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Dental Anxiety: The Unseen Complication in Clinical Practice

Zahra Batool Ali Shami

1st Year BDS, Islamabad Medical and Dental college, Islamabad, Pakistan

Key points:

- Introduction
- Prevalence
- Causes of Dental Anxiety
- Impact on Oral and General Health
- Management Strategies
- Conclusion

Introduction

Anxiety is a normal response to situations that the body perceives as stressful or threatening and is regulated by the sympathetic nervous system.[1] When this occurs in relation to dental treatment, it is referred to as **dental anxiety**, a condition commonly encountered in dental practice.[2] It can occur before, during, or even after a dental appointment and is often accompanied by physiological changes such as an increased heart rate, blood pressure, respiratory rate, and cardiac output.[3]

One of the biggest concerns with dental anxiety is that it discourages many people from seeking regular dental care. As a result, oral health may gradually deteriorate, which can eventually affect overall health. Dental anxiety also presents challenges for dental professionals, as anxious patients often require additional time, reassurance, and careful management during treatment.

Despite major advances in dental techniques, equipment, materials, and infection control, dental anxiety remains a common problem worldwide.[4] However, not everyone experiences anxiety in the same way. While mild anxiety is a normal reaction to a stressful situation, anxiety disorders involve an excessive or persistent response that can interfere with daily life. For this reason, assessing a patient's anxiety level using validated questionnaires is an important part of dental practice, allowing dentists to better understand patients' concerns and tailor treatment to their individual needs.[2]

Prevalence

Dental anxiety is one of the most common fears associated with healthcare and often leads people to delay or avoid dental treatment. Studies from different countries report varying prevalence rates, but it is estimated that approximately **6–15%** of people avoid dental care because of severe dental anxiety[5].For example, a study conducted in the Netherlands found that only **14%** of participants reported no anxiety when visiting the dentist, while nearly **40%** experienced above-average anxiety and **22%** reported high levels of anxiety.[6] Similarly, studies from Australia have reported that about **15–16%** of adults experience high dental anxiety.[5]

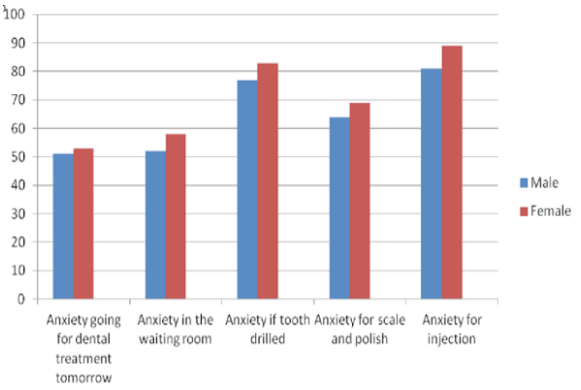


Figure 1*: Comparison of High Dental Anxiety.*[6]

Research has consistently shown that dental anxiety is more common in females than in males. One study reported that **22.9%** of women experienced dental anxiety compared with **13.1%** of men, although the reasons for this difference remain unclear.[7] Age also appears to influence anxiety levels, with dental anxiety generally being more common among younger adults, particularly those aged **20–34 years**, and gradually decreasing with age. It is also frequently reported in children, making it a concern across different age groups.[7]

Socioeconomic factors also play a role. Individuals with lower income or lower educational attainment tend to report higher levels of dental anxiety. This is often associated with irregular dental attendance and a greater reliance on emergency treatment rather than preventive dental care.[7]

Causes of Dental Anxiety

Dental anxiety is influenced by a combination of factors rather than a single cause. For many people, fear develops through previous negative dental experiences or by observing anxious family members or friends. Other common causes include fear of pain, blood or needles, certain personality traits, and previous traumatic experiences during dental treatment. Cultural beliefs may also contribute, as routine dental care is not equally encouraged in all communities, making dental visits more unfamiliar and stressful for some individuals.[4]

Research has shown that highly anxious patients often expect a dental procedure to be more painful than it actually is and may remember the experience as being worse than it was. This suggests that anxiety can influence how pain is anticipated and perceived.[7]The dental environment itself can also trigger anxiety. The sight of needles and dental drills, the sound of equipment, vibrations, and even the characteristic smell of a dental clinic may increase fear. Poor communication, a lack of control during treatment, and long waiting times can further heighten a patient's anxiety.[4]



Figure 2: *Dental Tools.*[8]

Certain personality traits also play a role. Individuals with high **anxiety sensitivity**—the tendency to fear the physical symptoms of anxiety—are more likely to develop dental phobia. In some cases, this may present as fear of a serious medical event during treatment, while others experience dental anxiety as part of a broader pattern of generalized anxiety.[10]

Impact on Oral and General Health

Dental anxiety often causes people to delay or avoid regular dental visits, which can lead to poor oral health over time. As preventive care is missed, the risk of tooth decay and periodontal disease increases. This can create a vicious cycle, where worsening oral health further increases anxiety and makes patients even more reluctant to seek treatment.[4]

The effects of dental anxiety extend beyond oral health. Severe periodontal disease has been

associated with systemic conditions, including cardiovascular disease. In addition, dental anxiety can affect a person's self-confidence, particularly when they become unhappy with the appearance of their teeth. It may also place additional pressure on the dentist–patient relationship, as anxious individuals often need more time, reassurance, and support during treatment.[4]

Management Strategies

Managing dental anxiety requires a combination of approaches rather than relying on a single strategy. The first step is identifying anxious patients by recognizing behaviors such as frequent appointment cancellations and assessing their anxiety using validated questionnaires, such as the **Modified Dental Anxiety Scale (MDAS)**. Simple measures, including allowing adequate appointment time, reducing environmental triggers, and giving patients a greater sense of control during treatment, can help ease anxiety.[2]



Figure 3: *Dental Appointment.*[11]

A calm and reassuring approach from the entire dental team plays an important role in reducing anxiety. Other non-pharmacological strategies include relaxation techniques, paced breathing, guided imagery, distraction with music, hypnosis, and gradual desensitization, all of which can improve the patient's experience with few adverse effects.[9]

For patients with more severe anxiety, **cognitive behavioural therapy (CBT)** is considered the gold standard of treatment. Advances in dental technology, including virtual reality, computer-controlled local anaesthesia, and intraoral scanners, have also helped improve patient comfort. When these measures are insufficient, conscious sedation or nitrous oxide may be considered, although these approaches are associated with higher costs and potential side effects.[1].

Conclusion

Dental anxiety is a common condition that can have a significant impact on both oral and general health. It is influenced by multiple factors, including fear of pain, previous negative experiences, environmental triggers, and individual psychological factors. If left unaddressed, dental anxiety may lead patients to avoid regular dental care, resulting in poorer oral health and reduced quality of life.

Early recognition and a patient-centered approach are essential for effective management. Combining good communication, behavioural strategies, and appropriate use of modern dental techniques can help reduce anxiety and improve the overall treatment experience. By understanding the causes of dental anxiety and applying suitable management strategies, dental professionals can encourage regular dental attendance and provide more comfortable, patient-focused care.[1-7]

References

1. Hoffmann B, Erwood K, Ncomanzi S, Fischer V, O'Brien D, Lee A. Management strategies for adult patients with dental anxiety in the dental clinic: a systematic review. **Aust Dent J.** 2022;67 Suppl 1:S3-S13. doi:10.1111/adj.12926.
2. Chi SI. What is the gold standard of the dental anxiety scale? **J Dent Anesth Pain Med.** 2023;23(4):193-212.doi:10.17245/jdapm.2023.23.4.193.
3. Khan SD, Alalhareth FA, Moshabab Alyami HF, Ahmed Alnaji MA, Al Touk AA, Saleh Alyami SS. Anxiety among patients undergoing various dental

procedures. **Bioinformation.** 2022;18(10):982-985.doi:10.6026/97320630018982.
4. Hmud R, Walsh LJ. Dental anxiety: causes, complications and management approaches. **J Minim Interv Dent.** 2009;2(1):67-78.
5. Dadalti MT, Cunha AJ, Souza TG, Silva BA, Luiz RR, Risso PA. Anxiety about dental treatment: a gender issue. **Acta Odontol Latinoam.** 2021;34(2):195-200. doi:10.54589/aol.34/2/195.
6. https://www.researchgate.net/figure/Prevalence-of-dental-anxiety-related-to-each-MDAS-questionnaire-item_fig1_282904666
7. Piechal A, Siekierska E, Blecharz-Klin K. Etiology of dental anxiety and dental phobia: review. **Eur J Dent.** 2026;20(1):13-22. doi:10.1055/s-0045-1809146.
8. https://heroesdental.com/easing-dental-anxiety-learn-about-the-tools-mcallen-pediatric-dentists-use/
9. Kong X, Song N, Chen L, Li Y. Non-pharmacological interventions for reducing dental anxiety in pediatric dentistry: a network meta-analysis. **BMC Oral Health.** 2024;24(1):1151.doi:10.1186/s12903-024-04919-x.
10. Moore R. *The phenomenon of dental fear: studies in clinical diagnosis, measurement and treatment* [PhD thesis]. Aarhus (Denmark): Aarhus University; 1991.
11. :https://shindentistry.com/how-long-is-a-dentist-appointment/