

# Dental Anxiety Level Assessment Among Students and House Officers of a Public Sector in Islamabad

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## Author's Contribution

<sup>1,4</sup>Substantial contributions to the conception or design of the work; or the acquisition, <sup>2,6</sup>Drafting the work or revising it critically for important intellectual content <sup>3,5,7</sup>Active participation in active methodology

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## ABSTRACT

**Objective:** To evaluate the anxiety level attributed to the dental procedures among final year BDS students and house officers.

**Methodology:** This cross sectional study was conducted in School of Dentistry for the period of whole one month i.e. August 2024. The modified Dental Anxiety Scale (MDAS) Questionnaire was given to participants that included five questions with scoring scale from "Not Anxious" to "Extremely Anxious" to calculate the anxiety level of these participants regarding different dental procedures.

**Results:** The mean anxiety level of final year dental students was  $77.92 \pm 2.97$  while for house officers it was found to be  $31.02 \pm 2.56$  (p. value= 0.001). The mean anxiety level scoring among female participants was  $53.92 \pm 3.28$  while mean anxiety level scoring among male participants was  $40.18 \pm 3.64$  which was statistically significant (p. value= 0.001).

**Conclusions:** The current study concluded that increased level of anxiety was depicted in the dental students as compared to the house officers that revealed the declined anxiety attributed to the dental procedures due to the enhanced clinical expertise among them.

**Key Words:** Anxiety, Dental Students, House Officers, Modified Dental Anxiety Scale (MDAS), Stress.

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## Introduction

The anxiety, fear and stress attributed to the clinical dentistry due to needles, drills and instruments is known as "Dentophobia" that has become the main reason for avoiding and delaying the required dental treatments.<sup>1</sup> This fear, anxiety and phobia towards the dental treatment leads to deteriorated oral health conditions in turn resulting in various serious diseases such as osteomyelitis, septicemia and sinusitis etc.<sup>2</sup> Therefore, dental anxiety needs to be dealt carefully in order to avoid such hazardous health issues.

Previously, various studies have demonstrated increased level of anxiety among individuals for dental procedures

<sup>3-5</sup> where it was found to be more in females as compared to males.<sup>2</sup> The fear of pain and trauma associated with the dental procedures might have prohibited the patients to go for the dental treatments easily.<sup>6</sup> This anxiety in patients can be reduced by their regular dental checkups and visits only.<sup>7</sup> The tackling of such type of anxious patients can become a problem and nerve-wracking situation for the dental health workers and students. A study performed on the dental students in the past used a tool named as "Depression Anxiety Stress Scale" which concluded that female dental students are more nervous, panicky and touchy as compared to the male dental students.<sup>8</sup> Although, "Depression Anxiety Stress Scale" is a common tool used by the dental researchers to assess the anxiety but its modified version "Modified Dental

Anxiety Scale (MDAS)" is found to be more stable, valid, consistent, and simplest form to evaluate the anxiety level among the patients visiting the dentists.<sup>9</sup>

The dentists are well capable for tackling such phobic and anxious patients in their normal clinical practice but what if they themselves need the dental treatment which is also an important domain that needs to be unveiled. The adequate knowledge regarding dental procedures might exacerbate phobia and anxiety among the dental health providers as well. There is lack of data available on reporting the self-responding assessment of anxiety among the dental health providers at the public sector in Islamabad. The current study was conducted to compare the anxiety level attributed to the dental procedures among dental health providers in terms of gender and dental study area.

## Methodology

This Questionnaire based cross sectional study was conducted in School of Dentistry for the period of whole one month i.e. August 2024 after the approval of the study from the ethical review board of the hospital having Letter # No. SOD/ERB/2024/47-009. Total 200 dental final year students and house officers participated in this study after the informed consent produced in the written form.

**Inclusion criteria:** Final year students and house officers that belonged to dentistry.

**Exclusion criteria:** Final year students and house officers that did not belong to dentistry.

The modified Dental Anxiety Scale (MDAS) Questionnaire was given to the participants involved in this study that included five questions with scoring scale that contained ranges from "Not Anxious" to "Extremely Anxious". The scoring scale readings from 0-5 depicted non-anxious behavior, 6-18 showed slightly to fairly anxious while 19-25 displayed extremely anxious behavior. The responses of all five questions were added to give the Dental anxiety levels among the participants. The questions included in this study were 2:

'If you went to your dentist for treatment tomorrow, how would you feel?'

'If you were sitting in the waiting room, how would you feel?'

'If you were about to have a tooth drilled, how would you feel?'

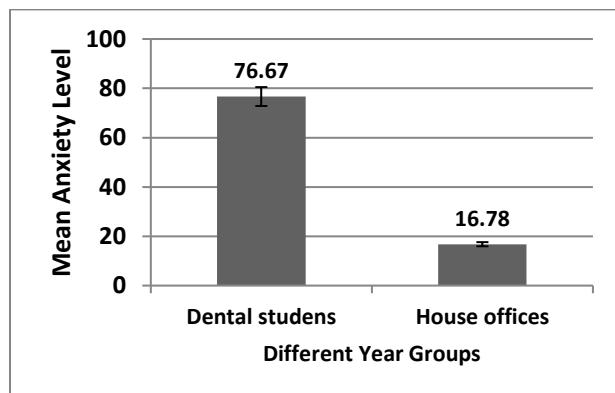
'If you were about to have your teeth scaled and polished, how would you feel?'

'If you were about to have a local anesthetic injection in your gum, how would you feel?'

The Questionnaire was distributed among final year students and house officers after giving them complete information about the study and were asked to answer it and submit it back. SPSS Version 26.00 was used to analyze the data for descriptive values such as mean, standard deviation and standard error. Independent T Test was used to assess the inter-group differences regarding dental anxiety questionnaire among dental male and female final year students and house officers. Statistical significance was calculated at 95% confidence interval and p. Value < 0.05.

## Results

Out of 200 participants, 70 were males and 130 were females that participated in this study. The 108 participants were final year dental students while 92 were house officers. The mean anxiety level of final year dental students was  $77.92 \pm 2.97$  while for house officers it was found to be  $31.02 \pm 2.56$  with p. value= 0.001. This concluded that mean anxiety level of final year dental students was more as compared to the house officers which was statistically significant having p. value= 0.001 (Figure 1).



**Figure 1. Comparison of mean Anxiety scores among dental students and house officers.**

The 54 (41.5%) female and 38 (54.3%) male participants were found to be not anxious, 42 (32.3%) female and 24 (34.3%) male participants were slightly to fairly anxious while 34 (26.2%) female and 8 (11.4%) male participants were extremely anxious and phobic about the dental treatment. The 92 (100%) house officers were found to be not anxious but 66 (61.1%) final year dental students were slightly to fairly anxious whereas 42 (38.9%) final

year dental students were extremely anxious and phobic about the dental treatment. The mean anxiety level scoring among female participants was  $53.92 \pm 3.28$  while mean anxiety level scoring among male participants was  $40.18 \pm 3.64$  which was statistically significant. The mean anxiety level scoring among female participants was more in comparison to the male participants having the p. value= 0.001. The final year dental students fell in the ranges between slightly to fairly and extremely anxious/phobic as compared to the house officers who were completely non-anxious and non-phobic regarding the dental treatments with the p. value = 0.001. These results in this study were statistically significant because p. value was  $< 0.05$  having 95% confidence interval. (Table I)

**Table I: Mean differences in Dental Anxiety Scores among grouping variables in this study.**

Grouping variables	N=	Mean with standard error (S.E)	P value (2 Tailed)
	200		
Gender	Males	70	40.18 (3.64)
	Females	130	53.92 (3.28)
Dental Study area	Final year dental students	108	77.92 (2.97)
	House officers	92	31.02 (2.56)

## Discussion

The current study assessed the anxiety level in the health care providers regarding their age and dental study area. The conclusions of the current study depicted that final year dental students have shown enhanced anxiety level attributing the dental procedures in comparison to the house officers which was statistically significant (p. value = 0.001). The reason for these results could be the fact that house officers have finished their dental school and have passed through their learning stage. They are more involved in the clinical settings where their practical experience of patient dealing might have reduced their overall anxiety levels related to the dental procedures thus, in turn declining their phobia and anxiety if these procedures are required for them as well. The findings in the current study did not match the literature because previous studies were conducted either on patients<sup>10</sup>, or involving the undergraduate dental students only<sup>5,11,12</sup> whereas our study was a comparative analysis between final year dental students and house officers. Past studies revealed anxiety level of about 58.00%<sup>5</sup> and 21.60%<sup>12</sup> among the dental students. The current study confirmed the anxiety level to be 76.66% in the final year dental students and 16.77% in the house officers of a public sector, Islamabad. The anxiety level in our study was

better for the house officers but not for the final year dental students that showed declined anxiety level for the former but higher anxiety level for the later. This could have occurred due to the elevated confidence and maturity in the house officers in comparison to the final year dental students comparatively that could have been possible as a result of age.

Several studies in the past had suggested that there exists an inverse relationship between dental anxiety level and age which means that anxiety decreases with the increasing age.<sup>13,14</sup> This hypothesis is confirmed through a recent study where anxiety level was found to be greater in dental students belonging to the age  $< 21$  years while lesser in these participants  $> 21$  years of age.<sup>15,16</sup> This finding in our study is in collaboration with the aforementioned studies because final year dental students are less than  $< 21$  years of age and house officers are  $> 21$  years. This shows that anxiety level in house officers included in our study might have reduced with the increase in their ages as compared to the final year dental students that were young and quite immature with enhanced anxiety potential. Out of these participants involved in this study, female participants are more phobic and anxious as compared to the male participants (p. value = 0.001) which is in accordance with another study.<sup>2</sup> Certain studies have shown that females display low threshold for pain and its tolerance.<sup>7,17</sup> The justification for this could be the sight of local anesthesia, needle size, oral mucosa injection, sharp instruments, loud machine sounds and their vibrations that might have become the source of initiating the anxiety and then igniting it on the large extent.

## Conclusion

The current study concluded the enhanced anxiety level of dental students as compared to the house officers that revealed the declined anxiety attributed to the dental procedures. That might be due to the effectively perceived clinical ability with advanced interpersonal skills of the house officers that could have enhanced their expertise.

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