



## INVESTIGATION OF ANXIETY AMONG PATIENTS UNDERGOING IMPACTED WISDOM TOOTH EXTRACTION IN PESHAWAR

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### Abstract

The study aimed to investigate the prevalence and intensity of anxiety among patients undergoing impacted wisdom tooth extraction in Peshawar, Pakistan. A cross-sectional survey was conducted among 250 patients in dental clinics across Peshawar, utilizing the Modified Dental Anxiety Scale (MDAS). The findings revealed that a significant portion of the population experienced moderate to severe anxiety, with a higher prevalence in women and younger individuals. Strategies for reducing dental anxiety, particularly preoperative counseling and anxiety management techniques, are discussed as important considerations for improving patient outcomes in dental care.

**Keywords:** Anxiety, Impacted Wisdom Tooth, Tooth Extraction

### Introduction

Dental anxiety is a prevalent issue, particularly in procedures involving oral surgery such as impacted wisdom tooth extraction. Anxiety can adversely affect patients' experiences, treatment compliance, and recovery outcomes (1). Impacted wisdom tooth extraction is often associated with significant levels of discomfort, fear of pain, and perceived procedural complexity, making it a key focus for anxiety studies in dental care (2).

In Peshawar, a city with limited access to specialized dental care, understanding the anxiety levels of patients undergoing such procedures is crucial. Little research has been conducted in the region on this specific issue, despite cultural and socioeconomic factors potentially influencing anxiety responses (3). This study aims to quantify and analyze the anxiety levels of patients undergoing impacted wisdom tooth extraction in Peshawar and explore demographic factors such as age and gender.

This study aims to (1) evaluate the prevalence of dental anxiety in patients undergoing impacted wisdom tooth extraction, (2) ascertain the correlation between demographic factors (age, gender) and anxiety levels, and (3) offer recommendations for anxiety management in dental environments.

## Methodology

A cross-sectional study was performed from January to July 2023 in multiple dental clinics in Peshawar. A total of 250 patients aged 18-50 years who were scheduled for or had recently undergone impacted wisdom tooth extraction were included. Patients with known psychiatric disorders, or those under anti-anxiety medications, were excluded. Written informed consent was obtained from all participants.

## Data Collection

The Modified Dental Anxiety Scale (MDAS) was used to measure anxiety levels. The MDAS is a validated instrument with five questions rated on a scale from 1 (not anxious) to 5 (extremely anxious). The total score ranges from 5 to 25, with higher scores indicating greater anxiety. The scores were categorized as follows: 5-10 (mild anxiety), 11-15 (moderate anxiety), 16-20 (high anxiety), and 21-25 (severe anxiety) (4).

## Statistical Analysis

Data were analyzed using SPSS version 26. Descriptive statistics were employed to calculate the mean, standard deviation, and frequency of demographic variables and MDAS scores. Independent t-tests and one-way ANOVA were used to analyze differences in anxiety levels by gender and age. A p-value of less than 0.05 was considered statistically significant.

## Results

Out of 250 patients, 142 (56.8%) were female, and 108 (43.2%) were male. The mean age of the patients was 28.4 years ( $SD \pm 7.5$ ). The overall mean MDAS score was 16.3 ( $SD \pm 5.2$ ), indicating moderate anxiety levels among the population.

### Prevalence of Anxiety Levels

- \*\*Mild Anxiety (MDAS 5-10):\*\* 62 patients (24.8%)
- \*\*Moderate Anxiety (MDAS 11-15):\*\* 95 patients (38%)
- \*\*High Anxiety (MDAS 16-20):\*\* 65 patients (26%)
- \*\*Severe Anxiety (MDAS 21-25):\*\* 28 patients (11.2%)

A significant proportion of patients (37.2%) experienced high to severe anxiety, demonstrating that anxiety surrounding impacted wisdom tooth extraction is a significant concern in this population (Table 1).

### Gender Differences:

The mean MDAS score for female patients was 17.2 ( $SD \pm 4.9$ ), while for male patients, it was 14.8 ( $SD \pm 5.4$ ) ( $p < 0.01$ ). This indicates that women reported higher anxiety levels than men (Table 2).

### Age Differences

When patients were stratified into age groups, younger patients (18-30 years) exhibited higher anxiety levels (mean MDAS score of 17.0,  $SD \pm 4.8$ ) compared to older patients (31-50 years) (mean MDAS score of 13.9,  $SD \pm 5.6$ ) ( $p = 0.02$ ). This suggests that younger patients are more prone to experiencing dental anxiety (Table 3).

### Anxiety and Prior Dental Experience

Patients with previous negative dental experiences reported significantly higher MDAS scores (mean 18.0,  $SD \pm 4.3$ ) than those with neutral or positive experiences (mean 13.5,  $SD \pm 5.1$ ) ( $p < 0.001$ ).

## **Discussion**

The results of this study indicate that anxiety is highly prevalent among patients undergoing impacted wisdom tooth extraction in Peshawar, with 37.2% of the sample reporting high to severe anxiety levels. The overall mean MDAS score of 16.3 falls within the moderate anxiety range, consistent with previous studies conducted in similar settings (5,6). However, the high proportion of patients experiencing severe anxiety highlights the need for dental practitioners to address anxiety proactively.

### ***Gender Differences in Anxiety***

Our findings revealed that women reported significantly higher levels of anxiety than men, consistent with previous research showing that females are more prone to dental anxiety (7,8). This could be due to a variety of factors, including heightened pain sensitivity, greater attention to bodily sensations, and cultural differences in expressing fear and anxiety (9). Women may benefit from targeted anxiety-reduction strategies, such as enhanced communication with the dentist, preoperative reassurance, and the option of sedation (10,11).

### ***Age and Anxiety***

Younger patients (aged 18-30) exhibited higher anxiety levels compared to older patients. This may be attributed to younger individuals being less familiar with dental procedures or having heightened fear of unknown outcomes (12,13). Conversely, older individuals may have developed coping mechanisms through previous medical or dental experiences. These findings suggest that younger patients may require additional support, including thorough preoperative explanations, to alleviate anxiety (14).

### ***Anxiety and Previous Dental Experiences***

Significantly higher levels of anxiety were observed by patients who had previously endured unpleasant dental procedures.. This finding aligns with studies that show past negative experiences can reinforce fear and anxiety, leading to a cycle of avoidance and increased anxiety in future dental treatments (15,16). Addressing patient concerns and providing pain control options can help mitigate the impact of these past experiences on current anxiety levels.

### ***Management of Anxiety in Dental Practice***

Given the high prevalence of anxiety observed in this study, it is crucial for dental practitioners to adopt strategies for managing patient anxiety. Psychological approaches, such as cognitive-behavioral therapy (CBT), have been shown to be effective in reducing dental anxiety (17). Techniques like progressive muscle relaxation and guided imagery may also help patients manage their fear (18). Pharmacological interventions, including the use of nitrous oxide or oral sedatives, can be considered for patients with severe anxiety (19).

Patient education is another important component of anxiety management. Providing detailed information about the procedure, expected sensations, and postoperative care can help alleviate fears and give patients a sense of control (20). Reducing anxiety and improving clinical outcomes require a patient-centered strategy that encourages trust and open communication between the dentist and patient. (21)

## **Conclusion**

Based on the results of this study, dental anxiety is a major concern for Peshawar patients getting their impacted wisdom teeth out. Higher rates of anxiety are more common among younger people and women. Anxieties stem from a combination of factors, including bad oral experiences in the past. To address this concern and improve patient results, it is recommended that psychological therapies, sedation, and patient education be included into ordinary dentistry practice as effective management measures.

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