety. Key findings reveal that dental anxiety stems from unfamiliarity with procedures, negative experiences, and anticipation of pain. Patients reported heightened anxiety due to the sight and sound of dental tools and past negative encounters, often leading to long-term avoidance of care. Effective management strategies, such

\*Corresponding author: E-mail: [angelashannen05@gmail.com](mailto:angelashannen05@gmail.com);

**Cite as:** Capillo, Angela Shannen A., Justine Crisselle Beling, Maria Kayla Araceli R. Garcia, Chlowee Lie S. Lagmay, Sheberlyn Kye R. Mayormita, and Matt Earl B. Rañeses. 2024. "Exploring Patient Experiences With Dental Anxiety Management Techniques in Dentistry". *Journal of Education, Society and Behavioural Science* 37 (6):248-56. <https://doi.org/10.9734/jesbs/2024/v37i61342>.

as deep breathing and distraction techniques, significantly improved patient satisfaction and oral health behavior, fostering better engagement with dental care. The study underscores the importance of patient-centered communication and personalized care in addressing dental anxiety, calling for enhanced integration of mental health considerations in dental practices.

*Keywords: Dental anxiety; college students; dental care; anxiety; dental healthcare.*

## 1. INTRODUCTION

Dental anxiety is a common issue that affects both patients and dental healthcare providers, often leading to negative attitudes toward dental treatment and complications in care delivery. It results from a unique stress response that patients experience in dental situations, and this anxiety can deter individuals from seeking necessary care, further impacting their oral health [1]. Various strategies and interventions have been developed to manage dental anxiety, which not only alleviates patient distress during visits but also promotes better overall oral health.

However, a gap in the routine screening of dental anxiety has been identified, especially in regions such as Saudi Arabia, where dental professionals display limited engagement in assessing and addressing anxiety (AlMuhaish et al., 2022). In China, dental anxiety often coexists with conditions like irreversible pulpitis, where pain exacerbates anxiety during treatments [2]. Failure to manage anxiety effectively can result in traumatic patient experiences and avoidance of future care [3].

In the Philippines, dental anxiety is compounded by widespread poor oral hygiene due to limited access to care, lack of education, and socioeconomic factors [4]. Dental anxiety has been recognized as a key barrier to regular dental check-ups and timely treatments [5]. Though some dental practitioners have adopted techniques like conscious sedation and patient-friendly communication to mitigate anxiety [6,7], research in specific regions such as Davao remains scarce [8].

Given the limited research on the prevalence and management of dental anxiety in Davao, this study aims to fill this gap by investigating patient experiences and the effectiveness of existing management techniques. Understanding patient perspectives will inform the development of more empathetic and effective dental care practices, ultimately improving oral health outcomes and patient well-being in the region

## Research questions:

This study specifically focused on the following objectives:

1. To examine what lies behind the patient's anxiety during dental anxiety management techniques.
2. To assess the long-term impact of dental anxiety management techniques on patients' oral behavior.
3. To evaluate patient satisfaction and comfort levels in relation to the utilization of different dental anxiety management techniques.

## 2. METHODOLOGY

### 2.1 Design

This study employed a qualitative design, specifically descriptive phenomenology, to investigate patient experiences with dental anxiety management techniques. Rooted in Husserl's philosophy, descriptive phenomenology aims to capture the essence of individuals' lived experiences [9]. Through in-depth interviews, this approach facilitated an exploration of patients' emotions, perceptions, and the factors contributing to their dental anxiety.

The method aligned with the research objectives by enabling an in-depth understanding of the causes of anxiety, its impact on oral health behavior, and patient satisfaction with various management techniques. This approach provided valuable insights into the subjective nature of dental anxiety and its implications for patient care [9].

### 2.2 Research Locale

The study was conducted in Davao City, Philippines, the largest city by land area in the country. Davao City was selected due to its diverse population, representing various cultural, socioeconomic, and educational backgrounds,

which provided a wide range of experiences with dental anxiety. The city also has a well-established healthcare infrastructure, including numerous dental clinics and hospitals, ensuring a variety of contexts for studying dental anxiety management techniques. This combination of diversity and accessibility made Davao City an ideal setting for exploring patient experiences in dental care.

### 2.3 Respondents

The study involved eight participants, selected based on Creswell's (2013) recommendation for a small but in-depth qualitative sample. Purposive non-probability sampling was used to recruit individuals who had experienced dental anxiety and engaged with dental anxiety management techniques.

#### Inclusion criteria:

- 1.) adults aged 18 or older,
- 2.) with a history of dental anxiety, experience with various management techniques,
- 3.) willing to discuss their experiences,
- 4.) a resident in Davao City to ensure local relevance

### 2.4 Instrument

A researcher-made interview guide with open-ended questions was used to explore sources of dental anxiety, the impact of management techniques, and patient satisfaction. The guide was developed based on the study's research questions and validated by experts for clarity and relevance (Creswell, 2013). The interviews were conducted in a supportive and confidential setting to ensure comprehensive and honest responses.

### 2.5 Procedures

1. Participant Recruitment: Eight participants with dental anxiety were purposively sampled. Informed consent was obtained.
2. Data Collection Instrument: A researcher-made interview guide with open-ended questions was used to explore dental anxiety sources, impact of management techniques, and patient satisfaction.
3. Methods: In-depth, semi-structured interviews were conducted in private settings and audio-recorded. Observations in clinical settings were supplemented by field notes.

4. Ethics: Informed consent and confidentiality were ensured. Participants were assigned pseudonyms, and ethical approval was obtained.
5. Data Handling: Audio recordings and field notes were transcribed verbatim, anonymized, and securely stored.
6. Analysis: Data were analyzed using Collaizi's method, including coding, theme identification, and pattern recognition (Collaizi, 1978).

### 2.6 Data Analysis

In the study's data analysis phase, the researchers first transcribed and anonymized recorded interviews to protect participant identities. This study used Collaizi's method for thematic analysis, which involved familiarizing with the data, coding it inductively and deductively, and identifying and refining themes. This process included reviewing the data to ensure accurate representation and interpreting the themes to understand patient experiences with dental anxiety management techniques.

## 3. RESULTS AND DISCUSSION

### 3.1 The Patient's Anxiety During Dental Anxiety Management Techniques

In the investigation of dental anxiety management techniques, three main categories emerged: Unfamiliarity with Dental Procedures, Negative Experiences, and Anticipation of Pain. Sub-themes under Unfamiliarity include Dental Tools and Sensory Aspects, which highlight triggers of anxiety. Negative Experiences encompass Negative Stories and Personal Experiences, revealing the influence of past encounters. Anticipation of Pain involves feelings of vulnerability and nervousness, reflecting the psychological dimension of anxiety. Participant coding, such as "I" or "informant," facilitated the organization and comparison of individual experiences, enhancing the study's reliability.

### 3.2 Dental Procedures Related Anxiety

Dental anxiety is often triggered by the intimidating presence of dental tools and the sensory environment in dental settings. The sight and sound of instruments, like drills, can evoke fear and anticipatory worry, exacerbating anxiety. Additionally, sensory elements such as antiseptic

odors, bright lights, and unexpected sensations (pressure, sounds, and tastes) contribute to heightened discomfort and anxiety in patients.

### **3.3 Association of Dental Tools as Source of Pain**

The correlation between dental instruments and pain significantly impacts dental anxiety, as shown by participants' testimonies. Seeing familiar tools and hearing mechanical noises can trigger intense fear and anticipation of pain. Informants reported that familiar instruments cause anxiety, anticipating extreme pain even without knowing their exact use.

Informant 1 and 7's experiences reflect the psychological impact of dental tools, aligning with previous studies. Research by Kumari et al. [10] supports Informant 1's fear of instruments, while Makk et al. [11] and Nott et al. [12] highlight discomfort with unfamiliar tools and dental sounds, mirroring Informant 7's unease.

Informant 1's discomfort with procedures, like the taste of dental paste and the numbness from anesthesia, underscores that anxiety can also arise from sensory experiences beyond pain. This aligns with Seligma et al. [13] and Ibrahim et al. [14], who found that anxiety extends to routine procedures and the use of numbing agents.

### **3.4 Negative Experiences**

Adverse events, whether experienced personally or heard from others, significantly contribute to dental anxiety. These experiences can leave lasting feelings of unease and dread about dental appointments, shaping future attitudes and behaviors. Personal pain or suffering during past procedures can lead to ongoing skepticism and fear. Additionally, negative stories from peers, family, or the media can heighten anxiety and deter individuals from seeking timely dental care.

### **3.5 Negative Experiences from Other People**

Adverse dental experiences, especially when shared by others, can significantly heighten an individual's anxiety about dental appointments. Stories of painful treatments or negative outcomes from acquaintances, relatives, or

media can instill dread and influence attitudes toward dental care.

These narratives can create lasting fears and skepticism, as reflected in Informant 3's statement about how past negative experiences and horror stories increase apprehension. This aligns with research by Wu and Gao [15], which shows how personal and vicarious experiences shape dental anxiety.

Studies also indicate that children can develop dental anxiety from hearing about or observing parental fears. Informant 3's observations match findings on anxiety sensitivity and vicarious learning [16], suggesting that those with high anxiety sensitivity may experience heightened fears after learning about others' negative dental experiences.

### **3.6 Negative Personal Experiences**

Negative personal experiences with dental care often lead to increased anxiety in future visits. Pain, discomfort, or feeling uninformed during previous procedures can leave lasting impressions, causing reluctance to seek dental care again.

Informant 6 (I6) reflects this, noting that past negative experiences at the dentist can heighten anxiety. This aligns with research such as Masood et al. [17], which found that poor dental experiences in childhood are linked to worse oral hygiene practices later in life.

Furthermore, Vieira et al. [18] found that children with unpleasant dental experiences report lower quality of life concerning oral health. These negative experiences not only impact current perceptions and behaviors but also contribute to ongoing dental anxiety and avoidance.

### **3.7 Anticipation of Pain**

A major cause of dental anxiety is the fear of pain, which brings feelings of vulnerability and helplessness. Patients often worry about discomfort and losing control during dental procedures, especially when treatments are close to sensitive areas of the mouth. This sense of vulnerability can heighten anxiety, making people feel powerless against dental professionals and their tools.

Anticipating pain leads to increased anxiety as patients mentally brace for potential discomfort. This fear can stem from past experiences, stories from others, or general concerns about dental care, amplifying their overall anxiety levels.

### 3.8 Feeling of Vulnerability

A primary cause of dental anxiety is the sense of vulnerability experienced while lying in the dentist's chair, feeling exposed and powerless. This feeling of helplessness, combined with the anticipation of pain or discomfort, heightens overall anxiety.

Informants 5 and 3 highlight how vulnerability and fear of pain exacerbate their anxiety during dental procedures. Their experiences align with research indicating that a lack of control and the inability to see what's happening increase anxiety levels [19], (Chapman & Kirby-Turner, 2018). The fear of pain and discomfort, such as drilling noises and injections, also contributes to heightened anxiety [20].

Establishing a trusting relationship with the dentist is crucial for managing anxiety. Patients who feel vulnerable need to trust their dentist's expertise to help them feel supported and reduce anxiety during treatment (Armfield & Ketting, 2015).

### 3.9 Nervousness

Anticipation of discomfort during dental procedures is heavily influenced by anxiety. As appointments approach, anxiety can escalate due to concerns about potential pain, past negative experiences, or fear of upcoming treatments. This heightened anxiety sets up expectations of pain, making the experience seem more daunting.

Informants 5 and 1 illustrate how anxiety and nervousness contribute to dental fear. Their experiences align with research showing that increased anxiety can make dental stimuli, like drilling sounds, seem more threatening [12]. Additionally, anticipatory anxiety, especially before procedures like tooth extractions, is linked to physiological reactions such as elevated heart rate and blood pressure [21]. This anxiety can create a cycle, amplifying nervousness before and during dental visits.

### 3.10 The Long-term Impact of Dental Anxiety Management Techniques on Patients Oral Behavior

Dental anxiety management strategies have a significant and lasting impact on patients' oral behavior. Participants learn effective coping skills, such as relaxation techniques and cognitive behavioral strategies, which help them face dental sessions with less fear and discomfort. This empowerment leads to active participation in dental care, improved adherence to oral health practices, and a greater emphasis on regular dental visits and preventive measures. Consequently, patients experience better dental outcomes, enhanced overall health, and increased understanding of dental care through education and dialogue with dental professionals.

### 3.11 Utilized Effective Coping Mechanism

Dental anxiety management strategies significantly improve patients' oral behavior by teaching effective coping skills like relaxation and cognitive behavioral techniques. These methods help reduce fear, encourage active participation in dental care, and improve adherence to oral health practices.

### 3.12 Effectivity of Anxiety Management Techniques in Seeking Dental Care

Dental anxiety management techniques, such as visual distractions and deep breathing, significantly influence patients' willingness to seek dental care by reducing fear and increasing confidence. Informants I3 and I6 highlight how these methods, including visual distractions, deep breathing, and calming music, help manage anxiety but may not fully resolve it. This underscores the need for a more comprehensive approach, like Cognitive Behavioral Therapy (CBT), to address underlying psychological issues and provide longer-lasting relief.

Effective communication with dental professionals also plays a crucial role in reducing anxiety. Informant I6 emphasizes the importance of expressing concerns to the dental team and using mindfulness techniques to stay grounded. Research supports that a combination of anxiety management strategies and clear, empathetic communication from dentists can significantly enhance the dental experience and improve patient outcomes.

### 3.13 Prioritize Oral Health Care

Dental anxiety management strategies have a lasting impact on patients' oral health behaviors, encouraging them to prioritize dental care and hygiene. By using these techniques, patients become more proactive about maintaining good oral health, including regular brushing, flossing, and dental check-ups (17, 14, 18). This shift in behavior aligns with findings from Wong et al. (2017) and Duijster et al. (2015), which highlight the positive influence of anxiety management on oral health practices.

Education and Cognitive Behavioral Therapy (CBT) are also crucial. Research shows that understanding the benefits of oral hygiene and addressing anxiety through CBT can improve patients' adherence to dental care [22,23]. This comprehensive approach helps individuals manage their anxiety and enhance their overall oral health outcomes.

### 3.14 Widened Understanding and Knowledge about Dental Health Care

Dental anxiety management techniques improve patients' understanding and commitment to oral healthcare. These approaches enhance patients' knowledge of dental health, preventive measures, and treatments through education and effective communication with dentists. For example, patients report increased comfort and comprehension due to clear explanations from their dentists (11, 15). Research supports these findings, showing that good communication and anxiety management improve patients' understanding and engagement in dental care [24,25].

### 3.15 The Patient Satisfaction and Comfort Levels in Relation to the Utilization of Different Dental Anxiety Management Techniques

Patients' happiness and comfort with dental anxiety management depend on several key factors. Techniques like deep breathing, distraction methods, and sedation dentistry help reduce anxiety and create a more relaxed experience, boosting patient satisfaction.

Effective communication is crucial for improving patient comfort. Dentists who show empathy, listen to concerns, and clearly explain procedures build trust and collaboration, leading to higher satisfaction and lower anxiety. A personalized, compassionate approach also enhances patient comfort by addressing individual needs and preferences.

### 3.16 Anxiety Management Facilitated Satisfaction

Participants report higher satisfaction and comfort with various dental anxiety management techniques. Methods like deep breathing, distraction, and sedation help reduce dental anxiety, leading to a more positive overall experience.

Informants 9 and 7 find deep breathing and distraction techniques, such as listening to music, particularly effective in improving their comfort during dental procedures. Their experiences align with previous research emphasizing the importance of tailored anxiety management strategies to enhance patient satisfaction.

Chattoul et al. [26] highlight the role of clear communication and addressing patient concerns in reducing dental anxiety. Informants' feedback supports this, showing that good communication combined with anxiety management techniques improves their dental experience.

Hoffman et al. [27] stress the value of customizing anxiety management based on patient preferences. Informants 9 and 7's experiences further support this approach, demonstrating that personalized strategies significantly enhance comfort and satisfaction during dental visits.

### 3.17 Patient-Dentist Communication

Effective communication between patients and dentists is essential for improving satisfaction and comfort during dental treatments. Clear explanations and reassurance from dentists help alleviate anxiety and build trust. Informants 7 and 8 experienced increased comfort due to their dentists' detailed explanations and empathy, aligning with research by Chattoul et al. [26] and Martins et al. [28], which emphasizes the role of patient-centered communication in reducing anxiety.

Research by Appukkutan et al. (2016) supports the importance of addressing patients' specific concerns and giving them control over their treatment to lower anxiety. Informants 9 and 8 advocate for personalized and compassionate care, which is supported by Eklund et al. [29] and Flores-Guerrero et al. [29], highlighting that empathy and individualized approaches enhance patient comfort and satisfaction. Mills et al. (2015) also note that compassionate communication fosters better adherence to treatment and oral health habits [30].

## 4. CONCLUSION AND IMPLICATION

### 4.1 Conclusion

The study highlighted key themes in dental anxiety and treatment. Participants often felt anxious due to fears of pain, discomfort from dental instruments, and the sensory environment of the dental office. Negative personal and learned experiences also contributed to their anxiety [26].

Long-term, patients developed coping strategies like deep breathing and distraction, improving their oral health behaviors and engagement with dental care (Appukkutan et al., 2016).

Effective anxiety management, such as deep breathing and distraction, along with strong patient-dentist communication, significantly increased patient satisfaction. Dentists' empathy, clear explanations, and personalized care were crucial for enhancing patient comfort (Eklund et al., 2016; Flores-Guerrero et al., 2017).

### 4.2 Implication

This study offers a comprehensive understanding of dental anxiety management and its impact on patient experiences. Key themes include anxiety related to dental procedures, negative past experiences, pain anticipation, effective coping mechanisms, prioritization of oral health, and patient satisfaction.

These insights are valuable for dental practices, guiding dentists to use personalized strategies and empathetic communication to address individual patient needs. Implementing tailored interventions can reduce anxiety and improve overall satisfaction and compliance.

From a policy perspective, the study underscores the need for mental health considerations in dental care. Policymakers should promote patient-centered approaches and support the integration of evidence-based anxiety management techniques. Enhancing access to mental health resources and support services can help ensure equitable, high-quality dental care for all patients.

## DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

## CONSENT

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Appukkutan J. Managing dental anxiety: A guide for dental professionals. *International Journal of Dental Hygiene*. 2016;14(3): 179-186.
2. Duo L, Chen J, Zhang Y. Dental anxiety in patients with irreversible pulpitis: The interplay of pain and anxiety. *Journal of Endodontics*. 2018;44(6):949-954.
3. Cabbar F, Kalayci A, Ileri Y. Impact of dental anxiety on treatment outcomes. *Journal of Clinical Psychology*. 2018; 74(12):2040-2048.
4. Hayes C. The impact of socioeconomic factors on oral health in the Philippines. *Philippine Journal of Public Health*. 2017; 35(1):22-30.

5. Fadare J, Olusanya O, Adeyemi F. Barriers to dental care: The role of dental anxiety. *African Journal of Medicine and Health Sciences*. 2021;20(2):45-53.
6. Cheung H, Wong F, Yip J. Techniques to mitigate dental anxiety: A review. *International Dental Journal*. 2020;70(5):335-342.
7. DMDental. Approaches to managing dental anxiety: An overview. *DMDental Journal*. 2020;12(3):23-30.
8. Espinosa A. Exploring dental anxiety in Davao: Gaps in research and practice. *Philippine Journal of Dentistry*. 2023;25(1):12-20.
9. Gallagher M. Descriptive phenomenology: Understanding lived experiences. *Qualitative Research in Psychology*. 2022;19(4):627-641.
10. Kumari R, Jain A, Gupta S. Fear of dental instruments and its effect on dental anxiety: A qualitative study. *Journal of Dental Research*. 2023;102(7):811-818.
11. Makk P, Szabo A, Szikszai S. Discomfort with dental sounds: A qualitative investigation. *Journal of Dentistry*. 2017;65:87-93.
12. Nott DJ, Tickle M, Baker S. Anticipatory anxiety in dental patients: The role of sounds and experiences. *British Dental Journal*. 2000;188(4):227-230.
13. Seligma A, Moller J, Lindgren J. The sensory experiences of patients during dental procedures: Implications for anxiety management. *Journal of Oral Rehabilitation*. 2017;44(6):456-463.
14. Ibrahim F, Mohamed A, Ali H. Sensory experiences and dental anxiety: A study of patients' perceptions. *Dental Research Journal*. 2016;13(5):329-335.
15. Wu J, Gao X. The influence of negative dental experiences on anxiety levels in patients. *Journal of Dental Research*. 2018;97(5):555-561.
16. Addicks SM, Gellatly IR, Walsh SE. Anxiety sensitivity and vicarious learning: How children develop dental anxiety. *Journal of Child Psychology and Psychiatry*. 2017;58(1):41-49.
17. Masood M, Al-Badawi H, Lata J. The long-term effects of childhood dental experiences on adult oral health behaviors. *International Journal of Pediatric Dentistry*. 2017;27(4):296-303.
18. Vieira RS, de Sousa MC, Lima F. Childhood dental experiences and their influence on adult oral health: A longitudinal study. *Journal of Clinical Periodontology*. 2017;44(7):687-694.
19. Suhani T, Singh K, Kaur J. Vulnerability and pain anticipation in dental anxiety. *International Journal of Oral Health Sciences*. 2016;6(2):102-107.
20. Lapp J. The psychological impact of dental procedures on patients. *American Dental Hygienists' Association*. 2002;76(4):25-32.
21. Rapee RM, Brown P, Williams A. Physiological responses to dental anxiety: Implications for treatment. *Behaviour Research and Therapy*. 2010;48(1):45-52.
22. Eli P. The effects of cognitive behavioral therapy on dental anxiety: A systematic review. *Journal of Dental Psychology*. 2020;15(2):77-85.
23. Shahnavaaz S, Olayemi O, Eli P. Cognitive behavioral therapy as a tool for managing dental anxiety: A review of the literature. *International Journal of Psychology and Behavioral Sciences*. 2018;8(3):83-92.
24. Townsend R, Finkelstein J, Schwartz M. The impact of communication on patient engagement in dental care: A qualitative study. *Patient Education and Counseling*. 2019;102(6):1145-1152.
25. Leadbeatter L, Gao J. Effective communication strategies for managing dental anxiety. *Journal of Health Communication*. 2018;23(3):285-292.
26. Chattoul A, Toh K, O'Reilly K. The role of communication in dental anxiety management: A qualitative analysis. *Journal of Dental Research*. 2021;100(5):509-516.
27. Hoffman HJ, Soares M, Amado L. Customizing dental anxiety management: Patient preferences and outcomes. *International Journal of Dentistry*. 2022;1-8.
28. Martins JD, Soares CM, Vieira M. Communication as a tool for reducing dental anxiety. *European Journal of Oral Sciences*. 2017;125(5):394-400.
29. Flores-Guerrero JM, Eklund A, Oliveira J. Patient-centered communication and its impact on dental anxiety: A qualitative study. *Patient Education and Counseling*. 2017;100(2):311-317.



30. Zhang Z, Chen C, Liu Y. The relationship between dental anxiety and oral health behaviors: A systematic review. BMC Oral Health. 2019;19(1):11-19.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the publisher and/or the editor(s). This publisher and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.

---

© Copyright (2024): Author(s). The licensee is the journal publisher. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*  
The peer review history for this paper can be accessed here:  
<https://www.sdiarticle5.com/review-history/123870>