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Research Article

### A CROSS-SECTIONAL RESEARCH TO ASSESS THE ANXIETY LEVELS OCCURRENCE AMONG ORTHODONTIC PATIENTS AND ITS ASSOCIATION WITH EDUCATIONAL LEVEL, AGE AND GENDER

<sup>1</sup>Dr. Sara Mariam, <sup>2</sup>Dr Hira Noor, <sup>3</sup>Dr Raheela Sharif

<sup>1</sup>Govt. Gynae Hospital, UC 37, New Karol, Lahore, <sup>2</sup>Rural Health Center Chung Lahore, <sup>3</sup>Rural Health Center Halla Kasur.

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**Abstract:**

**Objective:** The objective of this research was to determine the occurrence of anxiety with respect to educational level, age and gender among orthodontic patients with the help of DAS (Dental Anxiety Scale) of Norman Corah.

**Patients & Methods:** This cross-sectional was carried on a total of 233 patients at Services Hospital, Lahore (March 2018 to January 2019). Study utilized DAS of N. Corah to measure the various levels of anxiety. Our questionnaire collected information about patient's education, gender and age.

**Results:** In the total population of 350 patients a total of 233 were enrolled after distribution of research questionnaire respectively including 69 males (30%) and 164 females (70%). Mild and Severe level of anxiety was respectively reported among 46% and 4%. Highly educated patients reported reduced anxiety with significant P-Value of (0.015).

**Conclusion:** All those patients who sought orthodontic treatment presented a prevalence of dental anxiety. Highly educated patients were reported less anxiety (P-Value < 0.01) than the less educated patients. DAS was no affected by the demographic variables of age and gender.

**Keywords:** Orthodontic Procedures, Anxiety, Dental Anxiety Scale and Dental Phobia.

**Corresponding author:**

**Dr. Sara Mariam,**

Govt. Gynae Hospital, UC 37, New Karol, Lahore.

QR code



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**INTRODUCTION:**

Anxiety refers to an emotion which features feelings of increased BP, apprehension, worries, tension, palpitation and nausea. Anxiety is a multisystem reaction to perceived danger or threat. Fear and phobia are interchangeable terms which are also used as a replacement of word anxiety. It is difficult to differentiate clearly between these terms. Anxiety along with its associated states are generally categorized as psychological disorders reported in the general public [1].

Anxious patients come across dentist in the routine of dentistry on regular basis. Anxiety impacts the dental treatment in the form of delayed treatment or compromised treatment quality extended to patients. Dental technologies have advanced much but on the other hand the factor of dental anxiety is still relative and stable [2]. Estimated dental anxiety cases are one in every six patients and in few segments, it is estimated 35% of the total orthodontic patients [3]. A research carried out on University students showed dental anxiety among 21.8% of the dental patients [4].

People became anxious during dental treatment and this level of anxiety varies in different population but less research work has been carried out to cater this aspect throughout the world [3 – 9]. Most of the patients do fear from injections and drilling procedures involved in the dental treatment and became anxious [4, 10]. However, anxiety may lead to pain in the course of dental treatment which results in discontinuation of dental treatment and delayed visit to the dentists. Delayed visit prolongs the treatment and also accounts for the poor state of oral hygienic state, general well-being, low self-esteem and compromised periodontal status. Literature is scarcely available on the subject issue in Pakistan. The objective of this research was to determine the occurrence of anxiety with respect to educational level, age and gender among orthodontic patients with

the help of DAS (Dental Anxiety Scale) of Norman Corah.

**METHODOLOGY:**

This cross-sectional was carried on a total of 233 patients at Services Hospital, Lahore (March 2018 to January 2019). Study utilized DAS of N. Corah to measure the various levels of anxiety. Our questionnaire collected information about patient's education, gender and age. Research sample was reduced from 350 to 278 initially and it was finalized as 233 patients due to multiple reasons. These patients completed the research questionnaire. The Questionnaire asked about patient's demographic details along with level of dental anxiety measured through DAS. Five multiple choice answers were given for every question. Overall score was categorized as mild, moderate, high and severe anxiety. Outcomes were statistically analyzed through Chi-Square test and SPSS software.

**RESULTS:**

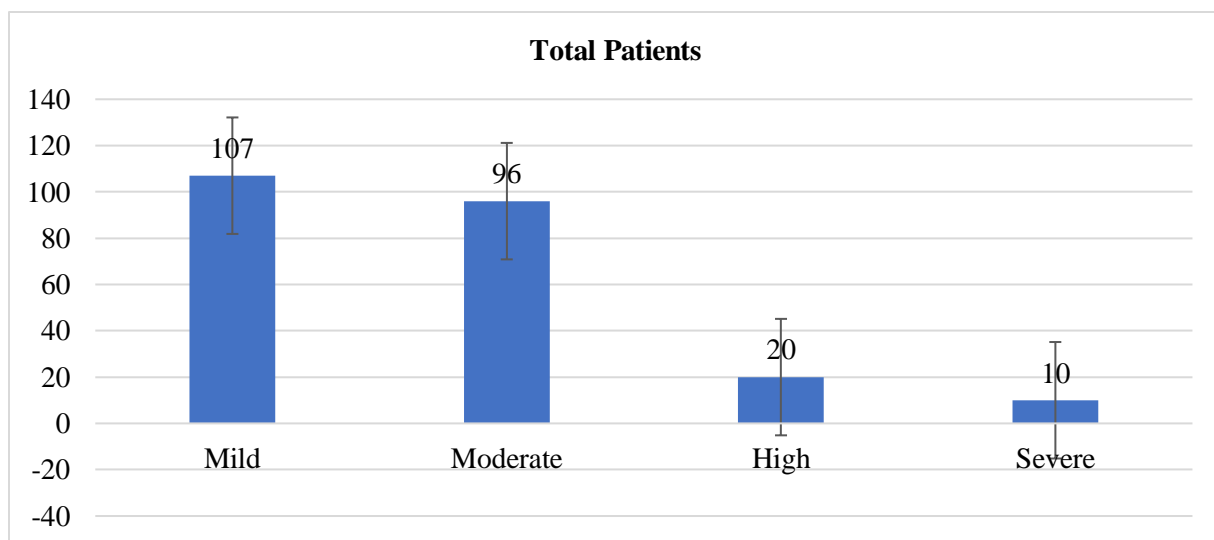
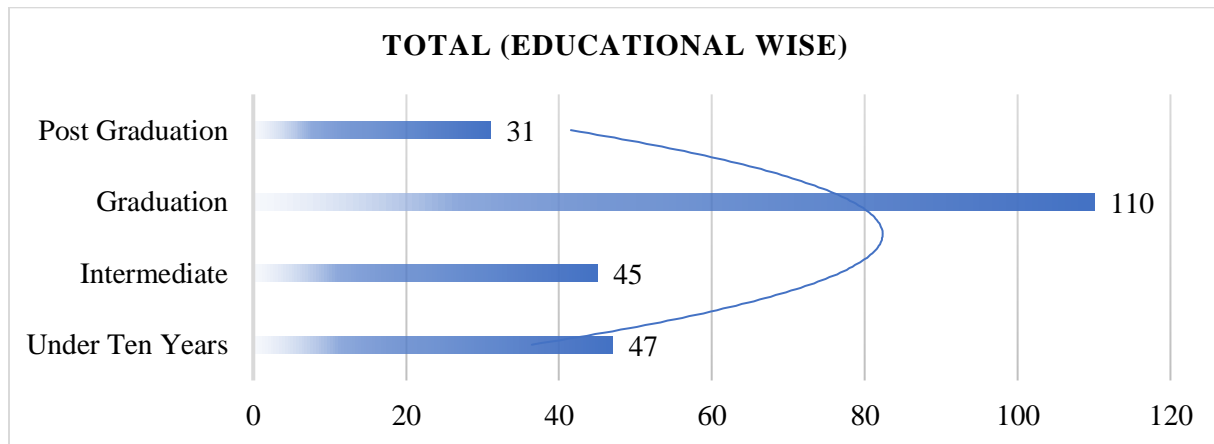
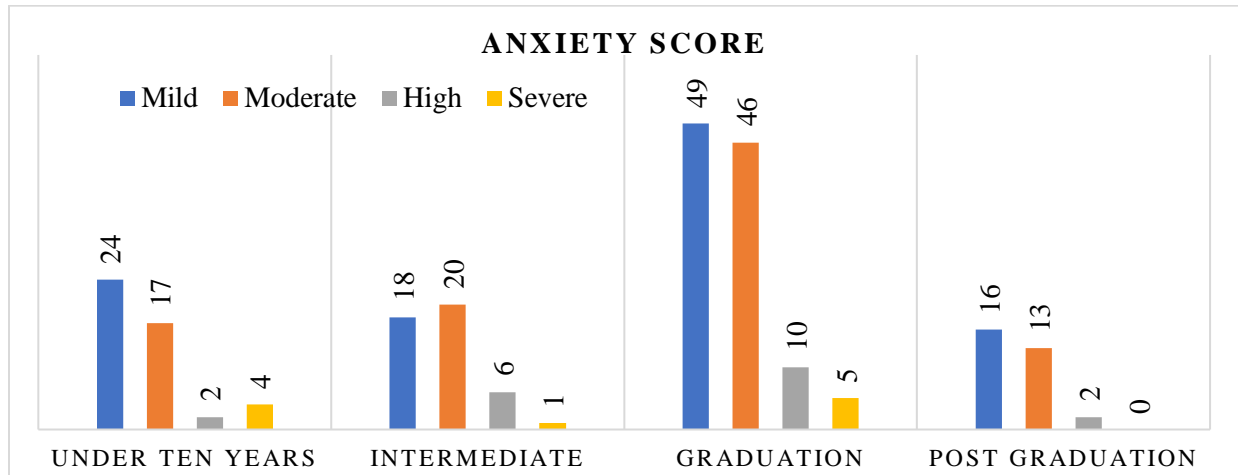
In the total population of 350 patients a total of 233 were enrolled after distribution of research questionnaire respectively including 69 males (30%) and 164 females (70%). Mild and Severe level of anxiety was respectively reported among 46% and 4%. Mean age of the patients was  $(23.31 \pm 6.8)$  years. There were 161 patients in the age group of  $\leq 25$  years (69%). There were 110 graduates (47%) in the research sample.

Gender and anxiety score had no significant association. Age group and anxiety also did not pose any association. Anxiety was significantly associated with level of participant's education. Highly educated patients reported reduced anxiety with significant P-Value of (0.015).

Detailed comparison of anxiety score and educational level is given in the tabular data:

**Table:** Educational Level Versus Anxiety Score

| Participants' Education/<br>Anxiety Score | Mild | Moderate | High | Severe | Total | P-Value |
|---|------|----------|------|--------|-------|---------|
| Under Ten Years                           | 24   | 17       | 2    | 4      | 47    | <0.01   |
| Intermediate                              | 18   | 20       | 6    | 1      | 45    |         |
| Graduation                                | 49   | 46       | 10   | 5      | 110   |         |
| Post-Graduation                           | 16   | 13       | 2    | 0      | 31    |         |
| Total Patients                            | 107  | 96       | 20   | 10     | 233   |         |



**DISCUSSION:**

The objective of this research was to determine the occurrence of anxiety with respect to educational level, age and gender among orthodontic patients with

the help of DAS (Dental Anxiety Scale) of Norman Corah. In the total population of 350 patients a total of 233 were enrolled after distribution of research questionnaire respectively including 69 males (30%)

and 164 females (70%). Majority of the participants were female as females are more concerned about esthetics and therefore seek orthodontic treatment. Previous studies also showed more females seeking orthodontic treatment [11]. Females were more involved in anxiety than males as they were more sensitive about esthetics [11, 12]. Most of the patients seeking orthodontic treatment were highly educated.

We reported various proportions of level of anxiety among patients such as mild anxiety (46%), moderate anxiety (41%), higher anxiety (9%) and severe anxiety (4%). All those who were visiting the dentist in routine were less anxious as they were aware about the procedures; whereas, new patients were more anxious about the surgical procedure which involved drilling and related techniques [13]. Four age groups were made out of the total research population. Most of the patients fall in Group – II (16 – 25) years of age. The mean age was 23.31 years. Group – II was more involved in the orthodontic treatment as it is ideal age to get the teeth treated after being referred by general dentists [14]. Youngs are more sensitive about their esthetics than older age groups so they mostly consult dentists. Highly educated people were commonly accessing dental treatment (P-Value 0.015). Educated people are more confident and show trust in the dental treatment with reduced level of anxiety due to more informed state of treatment awareness [12, 15].

Men were less anxious than females due to the treatment fear [16]. We did not consider the time elapsed in the waiting and initiation of the treatment which can also influence in the increased level of anxiety and also alter the outcomes of the research. Patients became more relax and comfortable as they undergo treatment modalities and on every next visit the level of dental anxiety is reduced during dental treatment [17]. More research work about the measurement of dental anxiety with respect to instance prospective, various time intervals of treatment, at different events of orthodontic treatment and culmination of treatment will ultimately help to increase the subject. Further studies should also include the assessment of patient's esthetical concern, socio-economic status and anxiety measurement among different populations. Different ethnic groups, life experiences, backgrounds and value systems may also be studies for better understanding of dental anxiety among various populations who seek orthodontic treatment.

#### CONCLUSION:

All those patients who sought orthodontic treatment presented a prevalence of dental anxiety. Highly

educated patients were reported less anxiety (P-Value < 0.01) than the less educated patients. DAS was not affected by the demographic variables of age and gender.

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