

# Fearful Smiles: Navigating Dental Phobia and Self-Care Strategies - A Cross-Sectional Survey

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## ABSTRACT

**Objective:** The study aims to evaluate the prevalence of dental phobia and explore the utilization of self-care approaches among affected individuals.

**Methods:** A cross-sectional virtual survey was conducted, using a validated questionnaire containing 25 questions. The questionnaire assessed demographic variables, dental anxiety levels, self-care behaviours, and factors influencing dental fear. Responses from 550 participants were analysed using SPSS version 22, employing the Chi-square test for statistical significance.

**Results:** Among the respondents, 31.5% exhibited dental anxiety, while 22.4% reported severe dental phobia. The primary triggers included pain (46.4%), drilling sounds (16.4%), and negative past experiences (15.4%). Self-care strategies commonly employed included over-the-counter analgesics (49.1%), herbal remedies (12.7%), and online tutorials (5.4%). Fear (49.1%) and financial constraints (7.3%) were the main reasons for avoiding professional dental care.

**Conclusion:** Dental phobia remains a significant barrier to oral healthcare, leading individuals to rely on self-care methods that may not provide adequate or long-term solutions. Psychological interventions, improved patient-dentist communication, and alternative pain management techniques could help mitigate dental anxiety and promote routine dental visits.

**Keywords:** Dental phobia, dental anxiety, self-care, dental fear

## INTRODUCTION

Dental fear and phobia are significant issues affecting a substantial portion of the population worldwide.<sup>[1]</sup> These conditions, often grouped under the umbrella term dental anxiety, can range from mild unease to severe phobic reactions that result in the avoidance of dental care. Dental fear typically involves apprehension or worry about dental visits, procedures, or specific aspects of dental treatment, such as

injections or the sound of a drill.<sup>[2]</sup> On the other hand, dental phobia is a more intense, irrational fear that can lead to extreme distress and avoidance behaviours, often preventing individuals from seeking necessary dental care.<sup>[3]</sup>

The origins of dental fear and phobia are multifaceted, involving a combination of personal experiences, environmental factors, and psychological predispositions.<sup>[4]</sup> Traumatic past experiences at the dentist,

particularly during childhood, are common triggers. Negative portrayals of dental procedures in media, stories from peers, and a general fear of pain or loss of control during treatment also contribute significantly. For some, the clinical environment itself, with its sounds, smells, and instruments, can evoke anxiety.

The consequences of dental fear and phobia extend beyond the individual's emotional well-being. [5] Avoidance of dental care can lead to deteriorating oral health, which in turn can result in more complex and invasive procedures when treatment is finally sought. This creates a vicious cycle, as the increased complexity and invasiveness of delayed treatment can exacerbate the individual's fear and anxiety. [6]

Many people try to avoid dentist visits by using various self-treatment approaches. While some methods can provide temporary relief or support dental health, they are not substitutes for professional care. For pain management, over-the-counter pain relievers like acetaminophen or ibuprofen are commonly used, along with topical anesthetics containing benzocaine to numb the affected areas. Home remedies such as saltwater rinses, clove oil, garlic, and diluted hydrogen peroxide are popular for their anti-inflammatory and antibacterial properties. Temporary fixes for dental issues include over-the-counter temporary filling materials. [7]

For teeth whitening, baking soda and diluted hydrogen peroxide are often used. Remedies for sensitivity include desensitizing toothpaste and avoiding triggers like acidic, sugary, or extremely hot or cold foods and drinks. Natural remedies, such as turmeric paste for its anti-inflammatory properties and coconut oil pulling to reduce bacteria, are also employed by some individuals. While these self-treatment methods can provide temporary relief, they are not substitutes for professional dental care. [8] Hence, the present study aims to evaluate the presence of dental phobia and the utilization of self-care approaches taken by

individuals and to develop targeted intervention strategies to overcome this.

## **MATERIALS & METHODS**

A cross-sectional virtual survey was conducted to evaluate dental anxiety and its associated factors among the adult population. The survey was designed using Google Forms and was widely disseminated through various social media platforms, as well as through email to ensure broad reach and accessibility. Participation was entirely voluntary, and informed consent was obtained from all respondents prior to their involvement in the study. Ethical approval for the research was secured from the Institutional Ethics Committee of (Reference No: EC-23/108-PG-FDS).

A total of 550 individuals successfully completed the survey. The primary inclusion criterion specified that participants must be 18 years of age or older to ensure legal consent and relevance to adult dental care behaviors. The structured questionnaire comprised 25 validated items, systematically organized into four main sections. The first section collected demographic information, including age, gender, and the occupation, to contextualize participants' responses. The second section assessed dental anxiety levels using a modified Dental Phobia Scale designed to capture participants' emotional responses and fear triggers associated with dental care. The third section focused on the use of self-care approaches, specifically examining the personal strategies individuals employ to manage dental discomfort or issues without professional intervention. The final section explored perceived barriers to seeking professional dental care, aiming to identify common psychological, social, financial, or logistical factors that prevent timely dental consultations. Collectively, the questionnaire was structured to obtain a comprehensive understanding of dental anxiety, coping mechanisms, and treatment-seeking behaviors among the adult population.

## STATISTICAL ANALYSIS

Data collected was automatically collected and analysed using SPSS version 22. The Chi-square test was used to assess associations between dental anxiety and self-care behaviours. Statistical significance was set at  $p < 0.05$ .

## RESULT

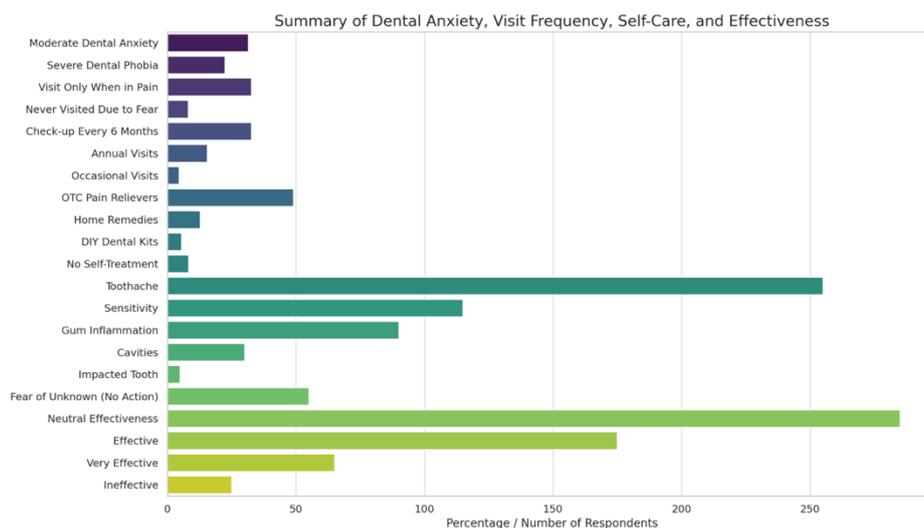
The results of the survey are given in Graph 1. The survey included 550 participants. The majority were aged 21–30 years (70.9%), with smaller proportions in the 31–40 years (9.1%), above 51 years (9.1%), below 20 years (5.5%), and 41–50 years (5.5%) age groups. Gender distribution was nearly equal (females 51.2%, males 48.8%).

Dental anxiety was measured using a modified Dental Phobia Scale. Moderate anxiety was reported by 31.5% and severe dental phobia by 22.4% of participants. Pain (46.4%) was the most common anxiety trigger, followed by the sound of dental drills (16.4%), previous negative dental experiences (15.4%), and dental clinic

smells (3.6%). Physical symptoms included sweating, cold extremities, rapid heartbeat (more common in females), nausea, trembling, and dizziness.

Self-treatment was common, with 49.1% using over-the-counter analgesics. Others relied on home remedies (12.7%), online tutorials/DIY kits (5.4%), or did nothing (8.2%). The most self-managed conditions were toothache, sensitivity, gum inflammation, and cavities. Effectiveness perception varied: most participants ( $n=285$ ) were neutral, while some rated self-care as effective ( $n=175$ ) or very effective ( $n=65$ ).

Fear-related anxiety was the primary barrier (49.1%), followed by time constraints (31.8%), fear of the unknown (9.1%), cost concerns (7.3%), past negative experiences (1.8%), and underestimation of dental issues (0.9%). Coping strategies included over-the-counter medications, home remedies, breathing exercises, and brushing with anti-sensitivity toothpaste. Regular dental visits were the least used coping method.



Graph 1: Summary of dental anxiety, visit frequency, self-care strategies and effectiveness

## DISCUSSION

This study explored the prevalence, underlying causes, and self-management strategies associated with dental anxiety among a population of 550 individuals. The findings illustrate the pervasive impact of dental fear on oral healthcare-seeking behavior.

A significant proportion of participants (79%) admitted to postponing or avoiding dental care due to anxiety. Pain was identified as the primary stimulus for fear (46.4%), followed by auditory triggers such as drilling sounds (16.4%), general apprehension (9.1%), and olfactory cues from clinical environments (3.6%). These

observations reinforce the necessity for individualized, patient-centered care strategies that include effective analgesia, anxiety mitigation techniques, and enhanced communication between dental professionals and patients to foster regular dental attendance and improve clinical outcomes. [9]

Gender-based analysis revealed a higher incidence of dental fear among female respondents, particularly in relation to painful stimuli and procedural noises which was in accordance to a previous study. [10] Somatic symptoms such as sweating and increased heart rate were prevalent in both genders, while nausea was more frequently observed in females. These findings support the development of gender-specific psychological and behavioral strategies to better address the unique anxiety profiles of female patients. [11]

The clinical consequences of dental phobia are substantial. Fear-driven avoidance leads to delayed interventions, often resulting in advanced dental pathology requiring invasive treatments. Such delays further reinforce fear responses, establishing a cycle of deteriorating oral health and escalating anxiety. [12] In this study, nearly half of the respondents (49%) resorted to over-the-counter analgesics, while 21.8% reported reliance on home-based or herbal remedies. However, more than half (51.8%) perceived these approaches as only moderately effective, suggesting a lack of resolution of the underlying pathology. Fear remained the dominant motivator for self-care (49%), followed by time constraints (31.8%) and economic limitations (7.3%), all of which serve as additional barriers to professional care.

Negative prior dental experiences were cited by 86 individuals as contributory to their current phobia. These experiences—ranging from procedural pain to unsatisfactory interactions with dental professionals—can result in long-term psychological aversion to dental treatment. [13] Such findings align with existing literature suggesting that early traumatic dental encounters significantly

influence future care-seeking behaviors. [14] This underscores the importance of establishing trust, using desensitization protocols, and incorporating behavioral support techniques to counteract the effects of past trauma.

This study's results are consistent with previous research by Yu et al., [15] documented high prevalence rates of dental anxiety. However, contrary to Zafer Saba et al., [12] who did not establish a significant association between dental anxiety and avoidance of care, our findings confirm a strong correlation between increased dental fear and delayed treatment, leading to adverse oral health outcomes.

A limitation of this study includes the use of self-reported data, which may be subject to recall and social desirability bias. Future investigations employing objective clinical assessments and validated diagnostic tools would strengthen the reliability and generalizability of these findings. The preference for self-care strategies observed in this study suggests that although individuals seek immediate symptom relief, such methods do not address the aetiology of dental problems. DIY dental practices may even exacerbate conditions due to incorrect self-diagnosis and lack of professional oversight. This finding calls for targeted public health campaigns to raise awareness about the risks of unsupervised dental care and the importance of early professional intervention.

Addressing dental phobia requires a multifactorial strategy embedded in routine dental care. Evidence supports the effectiveness of cognitive behavioural therapy (CBT) in reframing irrational fears and reducing dental anxiety. [16]

Additionally, innovations such as virtual reality exposure therapy offer controlled, immersive environments for gradual desensitization. [17] Communication training for dentists to improve empathy and build patient trust is another critical aspect. Pain-related fears may be further alleviated through advancements such as needle-free anaesthesia, sedation techniques, and

minimally invasive procedures. Lastly, practical measures such as flexible payment options and improved accessibility can remove logistical barriers and encourage proactive oral healthcare-seeking behaviour. [18]

## CONCLUSION

The study underscores the significant impact of dental phobia on oral healthcare behaviour, highlighting the urgent need for targeted interventions. Findings reveal that pain and procedural factors are primary triggers of anxiety, with higher anxiety levels observed among females. Many individuals' resort to self-treatment practices, which offer only temporary relief without addressing underlying dental issues.

### Declaration by Authors

**Ethical Approval:** Approved (Reference No: EC-23/108-PG-FDS)

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**Conflict of Interest:** The authors declare no conflict of interest.

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