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Original Research

A study to measure anxiety among Patients undergoing third molar removal

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***ABSTRACT*:**
Background: The preoperative, intraoperative, and postoperative management of pain and anxiety is a major challenge faced by oral and maxillofacial surgeons on an ongoing basis, day in and day out. This comprehensive management of the anxious patients is of prime concern because of the formidable difficulties and obstacles inherent in the performance of intricate procedures on patients whose actions can range from co-operative to obstructive.Dental anxiety is most commonly provoked by treatments involving anesthetic injection and usage of the drill for tooth removal. **Objective:** To measure anxiety level among subjects undergoing third molar removal. **Methodology:** The present cross sectional study was carried out on 100 patients who were aged between the age of 16 to 30 years who had reported to the Dental department for the removal of the third molar at Kim's Dental College, Amalapuram, Andhra Pradesh, between January 2018 to December 2018. Patients were randomly enrolled for the study, consecutively as and when they reported.**Results:**The results of this study showed Dental Anxiety Scores among male patients was higher than female patients; however the difference between male and female patients was statistically not significant. Among impacted and non-impacted groups Dental Anxiety Score was higher among impacted third molar group, but the difference between impacted and non-impacted groups was statistically not significant too. **Conclusion:** Prior awareness of the patient's predisposition dental anxiety may thus be of value, enabling to take appropriate and/or therapeutic measures or care. Thus giving anxiety free treatment to the patients and better postoperative recovery.
Key words: Dental, anxiety, molar, scale, extraction.

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INTRODUCTION:
Anxiety related to extraction of third molar is a fairly common phenomenon. It is a problem in oral surgery and a notable factor in the avoidance of surgery.[1,2] Dental anxiety is generally considered to have origin in childhood and develop as a result of aversive conditioning and family influences.[3]Dental anxiety and fear are considered the major reasons for avoidance of dental care thus resulting in deterioration of their personal oral health. These conditions occur in people of any age and social status.
Inspite of three or four decades of research a number of epidemiological questions concerning dental anxiety have not been answered. Dental anxiety is most commonly provoked by treatments involving anesthetic injection and usage of the drill for tooth removal. In accordance with this, removal of a lower third molar commonly provokes anxiety.
Diverse factors have been implicated in the etiology of dental anxiety including congenital determinants, trauma and the experiences of family and friends. Dental anxiety may be specific to dental context, or a manifestation of a more general state of anxiety.[4]
Before and during surgery, anxiety can affect patients physiologically and psychosomatically, increasing, for example, blood pressure affecting surgery and the incidence of complications. Therefore it is important to detect these patients before surgery. Trait anxiety is a permanent feature of the personality of each individual

emotion and state anxiety refers to the emotional state of the human body when it is evaluated.
Therefore, the preoperative, intraoperative, and postoperative management of pain and anxiety is a major challenge faced by oral and maxillofacial surgeons on an ongoing basis, day in and day out. Reassurance and adequate pain control are the most important factors which should start from the first visit of the patients or else it is difficult to give meaningful responses without adequate explanation.[5]

OBJECTIVE:
To measure anxiety level among subjects undergoing third molar removal.

METHODOLOGY:
The present cross sectional study was carried out on 100 patients who were aged between the age of 16 to 30 years who had reported to the Dental department for the removal of the third molar at Kim's Dental College, Amalapuram, Andhra Pradesh, between January 2018 to December 2018. Patients were randomly enrolled for the study, consecutively as and when they reported.

Inclusion criteria

1. Dental students who require extraction of mandibular third molars
2. Routine blood and urine examination revealing no abnormal values and without any systemic problems/complications.

Exclusion criteria

1. Medically compromised patients.
2. Patients with contraindication for extraction for whatever reason.

A total of 100 cases were selected by convenient sampling technique for the purpose of the study. All the patients were informed with regard to the purpose of the study. After the consent of the patient and case history, pre-operative investigations, and relevant findings were recorded using a Prestructured Proforma of Corah N L 's Dental anxiety score scale was used to measure the anxiety among the study subjects.[6]

RESULTS:
A total of 100 adolescents who were enrolled in the study were analyzed.

Table 1: Social profile of the study subjects

Social Profile		Frequency	Percentage
Age Group	16-20	18	18
	21-25	61	61
	26-30	21	21
Gender	Male	58	58
	Female	42	42

In our study the mean age of the patients was 25.8±2.6 Years of age. Majority (61%) of the study subjects were between the age group of 21-25 Years of age. The male constituted nearly 58% of the study subjects.
In our study nearly 64 of them had impacted tooth and 36 of them had non impacted tooth.

Table 2 : Dental Anxiety Score among study subjects.

Variables		Dental Anxiety Score		
		Mean	SD	P value
Tooth	**Impacted (64)**	**12.13**	**2.98**	P>0.05 NS
	Non Impacted (36)	**12.22**	**2.75**	
Gender	**Males (58)**	**11.98**	**2.17**	P>0.05 NS
	Females (42)	**11.76**	**1.98**	

The mean dental anxiety score among the study subjects with impacted tooth was 12.13 and among non impacted tooth it was 12.22. The difference between the impacted and non impacted tooth was fund to be statistically non significant. The association between gender and Mean Dental Anxiety Score was also found to be statistically non significant .

Table 3: Comparison of Mean Dental Anxiety Score among the impacted and non impacted teeth

DAS	Impacted (%)	Non impacted (%)
005-10	26(40.6)	16 (44.4)
011-15	29 (45.3)	15 (41.7)
0016-20	9(14.1)	5 (13.9)
Total	64 (100)	36 (100)

Chi square =0.150 p= 0.928

The Dental anxiety score was classified into three groups of 05-10,10-15 and 16-20. Among the study subjects with impacted tooth majority (45.3%) of the subjects had score between 11 to 15. Nearly 14.1% of the study subjects had score more than 16. Among the study subjects with non impacted tooth majority 44.4% of the study subjects had score between 05-10. The association was found to be statistically non significant.

Table 3 : Comparison of Mean Dental Anxiety Score among the impacted and non impacted teeth

DAS	Males	females
005-10	28 (48.3)	15 (35.7)
011-15	22 (37.9)	19 (45.2)
0016-20	8 (13.7)	8 (19.1)
Total	58 (100)	42 (100

Chi square =1.63 p= 0.442

Among the gender, Majority (48.3%) of the Male subjects has anxiety score between 05-10 whereas among females 35.7% had score between 05-10. Among female 45.2% had anxiety score between 11-15. The association was found to be statistically non significant.

DISCUSSION:

Anxiety is an unpleasant emotional state, the causes of which are less clear. It is often accompanied by physiological changes and behaviors similar to those caused by fear. [7]

One of the major and most common causes of preoperative dental anxiety is removal of the third molar . Anxiety is one factor which not only involves emotional factor but sometimes it can have a impact on the surgery.[7]

Many different scales, such as Corah's Dental Anxiety Scale (DAS), Kleinknecht's Dental Fear Survey (DFS), Spielberger's State-Trait Anxiety Inventory (STAI), Litt's Oral surgery Confidence Questionnaire (OSCQ), Gale's ranking questionnaire (RQ), Stouthard's dental anxiety inventory (DAI), Weiner's fear questionnaire (FQ), Morin's adolescents fear of dental treatment cognitive inventory (AFDTCI), the Visual Analog Scale (VAS), and the Original Questionnaire, have been used to qualitatively or quantitatively measure dental anxiety.[8]

With so many scales available for the measuring the anxiety score Yusa H et al [9]opined that multiple scales usage in determining anxiety is a complicated process and a usuage of one scale should be used by the investigator to asses the anxiety. In the study done by Peretz B and Efrat J [10] concluded that Corah's Dental Anxiety Scale (DAS), consists of commonly applied questionnaire is one of the best measuring scale to determine the anxiety.

According to the study by Corah Norman, Gale Elliot and Illig Stephen all old and new data were considered in an evaluation of the Corah Dental anxiety Scale. Study found that the DAS is reliable, valid, and useful predictor of patient's anxiety before treatment helping the clinician in two ways.[6]

In the study done by Zuniga John et al , all the guidelines which were set by various professionals were reviewed in the year 2000 and standard set of procedure which are suppose to be followed in molar tooth extraction to reduce the fear of anxiety and the pain.[11]

In the study done by Liau F L et al on 180 study subjects concluded that Corah's dental anxiety scale is a useful tool for estimating the impact of anxiety, and younger patients with anxiety were more likely to have high levels of anxiety.[12]

In the study done by Edwards D J et al by Logistic regression analysis showed that difficulty of surgery, patient's anxiety, patient's preferences, medical history, and number of teeth to be removed were important predictors of choice of anesthetic.[13]

A study was conducted by Thomson M W and Locker D to know the incidence of dental anxiety among individuals aged 18 years at baseline and 26 years at follow-up, to determine if dental treatment experience continues to play a significant etiological role with respect to the onset of dental anxiety in young adults. They concluded that aversive conditioning experiences appear unrelated to the adult onset of dental anxiety and that particular temperamental or psychological trails may be associated with condition.[14,15]

Thus, the present study showed that, Dental Anxiety Scores among female patients was higher than male patients; however the difference between male and female patients was statistically not significant. Among impacted and non-impacted groups although the Dental Anxiety Score was higher among impacted thirdmolar group, but the difference between the groups was statistically not significant too.

We tried to compare results obtained in the present study with those of other authors, but we found that some of the studies reviewed used other scales of anxiety measurement but as our study dealt with only the preoperative assessment of the anxiety in the dental office we found Corah's Dental Anxiety Scale (DAS) more reliable, valid, and useful predictor of patient's anxiety before treatment helping the clinician to be aware of what to expect from the patient, and measures to be taken to help alleviate the anxiety of the patient. And some of the studies reviewed

showed more sever anxiety levels in females than males. In agreement with this our study too showed higher scores in females than males, and higher scores in impacted third molar group than non-impacted group. And the younger group of the patients showed higher levels of anxiety than the older group of patients.

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