ejpmr, 2020,7(4), 728-731

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

EVALUATION OF ANXIETY LEVEL AMONG DENTAL STUDENTS UNDERGOING THIRD MOLAR EXTRACTION

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Article Received on 19/02/2020 **Article Revised on 09/03/2020** **Article Accepted on 30/03/2020**

ABSTRACT

Background and Aim: This study was conducted to quantitate the anxiety associated with third molar extraction in dental students. And to compare the anxiety levels between males and females, among impacted and non-impacted mandibular third molar. **Methods:** This study was conducted on 200 Dental students, requiring extraction of mandibular third molar. Patients were randomly enrolled for the study, consecutively as and when they reported. All the patients under the study were given a questionnaire before removal of mandibular third molar. The anxiety levels were evaluated based on the scores of the Corah's Dental Anxiety Scale. **Results:** The results of this study showed 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 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 and Interpretation:** In conclusion, maxillofacial surgeons should consider that patients initially visit dental office for treatment of third molar with sever anxiety which could be due to conditioning or learned responses that these patients have experienced. And thus a 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.

KEYWORDS: Anxiety, DAS, Impaction, Students.

INTRODUCTION

A tooth extraction, or even just the idea of having a tooth "pulled out," puts many persons ill at ease. This is in agreement with research indicating that an extraction is considered to be highly distressing and that it belongs to the top 5 most fear-evoking treatment procedures in dental situations.[1] Lower third molar surgery is related with dental anxiety. Before and during surgery, anxiety can affect patients physiologically and psychosomaticly, increasing, for example, blood pressure affecting surgery and the incidence of complications.[2]

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.[3] 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. 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. Dental anxiety is a marked and persistent state of dental fear.[4,5]

Studies investigating the onset of long-standing negative psychological responses to dental treatment show that the severity of patients' current level of dental anxiety is significantly associated with the extent to which they experienced their past treatments as painful or otherwise traumatic.[6] Several studies have revealed the relationship between trait anxiety, state anxiety and dental anxiety with surgery of impacted lower third molars. They found higher levels of anxiety in women. Lago-Méndez et al.[7] analyzed the relationship between trait anxiety, state anxiety and dental anxiety and he found trait anxiety was a predictor of dental anxiety, showing a statistically significant difference between men and women and trait anxiety.

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. Dental anxiety is generally considered to have origin in childhood and develop as a result of aversive conditioning and family influences.[8] Dental anxiety is

most commonly provoked by treatments involving anesthetic injection and usage of the drill for tooth removal. 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.[9] Dental anxiety may be specific to dental context, or a manifestation of a more general state of anxiety. The present study was carried out in department of Maxillofacial and Surgery, to evaluate anxiety in dental students reporting for removal of mandibular third molars.

MATERIALS AND METHODS

The present study was carried out on 100 dental students who reported to Department of Cranio Maxillofacial Plastic and Reconstructive Surgery, College of Dental Sciences, Davangere, requiring extraction of mandibular third molars. Patients were randomly enrolled for the study, consecutively as and when they reported.

Only those patients who met the inclusion and exclusion criteria were selected. The following were the criteria for selection of patients for the study.

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.

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.

The following details were recorded pre-operatively:
1. The tooth to be removed.
2. The type of impaction.

Materials used were

1. Standard impaction surgical kit.
2. 3-0 silk suture material
3. Prestructured Proforma was used to measure the anxiety in the students.

RESULTS

The present study was aimed to quantitate the anxiety associated with third molar extraction in dental students. And to compare the anxiety levels between male and female students, among impacted and non-impacted mandibular third molar groups.

A total 200 dental students who reported to the Department of Maxillofacial and Surgery, requiring extraction mandibular third molar were studied. Patients were randomly enrolled for the study, consecutively as and when they reported.

Table 1 shows age distribution of the patients interviewed mean age of the study population was 24 years. Numbers of the patients for age group 16 to 20 years were 28, for age group 21 to 25 years were 116, and for age group 25 to 30 years were 56. Numbers of male patients were 94 and female patients were 106.

Table 1: Age distribution of patients interviewed.

Age	No. of patients
16 – 20	28
21 – 25	116
26 - 30	56

Table 2 show distribution of the study population according to impacted and non-impacted mandibular third molars. Number of patients with impacted mandibular third molars were 122 where as with non-impacted mandibular third molars were 78.

Table 2: Gender wise distribution of patients.

Sex	No. of patients
Male	154
Female	106

Median DAS for impacted third molar group was 12. Among males median DAS was 11, mean ± standard deviation was 11.38 ± 3.57. And among females median DAS was 13, mean ± standard deviation was 12.21 ± 3.31. Comparison of DAS between impacted and non-impacted mandibular third molar groups was done. Mean difference (1.0) between the groups was statistically not significant ($p \geq 0.05$).

Table 3: Comparison of Mean DAS between impacted and non impacted tooth groups.

DAS	Impacted	Non impacted
05 – 10	48	32
11 - 15	56	32
16 – 20	18	14
Total	122	78

Table 3 shows comparison of impacted and non-impacted third molar patients according to DAS. For DAS 5 to 10, numbers of patients with impacted third molar were 48 and non-impacted third molar were 32. For DAS 11 to 15, numbers of patients with impacted third molar were 56 and with non-impacted third molar were 32. For DAS 16 to 20, numbers of patients with impacted third molar were 18 and non-impacted third molar were 14. Observed difference between the groups was statistically not significant ($P \leq 0.05$).

DISCUSSION

Everyone experiences fear and anxiety. Fear is an emotional, physiological, and behavioural response to a recognized external threat. Anxiety is an unpleasant emotional state, the causes of which are less clear.[10] It is often accompanied by physiological changes and behaviours similar to those caused by fear. We know that dental treatment causes fear among patients. Although anaesthetics make dental treatment easy and painless, having such an operation arouses patient's fears and often results in great anxiety.[11]

Anxious behaviour on specific stimuli can be interpreted as a physiological mechanism of adaptation in unknown situations. Nevertheless, multiple negative effects of such a state of mind accompanying surgical treatment have nearly always been proved by multiple studies within last 50 years. Moderately to highly anxious patients suffer from significant more intense postoperative pain and show higher psychological co-morbidity and incidence of post-traumatic stress reactions.[12]

One of the most common causes of preoperative dental anxiety is removal of third molar. Anxiety not only produces emotional unease but may also provoke patient behavior that hinders surgery, in some cases prolonging the intervention and complicating postoperative recovery. The professional organizations that have developed policies and guidelines for the use of sedatives and anesthetics in dental and hospital settings include the American Dental Association (ADA), the American Association of Oral and Maxillofacial Surgeons (AAOMS), the American Academy of Pediatrics (AAP), World Health Organization (WHO), and the Agency for Health Care Policy and Research (AHCPR).[13]

In a study done by Zuniga John[13] all these guidelines set by the professional organizations were reviewed in the year 2000, and study concluded that it is possible to outline a generally accepted set of procedures that should be used in the control of postoperative pain and anxiety in oral and maxillofacial surgery. In a study by Yusa H et al[14] they conclude that the use of multiple scales is the best way to accurately investigate dental anxiety within a study population; however it is complicated to conduct and evaluate the anxiety of patients using multiple different scales.

In the present study we also used the Corah's Dental Anxiety Scale (DAS)[15] preoperatively jst before the removal of tooth. In our study patients with mandibular third molar were included but we dint record the cardiovascular changes before and after the procedure. 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 third molar group, but the difference between the groups was statistically not significant too.

CONCLUSION

In this study, it was seen that the dental anxiety was greatest among people who visited a dentist for the first time and lower among those who routinely visited for preventive care showing higher scores in females than males. However there was no significant difference in the anxiety scores of subjects between impacted and non-impacted tooth removal, suggesting that the extraction itself caused anxiety for the patients/students.

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