

# *Fear And Anxiety In Oral Care Among Dentists*

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## Abstract

**Introduction:** Dental anxiety and fear represent a significant challenge in oral care, directly affecting the frequency of dental visits and the overall quality of oral health. This globally prevalent phenomenon manifests in various forms – from mild discomfort to severe phobia – often leading to avoidance of necessary dental treatments. However, early identification of contributing factors and the implementation of appropriate interventions can significantly aid in managing this fear.

**Aim of the study:** To assess the level and main sources of patients' fear toward dental treatments and to provide practical recommendations for reducing this fear based on collected data.

**Methodology:** This study was conducted systematically at the “Kristal Dent” Specialist Dental Clinic in the city of Ferizaj during the period April–June 2024. A descriptive cross-sectional research design was applied, using the internationally validated and standardized instrument — the Index of Dental Anxiety and Fear (IDAF-4C+), developed by Armfield (2010), which covers the emotional, physiological, cognitive, and behavioral components of dental fear. Participants (n = 95) were selected using non-probabilistic purposeful sampling, including adult patients who had undergone at least one dental procedure in the last six months. Data were collected through self-reporting under researcher supervision to ensure accuracy and avoid misinterpretation. Statistical analysis was performed using IBM SPSS Statistics version 26. Descriptive methods (percentages, mean) and inferential tests (t-test for gender groups and ANOVA for age groups) were used, with a significance level set at  $p < 0.05$ .

**Results:** Data analysis showed that 44.81% of respondents reported no fear of dental treatment, 25.43% reported mild fear, 16.32% moderate fear, 9.66% high fear, and 3.77% suffered from extreme fear. Female participants reported higher levels of fear compared to male participants, with an average difference of 22%. Statistical analysis did not show significant differences in fear levels based on age groups.

**Conclusions:** Building a trust-based relationship between the dentist and the patient is essential for reducing dental fear. Clear communication, a relaxing clinic environment, and involvement of staff trained in managing patient anxiety are key factors in enhancing the treatment experience. The implementation of these approaches may lead to greater patient engagement in their oral care and improvement in overall dental health.

**Keywords:** dental fear, patient anxiety, oral care, dentist–patient relationship, IDAF-4C.

## I. INTRODUCTION

Fear represents a fundamental emotional and physiological response to a perceived threat, activating a series of protective mechanisms that prepare the individual to react to potential danger. While this response is essential for survival, excessive intensity or prolonged duration of fear may become dysfunctional and pathological. According to the *APA Dictionary of Psychology* (2018), fear is defined as “a basic and intense emotion triggered by the identification of an immediate threat and involves a rapid response of the organism through physiological changes.”

In this context, dental fear or anxiety related to dental treatments constitutes a specific form of clinical anxiety, characterized by strong emotional distress and conscious avoidance of dental visits. This condition negatively affects the frequency of routine check-ups and consequently contributes to the deterioration of patients' oral health. The main factors influencing the development of this fear include: previous negative experiences during dental procedures, expectation of pain, the sounds and noises of dental equipment, feelings of loss of control, and concerns about hygiene or the possibility of infections.

Epidemiological studies suggest that fear of the dentist affects approximately 15.3% of the general population (Silveira et al., 2021), ranking it among the most common fears in healthcare practice. Patients suffering from this condition tend to have a higher prevalence of dental caries, oral infections, and tooth loss compared to those who do not experience such fear (Zinke, Hannig & Berth, 2018).

This study aims to better understand the psychological factors and patient experiences that contribute to dental fear, in order to formulate appropriate strategies for its management and reduction. Such an approach is necessary not only to ensure a safer patient experience but also to promote more regular and effective dental care in the population.

In this regard, dental fear or dental anxiety is among the most widespread forms of specific phobias, which can directly affect oral health and regular dental attendance. It manifests as an emotional response to perceived painful, unpleasant, or frightening interventions, and in more severe forms, it may lead to complete avoidance of dental treatments – a phenomenon known as odontophobia. Studies show that this form of anxiety affects approximately 10–20% of the global population, with 3–5% experiencing severe forms of dental fear (Armfield et al., 2006; Silveira et al., 2021).

Several interconnected factors contribute to the development of dental fear. These include previous negative experiences during dental treatment, individual sensitivity to pain, lack of control during procedures, the sound of dental instruments (such as drills or suction devices), as well as frightening cultural or media portrayals of dentists, all frequently cited in the literature (Kvale, Raadal & Berg, 2004). Dental fear is more common among women and younger individuals and is also associated with psychological factors such as anxious personality traits or a history of trauma.

Moreover, it has been shown that patients experiencing persistent fear of dental interventions are more likely to develop a negative behavioral cycle of avoidance: they skip routine check-ups, which worsens their oral condition, and ultimately face more complicated and painful procedures that further intensify their fear (Zinke, Hannig & Berth, 2018).

From this perspective, it is crucial to understand not only the prevalence of dental fear but also the specific factors that trigger and maintain this feeling among patients. Such knowledge is essential for developing appropriate therapeutic approaches that help patients overcome fear and engage more consistently in oral care.

Therefore, this study aims to investigate the level and causes of patients' fear of dental treatments through a scientifically validated instrument and within a real clinical context in Kosovo. Based on the findings, the study seeks to provide practical recommendations for improving dental approaches and effectively reducing fear among patients.

## II. LITERATURE REVIEW

Fear of dental treatments is a widespread phenomenon in clinical practice and manifests with varying degrees of intensity and in different forms. In psychological and dental literature, several terms are used—such as *dental fear*, *dental anxiety*, and *dental phobia*—which, although often used interchangeably, have distinct meanings that should be clearly differentiated for diagnostic and therapeutic purposes (Armfield, 2010; Milgrom et al., 2009).

*Dental fear* is commonly defined as an emotional response to a perceived threatening situation within the dental environment. This fear may involve physiological and emotional reactions such as increased heart rate, nervous tension, and emotional discomfort either before or during a dental visit. It is often linked to previous negative experiences or deeply rooted beliefs about pain and unpleasant sensations (Ten Berge et al., 2002).

*Dental anxiety*, on the other hand, refers to a generalized state of apprehension and tension associated with the anticipation of pain, loss of control, or embarrassment during dental procedures. Unlike fear, anxiety may occur even in the absence of an immediate threat and is frequently accompanied by heightened psychophysiological responses such as sweating, trembling, difficulty breathing, and refusal to cooperate (Klingberg & Broberg, 2007).

The most severe form of this condition is *dental phobia*, which is recognized as a clinical disorder and is classified in the DSM-5 as a specific phobia. It is characterized by an intense, irrational, and persistent fear of all aspects of the dental environment, leading

to repeated avoidance of dental treatments even in cases of urgent medical necessity. According to the DSM-5 (American Psychiatric Association, 2022), dental phobia meets the following diagnostic criteria:

- A strong and persistent fear of dental situations or stimuli related to them.
- An immediate anxiety response upon exposure to the stimulus (e.g., dental chair, sound of the drill, etc.).
- Avoidant behavior toward dental settings or enduring them only with intense distress.
- Significant interference with the individual's daily functioning, social life, or health.
- Recognition by the patient that the fear is excessive or irrational, yet uncontrollable.

Furthermore, the World Health Organization (WHO), through the ICD-10 and ICD-11 classifications, describes dental phobia as a form of specific phobia, wherein the individual experiences severe distress in situations that objectively pose no real danger but are perceived as threatening.

## 2.2. Conceptual and Practical Distinctions

While fear can be understood as a temporary and not necessarily pathological reaction, phobia represents a clinical disorder that requires psychological intervention. In dental practice, these distinctions are crucial for developing personalized approaches to patient care, as individuals' responses to treatment are influenced not only by their physical condition but also by their emotional perception of the situation. An additional factor is that repeated avoidance of dental treatment reinforces fear through a vicious cycle: the patient experiences short-term relief by avoiding the situation, but this mentally confirms the perception that the situation is dangerous, thereby intensifying the fear in the long term (Armfield, 2008). This vicious cycle often leads to serious oral health consequences, including advanced periodontal disease, untreated teeth, and chronic infections.

## 2.3. Prevalence and Influencing Factors

According to the literature, fear of dental treatment is more prevalent among women, children, and individuals with a history of trauma or high levels of general anxiety (Doerr et al., 1998; Carter et al., 2014). Interestingly, general dental anxiety tends to decrease with age, likely due to increased experience and improved emotional regulation. In contrast, dental phobia may increase with age, as a result of repeated negative experiences and the deterioration of general health status (Skaret & Raadal, 2013). A significant study from Norway (Åstrøm et al., 2022) noted that patients who delay dental visits for extended periods—despite experiencing pain or significant discomfort—report significantly higher levels of fear and feelings of shame during dental encounters. This finding suggests that beyond the psychological aspect, fear of the dentist also has social and cultural components that influence patients' behavior toward oral health.

## 3. DECLARATION OF THE PROBLEM

Fear of dental treatments—also referred to as dental anxiety or dental phobia—is a widespread phenomenon that poses a significant challenge to oral healthcare systems globally. This fear is defined as a negative emotional reaction, often irrational and excessive, toward dental procedures or visits, and it manifests through both psychological symptoms (anxiety, distress, panic) and physical symptoms (tachycardia, sweating, nausea) (Armfield, 2010). Epidemiological studies report that between 10% and 20% of the general population suffer from a clinically significant form of dental anxiety, often leading to the avoidance of dental care even in emergency situations (Silveira et al., 2021).

The impacts of this fear are multifaceted. Clinically, avoidance of dental visits results in deterioration of oral health, accumulation of dental pathologies such as caries, periodontitis, and tooth loss, as well as systemic complications related to poor oral health.

Psychologically, fear of the dentist negatively affects overall well-being, creating a vicious cycle of pain, avoidance, and feelings of guilt (Locker et al., 2001).

The literature suggests that the contributing factors to this fear are psychological (past traumatic experiences, individual pain sensitivity), social (family patterns, media influence), and environmental (sounds of dental equipment, the clinical setting) in nature (Kvale, Berg, & Raadal, 2004). One of the most common sources of fear is the use of needles for the administration of local anesthesia, often perceived as painful or dangerous, despite being a routine and safe procedure. This sensitivity to anesthesia is usually rooted in past negative experiences, misconceptions, or lack of information (van Wijk & Hoogstraten, 2009).

From a theoretical perspective, cognitive-behavioral models offer a valuable framework for understanding the psychological mechanisms that trigger and sustain dental fear, including negative reinforcement (avoidance), catastrophizing, and perceived lack of control during dental procedures.

#### 4. METHODOLOGY

The research regarding fear in patients at the dentist's office used a cross-sectional design with the help of a structured instrument. A survey was conducted using a specially designed questionnaire, based on the "Index of Dental Anxiety and Fear (IDAF-4C)." This design is appropriate as it allows for the collection of numerical data necessary to analyze differences between age groups, genders, and specific scenarios. The scaling of responses (e.g., from "My fear is not at all..." to "My fear is very much...") enables the assessment and comparison of the intensity of fear. This study was conducted at the "Kristal Dent" Specialized Dental Clinic in the city of Ferizaj, a modern center offering advanced dental services and frequented by a diverse population in terms of demographics and clinical characteristics. The sample included in the study was randomly selected, consisting of patients who visited the clinic during the study period, regardless of the type of dental treatment they received. Random selection was made to ensure objectivity and generalizability of the results. Demographic data collected for each participant include age and gender, while maintaining the anonymity and confidentiality of personal information in accordance with ethical research standards.

##### Inclusion Criteria for the Study:

- Patients aged 18 and above;
- Willing to participate in the study and who have signed informed consent for participation;
- No acute conditions that would affect the ability to complete the questionnaire.

##### Exclusion Criteria:

- Patients with difficulty understanding the questionnaire due to language barriers, mental limitations, or other cognitive constraints;
- Patients under the age of 18 or those who refused to provide informed consent.

Table 1: Sample

Age Group	Patient	Male	Female	Percentage
19-30 years	20	9	11	21.05%
31-40 years	33	17	16	34.74%
41-50 years	29	16	13	30.53%
51-61 years	13	8	5	13.68%
<b>Everyone</b>	<b>95</b>	<b>50</b>	<b>45</b>	<b>100%</b>

The average age of the patients was 39 years (Mean M = 38.83, Standard Deviation SD = 10.45; Mean for Females MF = 37.71, Mean for Males MM = 39.84), while the gender ratio was 50 males and 45 females.

### 5. PRESENTATION AND ANALYSIS OF RESULTS

The results for each individual question are explained in more detail below. The questions are listed in order of the average, from the highest fear to the lowest fear

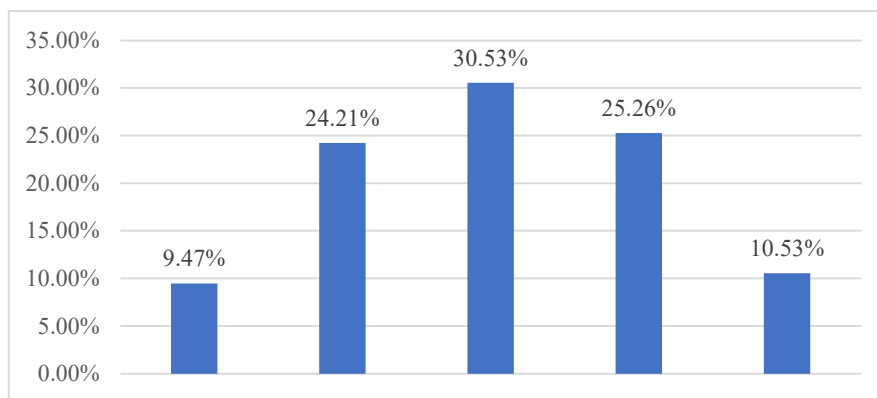


Figure 3: Results of Fear from Root Canal Treatment

The distribution of responses from individuals regarding the fear of root canal treatment, on a scale from 1 to 5, shows that 9.47% of participants report having no fear at all, while 24.21% feel a little fear. The majority, or 30.53%, express a moderate level of fear, while 25.26% feel a lot of fear, and 10.53% report feeling extreme fear of this treatment.

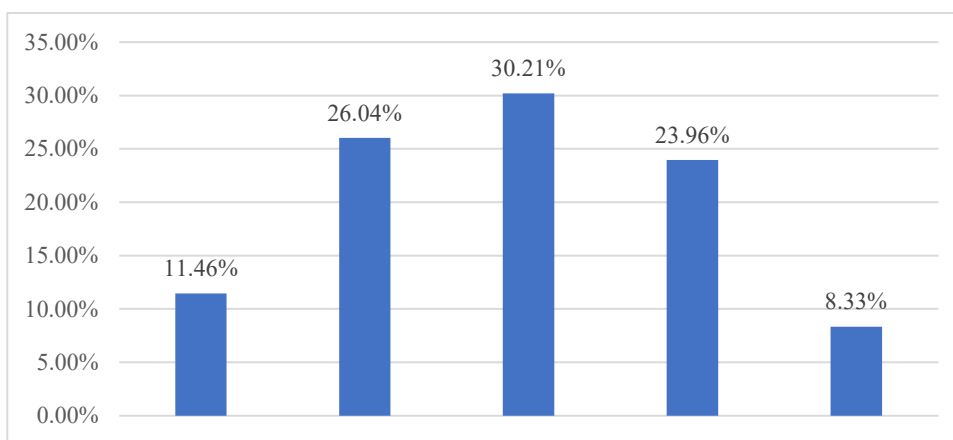


Figure 4: Results of Fear from Pain

When asked about the fear of pain, 7.37% reported having no fear at all, while 27.37% feel a little fear. The majority of respondents, 33.68%, experience a moderate level of fear, and 26.32% have a lot of fear. Only 5.26% report experiencing extreme fear.

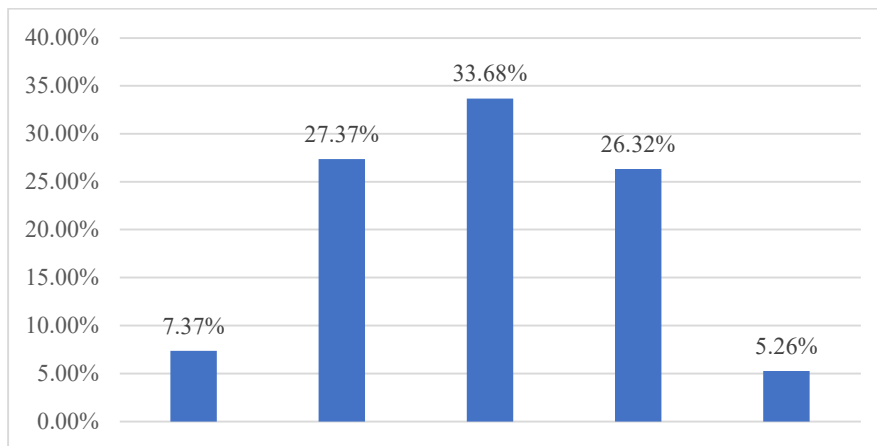


Figure 5: Results of Fear from the Dental Drill

Fear of the dental drill is a concern for some individuals, with 11.46% reporting no fear at all, and 26.04% feeling a little fear. The largest portion, 30.21%, experience a moderate level of fear, while 23.96% report a high level of fear, and 8.33% feel extreme fear.

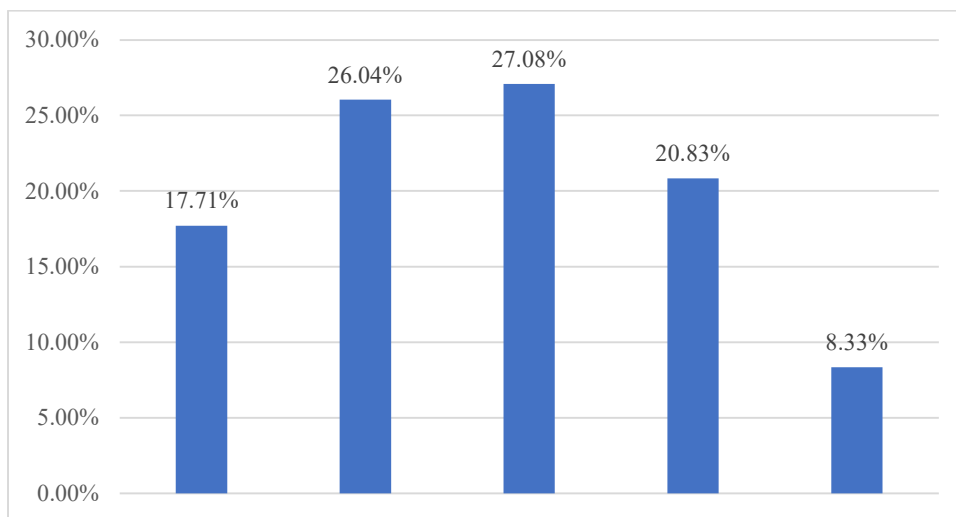


Figure 6: Results of Fear from Tooth Extraction

When asked about fear related to tooth extraction, 17.71% of respondents reported no fear at all, while 26.04% felt a little fear. A moderate level of fear was reported by 27.08%, 20.83% experienced a high level of fear, and 8.33% reported extreme fear.

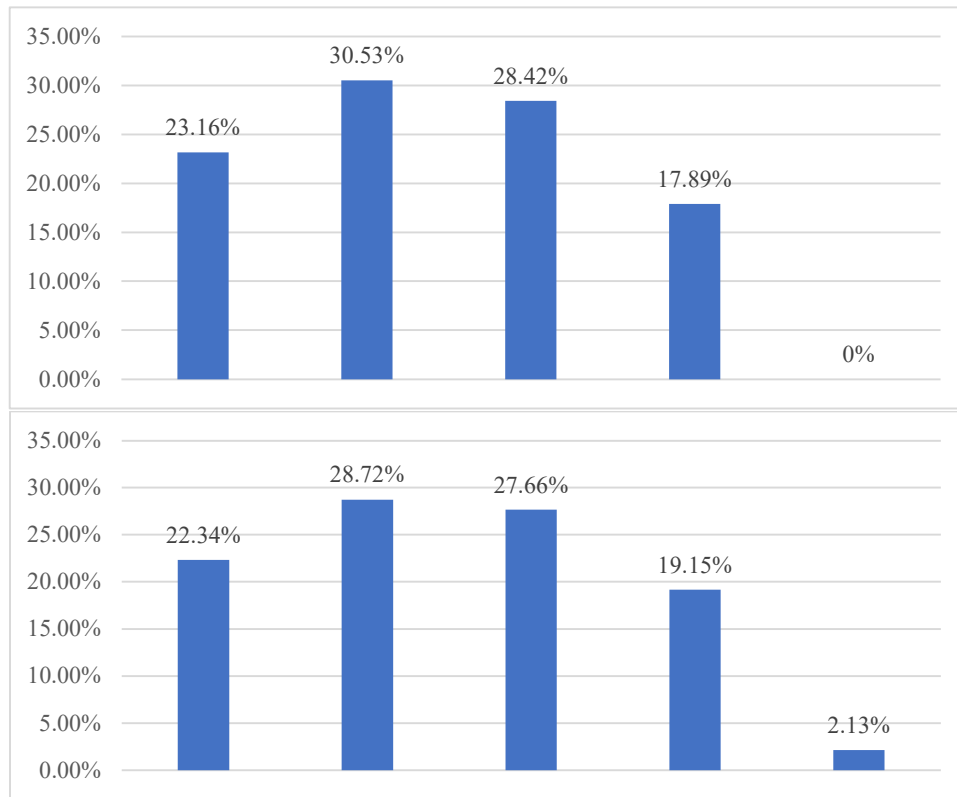


Figure 7: Results of Fear from Syringes

A total of 22.34% of participants reported no fear at all from syringes, while 28.72% felt a little fear. A moderate level of fear was reported by 27.66%, 19.15% expressed high fear, and only 2.13% reported extreme fear.

**Figure 8: Results of Fear from Deep Drilling**

The fear that the dentist might drill too deeply is negligible for 23.16% of respondents, who reported no fear at all. A total of 30.53% reported a little fear, while 28.42% indicated a moderate level of fear. Only

When asked about the fear of dental bills, 35.79% of participants reported no fear at all, and 25.26% reported a little fear. A moderate level of fear was reported by 16.84%, while 12.63% expressed high

**Fear of Unexpected Procedures During Treatment**

Fear of unexpected procedures during dental treatment was reported as not at all concerning by 50.53% of respondents. However, 16.84% reported a little fear, 2.11% reported a moderate level of fear, 11.58% reported high fear, and 18.95% reported extreme fear.

When the question concerned the duration of treatment, 35.79% of respondents reported no fear at all, 37.89% reported a little fear, 25.26% had a moderate level of fear, and 1.05% reported high fear.



Table 2: Statistical Summary of Questionnaire Results

Question	Average	Standard Deviation
My fear of root canal treatment is	3,03	1,14
My fear of pain is	2,95	1,02
My fear of the drill is	2,92	1,13
My fear of having a tooth extracted is	2,76	1,21
My fear of the syringe is	2,50	1,10
My fear that the dentist will work too deep is	2,41	1,03
My fear of the dentist's bills is	2,35	1,33
My fear of unexpected events during the treatment is	2,32	1,61

**Table 2** presents the mean values and standard deviations of the results for each question of the dental fear questionnaire, ranked according to the mean scores.

These results reflect people's fear of the dentist and his interventions, showing which procedures cause the most concern. In this case, the higher the mean value (M), the greater the fear experienced by the participants. A score of 1 is the minimum result, indicating no fear at all, while 5 is the maximum result, indicating extreme fear.

#### Gender Differences (t-test)

On average, for all questions, females had a mean score of 2.23, while males had a mean score of 1.83. This means that females reported on average 22% higher levels of fear compared to males.

In the questions:

"My fear of the syringe" (Mean for females MF: 3.42, males MM: 2.68),

"My fear of pain" (MF: 3.34, MM: 2.64),

"My fear of the drill (the rotating part of the turbine that is attached to the instrument handle and performs high-speed movements)" (MF: 3.25, MM: 2.64),

"My fear that a tooth will be pulled out" (MF: 3.37, MM: 2.15),

females showed a significantly higher score than males. This indicates that females experience more fear, especially in these areas, than males.

The t-value is -2.05 and the two-tailed p-value is 0.043. This means that the gender difference is still statistically significant at a 5% significance level.

#### Age Differences

The correlation between age (Group 1: 19-30 years, Group 2: 30-40, Group 3: 40-50, Group 4: 50-61) and fear of dental treatment was extremely low ( $r = 0.03$ ) and statistically insignificant ( $p > 0.05$ ), indicating that age did not have a significant impact on fear of dental treatment.



## 6. CONCLUSIONS AND RECOMMENDATIONS

This study highlights that the main factors triggering fear of dental treatment are root canal treatment, the sensation of pain, the sound of the drill, and tooth extraction. These procedures are often associated with negative experiences, real or imagined pain, and are reinforced by deeply rooted cultural perceptions. Fear is notably higher among women compared to men, while age did not prove to be a significant factor in this study.

The following recommendations are presented to reduce dental fear, ranked according to the perceived intensity (mean > 1.8):

- Root Canal Treatment (3.03): Educate patients about the procedural steps, use visual aids, provide empathetic communication, and ensure full pain control through effective anesthesia.
- Fear of Pain (2.97): Apply modern minimally invasive techniques, use effective local anesthesia, and prepare patients psychologically through continuous communication.
- Fear of the Drill (2.93): Use quieter drills, offer headphones with music, consider alternative treatments such as laser therapy, and desensitize patients through controlled demonstrations.
- Tooth Extraction (2.73): Employ advanced pain-free techniques, provide clear prior explanation of the procedure, and emphasize rapid recovery.
- Fear of Syringe (2.50): Apply topical anesthetics beforehand, use thin needles, inject slowly, and offer distraction techniques or sedation when necessary.
- Fear of Deep Work (2.39): Clarify the reasons for deep interventions and develop a careful, transparent approach.
- Fear of Unexpected Procedures (2.32): Establish prior agreements on treatment steps, give patients the possibility to pause treatment with a signal, and maintain continuous communication.
- Fear that Pain is Not Taken Seriously (2.29): Adopt an empathetic approach, respect individual sensitivity, and use analgesics before and after the intervention.
- Fear of Shame about Dental Condition (2.10) & Criticism from the Dentist (1.95): Communicate without judgment, maintain discretion, strengthen self-confidence, and provide professional and supportive care.
- Fear of Immediate Start (1.98) & Lack of Explanation (1.87): Ensure a calm introduction, explain every step, and allow space for questions.
- Fear of Treatment Duration (1.89): Provide prior notice about the duration, allow breaks during treatment, and organize sessions efficiently.

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