

Minor Oral Surgical Procedures & Pre Operative Anxiety (original Research Article)

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Abstract:

Objectives To determine pre operative anxiety & stress levels in patients undergoing minor oral surgical procedures including tooth extraction.

Material and Methods: The present study was conducted in patients attending the department of oral & maxillofacial surgery Indira Gandhi government dental college Jammu. Minor oral surgical procedures include tooth extractions, impactions, peri apical surgeries, biopsies, osteomyelitis, cyst enucleation etc. The sample size for this study was 150 patients, 75 females, & 75 males. Age group ranged from 17 -55 years old. Pre operative anxiety was evaluated by Hamilton anxiety scale

Results Females showed more anxiety than males before surgery. 65 % patients were educated & were able to understand the procedure Pre operative anxiety was seen less in patients to whom surgical procedure was explained before. Patients who had previous oral surgery experience. Patients who had previous oral surgical experience were less anxious in comparison to those who have had come first time for treatment. 70% of the patients visited dentist in pain where as only 30% came for routine checkup or restorations or denture work . 30% Of patients were apprehensive about surgical procedure & 60% of patients had fear of injection, 10% had both.

Conclusions: There is need for awareness & education regarding regular dental checkups .Dental procedures, symptoms of local anesthesia injection, approximate surgery time, should be discussed pre operatively to the patients. By doing so the apprehension & anxiety about dental procedures is reduced.

Key words: Hamilton anxiety scale, Minor oral surgical procedures, Pre operative anxiety, extraction, cardiovascular symptoms.

I. Introduction

Anxiety may be considered as an emotional reaction & is defined as tension, apprehension or nervousness, to danger or diffuse advancing threat accompanied by activation of autonomous nervous system .[1] It is a human reaction to any unknown situation. Anxiety is considered to be a normal part of the surgical experience; it is a pervasive problem with far-reaching health outcomes. Anxiety in surgical patients can increase the need for anesthesia, which increases anesthetic risk [2] Furthermore, it has been shown to increase postoperative pain medication requirements, which can affect postoperative recovery, for example, by slowing respirations, increases pulmonary risks; decreasing activity, increases risk of thrombosis; and increasing risk of bowel upset . Patients with preoperative anxiety were reported to experience a variety of unpleasant symptoms such as greater postoperative pain and psychological distress. [2,3] Anxiety also plays a role in increasing the risk of infection and decreasing the immune system response.[4] Preoperative anxiety is derived from stress responses towards perceived threat and danger related to the surgery and hospital environment. The incidence of preoperative anxiety accounts for 92% of patients in surgical wards [5]. Patients with preoperative anxiety were reported to experience a variety of unpleasant symptoms such as greater postoperative pain and psychological distress. These discomforts affect their decision making ability and treatment compliance. High level of preoperative anxiety impedes healing process and it is associated with morbidity and mortality [6].

Despite the technological advances made in modern dentistry, anxiety about dental treatment and fear of pain associated with it remain prevalent [7] Surgical extraction, impactions, biopsies, curettage, peri apical surgeries are common minor oral surgical procedures. These procedures are rarely life threatening and have a relatively short recovery period. Nevertheless, the physical and psychological impact makes oral surgical procedures a stressful experience .Treatments affiliated with different aspects of oral surgery cause the highest anxiety in dental care [8,9]. In situations involving oral surgery (e.g., extraction, impaction removal etc), a significant increase in anxiety in patient can be found immediately before the procedures[10].The prevalence of dental anxiety ranged from 5-20% in various countries, which pose a significant management problems for

dental practitioners. The aim of the present study was to evaluate various causes & symptoms of stress & anxiety in patients undergoing minor oral surgical procedures.

II. Materials and Methods

The study sample comprised of 150 patients 75 males & 75 females who were randomly selected from the outpatient clinic of oral & maxillofacial surgery department of Indira Gandhi Government dental college Jammu. Patients from 17 to 55 years were selected for this study. In addition to name, age, sex, marital status, educational qualification, reason of anxiety whether patient was apprehensive for injection, intra operative pain or surgical procedure was also noted. Patients were also enquired about any past experience of dental treatment. Patients undergoing minor surgical procedures like impactions, biopsy, cyst enucleation, peri apical surgeries etc were taken for this study. Pre operative anxiety was evaluated by **Hamilton anxiety** scale. In this scale interview was taken as per the questioner of HAM scale & statistical analysis was done using statistical package of social sciences (SPSS). Each symptom which is present regardless of relation to external causes is rated which include

1 Anxious mood symptoms like worries, anticipation of the worst, fearful, irritability.

2 Tension symptoms include feeling of tension, fatigability, moved to tears easily, trembling, and restlessness inability to relax

3 Fears, Include of stranger & being left alone, of crowds etc

4 Insomnia include difficulty in falling asleep, broken or un satisfied sleep, dreams, nightmares, night terrors

5 Depressed moods include lack of interest, lack of pleasure in hobbies, depression, early waking.

6 Intellectual like difficulty in concentration

7 somatic (muscular) tone symptoms include pains & aches, twitching, stiffness, grinding of teeth

8 somatic sensation include tinnitus, blurring of vision, hot & cold flushes, feeling of weakness, pricking sensation

9 cardiovascular symptoms like tachycardia, palpitations, missing beats, pain in chest throbbing of vessels, fainting feeling

10 Respiratory symptoms include choking feelings, constriction in chest, pressure, or constriction in chest, dispend.

11 Gastrointestinal, like difficulty in swallowing, abdominal pain, burning sensations, abdominal fullness, nausea, looseness of bowels.

12 Genitourinary symptoms include frequency of micturation, urgency of micturation, etc

13 Autonomic symptoms, like dry mouth, flushing, pallor, tendency to sweat, giddiness, tension, head ach.

14 Behavior at interviews. Include restlessness, tremor of hands, furrowed brow, strained face, rapid respiration, facial pallor, dilated pupils, blenching etc

Scores were calculated from

0---not present

1....mild

2....moderate

3....sever

4....very sever

Cause of anxiety was also assessed by enquiring by our self made questioner by asking

A Fear of injection

B Intra operative pain

C Fear of procedure

D Any previous oral surgery experience/first experience

E Any previous h/o general procedure & anxiety there off

Patient was interviewed in same manner as above on 7th day postoperatively & scoring was compared latter on.

III. Results;

Procedures included impaction, cyst enucleation /marsupilisation, peri apical procedures, biopsies & osteomyelitis & curettage...

70 % of females were anxious where as only 30% males were stressed before surgery (Pie chart 1).

After explaining the procedure anxiety was seen less in 60% of patients.

(pie chart 2).

65% patients were highly educated & were able to understand procedures.

Patients who had previous oral surgical experience were less anxious in comparison to those who have had come first time for treatment

70% of the patients visited dentist in pain where as only 30% came for routine checkup or restorations or denture work (Bar graph 1)

30% Of patients were apprehensive about surgical procedure & 60% of patients had fear of injection .10% had both. (Bar graph 2)

Fear & anxiety was found more(40%) in patients who had heard the stories of bad treatment/ experience from friends & relatives followed by some bad dental treatment in childhood (25%), rest had no knowledge that means lack of awareness & knowledge about oral surgical treatments.

As per Hamilton anxiety score Types of anxiety manifestations were as follows

1 Anxious mood like worries anticipation of worst & Tension fear like inability to relax feeling Tension & restlessness was in 50% of patients

2 Gastrointestinal genitourinary symptoms respiratory symptoms , insomnia, intellectual & somatic problems (muscular) were not seen in any patient.

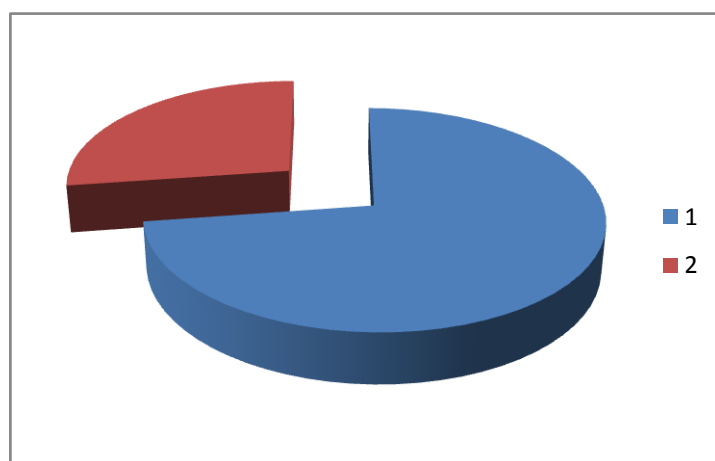
3 Somatic sensory symptoms like pricking sensations, tinnitus blurring of vision was present in 2% patients

4 Cardiovascular symptoms like palpation, pain in chest , tachycardia, fainting feeling, was seen in 55-60% of patients

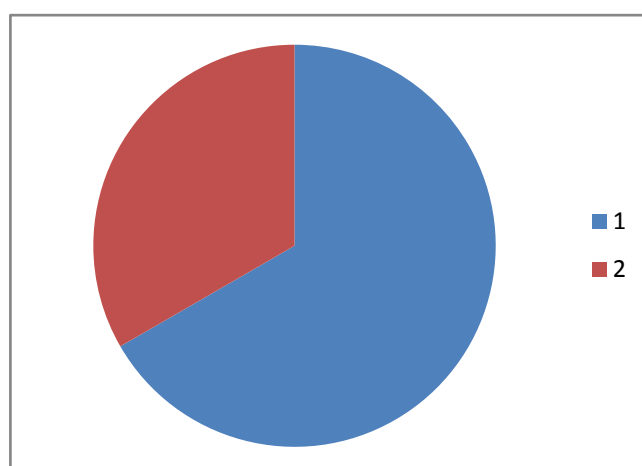
5 Autonomic symptoms like dry mouth flushing, pallor , tension head ach, giddiness, was seen in 88% of patients

6. Behavior at interview like restlessness furrowed brow, tremor of hands was seen in 20%

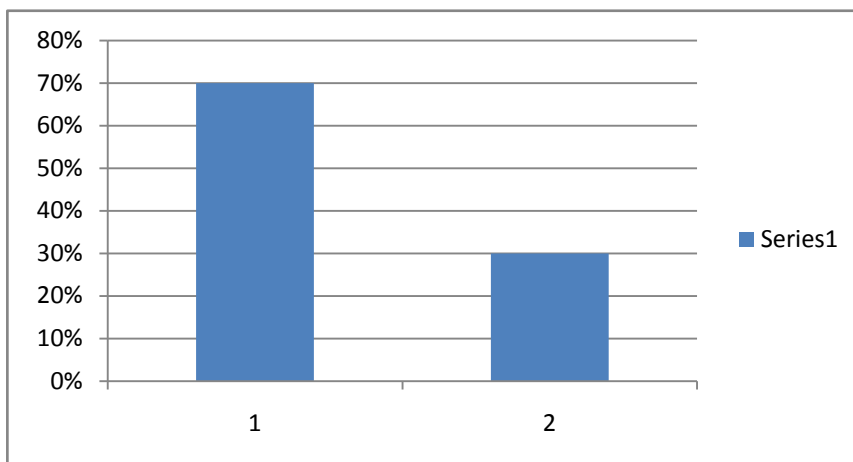
7. Depressed mood like lack of interest , depression, early waking, etc was seen in 4% of patients. (Bar graph 3)



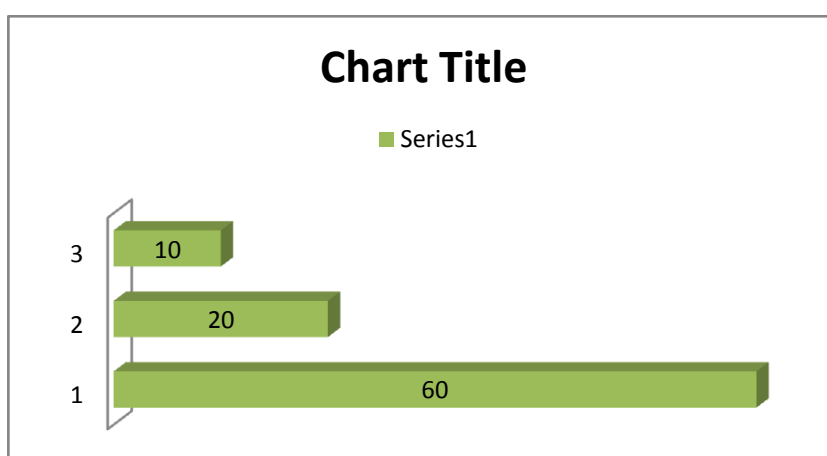
Pie chart 1 showing female having more anxiety than males



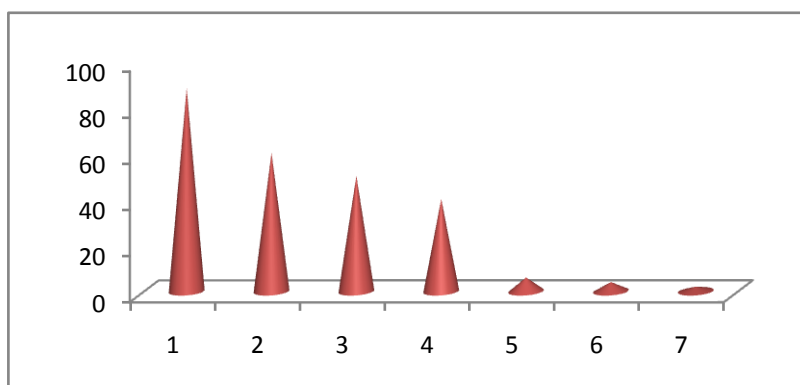
Pie chart 2 showing less anxiety in patients after explaining procedures



Bar graph 1 showing maximum patients visiting dentist in pain



Bar graph 2 Showing maximum fear due to injection followed by procedure followed by both



Bar graph 3 showing autonomic symptoms highest followed by CVS, anxious mood, behavioral problems, depressed mood, & somatic symptoms.

IV. Discussion

This study, to our knowledge, is the first study in our institution which examined the prevalence of dental anxiety, although the patients are not representatives of the whole population of the city /province. Dental anxiety has been ranked fifth among commonly feared situations and that will affect the patient obedience to treatment, avoid dental visits, and anxiety usually generates stress that can create significant problems especially for those who are medically compromised [11,12]

Females in the present study have shown more anxiety level & are more fearful than males. This sex difference in dental anxiety had been reported in several studies [13, 14].

Mohd G Sghaireen et al [15] & Omeri et al [16] in their study on dental anxiety in students have shown that dental and medical students were less anxious than arts and computer science students. This can be

explained by the increased awareness, education, and professional development in consistence similar to present study which has shown that by proper education & patients who had past experience & awareness about dental treatment suffered either low or no anxiety at all.

Although local anesthesia is considered as the main technique that is used to control pain during routine dental extraction, it can have many drawbacks such as inflicting pain and trauma; however, what falls into the scope of this study is the relation between local anesthetic injection and the provoking of stress. Patients receiving dental injections showed a significant increase in pain when they were highly anxious and vice versa. Patient's anxiety levels increased when they received local anesthetic injections. Van et al [17] examined 247 patients undergoing invasive dental procedures, they assessed the relation between the level of anxiety and pain in relation to dental injections, they observed that highly anxious patients were more prone to pain and expressed longer pain perception after the administration of local anesthetic injection similar to present study which shows local anesthesia injection was the most fearful situation of all dental procedures, followed by extraction & other surgical procedures of the teeth in the present study. 94.5% of the patients were extremely anxious if they were going to have local anesthesia injection. Meanwhile, 50% of the patients were extremely anxious about the surgical procedures, & 30 % were anxious about both. Fact is also supported by AL Namankany[18], Quteish & Taani , [19] ALkhdair [20]who in their studies have shown local anesthetic injection is highest common cause of dental anxiety in patients .

High anxiety level might be linked to personality characteristics, fear of pain, past traumatic dental experiences in childhood, and dentally anxious family members or peers. High anxiety level would make it more difficult to manipulate patients and yield difficult patients and thus increase the levels of dental profession-related stress [21, 22] similar to present study where maximum no of patients had anxiety because of painful experiences , traumatic dental experiences in past or who had heard stories of bad dental treatment of their relatives & friends.

The majority of dental treatments can have an influence on patient's anxiety and stress levels; however, dental extraction is shown to be the most stress related procedure when compared to other dental treatments. In a study conducted by Miller's et al [23] (1995) it had been shown that extraction can have a major influence on the adrenal stress which is confirmed by measuring the levels of cortisol in saliva similar to our study patients undergoing extraction & other minor surgical procedures showed a high anxiety level manifested by different symptoms in Hamilton's anxiety scale

The study conducted by Okawa et al [24](2005) reported that anxiety can have vivid effect on pain perception during different stages of the extraction process such as local anesthetic injections and the extraction process itself .This high correlation between anxiety, stress and pain perception can have negative influence on the patient pain sensitivity because

The escalation in the anxiety levels will cause changes in the pain perception which will affect the patient, dentist, and quality of work.

Anxiety and stress can be provoked before dental extraction is carried on and that suggests that the psychological perception of dental extraction as a potential harmful situation which will provoke the mental element of stress, hence the assessment of pre-operative anxiety can have an influence on pain perception. Lago-Mendez et al [25] (2006) Confirmed that patient's anxiety increased before the extraction process and they validated their results depending on different types of anxiety scales. In the present study we noticed that patients who had high score of pre operative anxiety complained of pain & sensitivity & were less co operative after confirming subjective & objective symptoms of local anesthetic solution in comparison to those who were stress free.

V. Conclusion

More than half of the patients visited the dentist only when they had pain. The percentage is close to the 70% reported. This suggests that more efforts should be made to improve dental health awareness and regular dental check-ups among the population .This study supports the need for dental surgeons education on the management of dental fear and anxiety in patients. Due to the small sample studied, the result of this study cannot be generalized to the population. Future studies with a larger and varied sample size are needed to confirm these results. Other anxiety scales could also be compared with the present one.

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