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## Assessment of Pre and Post-Operative Anxiety In Patient Undergoing Tooth Extraction.

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### ABSTRACT

To assess the pre and post operative anxiety level in patients undergoing dental extraction 50 patients without any underlying systemic medical comorbidities were randomly included in the study. They were evaluated on 2 consecutive occasions: immediate preoperative and immediate postoperative during dental extraction. Each patient's anxiety was measured using Visual Analog Scale of Dental Anxiety. There is a significant difference between the anxiety level in patients before and after extraction. All the patients showed an increase in the pre-operative anxiety level irrespective of the age and gender. The percentage of pre operative anxiety is higher compared to post operative anxiety. The pre-operative anxiety level was higher compared to post-operative anxiety level and therefore measures to control anxiety pre-operatively has to be adopted in our clinical practice

**Keywords:** Anxiety; Dental fear; Oral surgery; Dental treatment

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## INTRODUCTION

Anxiety is a feeling of worry, nervousness, or unease about something with an uncertain outcome. Anxiety in dental clinic is very common as most of the patients fear of dental treatment.[1] There are many reasons why people have dental phobia and anxiety. Some of the common reasons include: fear of pain, injection, anesthetic side effects, feelings of helplessness and loss of control, embarrassment and loss of personal space. Many people feel uncomfortable about the physical closeness of the dentist or hygienist to their face. Others may feel self-conscious about the appearance of their teeth or possible mouth odors.[2,3]

The most widely accepted concept of anxiety involves a complex pattern of behaviour associated with physiological activation that occurs in response to internal (cognitive and somatic) and external (environmental) stimuli, which patients may experience before or during dental treatment, or both. Dental anxiety is a complex phenomenon affected by several variables.[4]

Pain is often cited as both an etiological and a maintaining factor in patients' dental anxiety. However, not all patients who experience pain during dental procedures develop disabling dental anxiety and not all patients whose overestimation of dental pain is unconfirmed necessarily reduce their recall of past pain or prediction of future pain. Patients' anxiety may be affected by age, sex, educational standard, and personality. Some studies by Valler and Liddle have reported that people of lower socioeconomic status and with less education have more anxiety, whereas others have reported more dental anxiety in those with better education.[5,6]

The aim of this study was to evaluate the degree of anxiety and fear of dental extraction and to determine if pre-operative anxiety control protocols have to be followed.

## MATERIALS AND METHODS

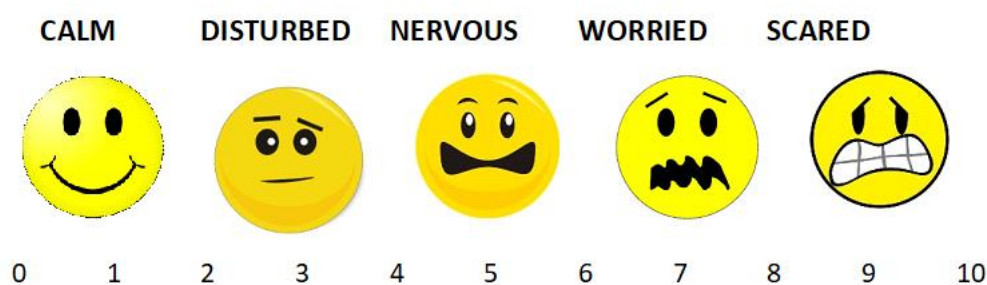
50 patients who required dental extraction under local anaesthesia, were randomly selected for the study. The patients included in the study were healthy without any underlying systemic issues. Patients who are not willing for the study were excluded from this study. Besides that, patient with psycho-organic or behavioural disorders were also excluded from this study

Dental extractions were done under local anaesthesia using a standard technique. There was no complications in any of the procedures. The Visual Analog Scale and Hamilton Anxiety Rating Scale was used to determine the anxiety level before and after extraction.

## RESULTS

The results shows a significant difference between pre-operative and post-operative anxiety level. All the patients showed an increase in the pre-operative anxiety level irrespective of the age and gender. The post-operative anxiety level were significantly less compared to the pre-operative anxiety levels, as the procedures were done without any complications.

### Visual Analog Scale (Vas)



Descriptives					
Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PreOP	50	2	10	6.08	1.850
PostOP	50	0	5	2.52	1.403
Valid N (listwise)	50				

**HAMILTON ANXIETY RATING SCALE**

**Ranks**

	N	Mean Rank	Sum of Ranks
PostOP - Negative Ranks	50 <sup>a</sup>	25.50	1275.00
PreOP Positive Ranks	0 <sup>b</sup>	0.00	0.00
Ties	0 <sup>c</sup>		
Total	50		

**Test Statistics<sup>a</sup>**

	Z	Asymp. Sig. (2-tailed)
PostOP – PreOP	-6.222 <sup>b</sup>	.000

a. Hamilton Anxiety Rating Scale

b. Based on positive ranks.

PreOP					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.0	2.0	2.0
	3	3	6.0	6.0	8.0
	4	5	10.0	10.0	18.0
	5	13	26.0	26.0	44.0
	6	7	14.0	14.0	58.0
	7	8	16.0	16.0	74.0
	8	8	16.0	16.0	90.0
	9	4	8.0	8.0	98.0
	10	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

**Post OP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	6.0	6.0	6.0
	1	11	22.0	22.0	28.0
	2	10	20.0	20.0	48.0
	3	14	28.0	28.0	76.0
	4	7	14.0	14.0	90.0
	5	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

**DISCUSSION**

Dental extraction or removal of teeth is one of the most common dental procedures. Nevertheless, the physical and psychological impact makes it a stressful experience. In this study, the anxiety level is assessed in patients undergoing dental extraction. Anxiety before the extraction may be influenced by the surrounding environment, clinical settings, instruments and the approach of the dentist to the patient. Anxiety immediately after tooth extraction may be influenced by operative techniques (type of anaesthesia, duration of operation, or position of tooth extracted).[7]

In our study, the anxiety level is recorded and compared using the visual analog scale and Hamilton Anxiety scale. In 1959, the first version of Hamilton anxiety rating scale was developed by Max R Hamilton in which he included a distinction between anxiety as a normal reaction to danger, as a pathological condition which is not related to stress, as a state or broad syndrome that was termed ‘anxiety neurosis’. This scale was developed to be used with patients who are already known to suffer from anxiety neurosis. In the other hand, although he developed the scale as a rating scale of severity, he also use the scale to differentiate ‘anxiety as a pathological mood from a neurosis.

This scale consists of variety of relevant symptoms that were collected and divided into groups and it is said to be a clinical rated evaluation. In this scale, each criteria is presented with a specific manner and they are presented as an independent feeling that is related to anxiety. The criteria of the Hamilton rating scale will be the anxious mood, tension, fears, insomnia, intellectual, depressed mood, somatic, cardiovascular symptoms, respiratory symptoms, gastrointestinal symptoms, genitourinary symptoms, autonomic symptoms, and their behaviour during the interview[8]

Hence, it was observed that patients had high anxiety levels when compared to post-operative anxiety levels. This may be due to the fear of the patient undergoing treatment, whereas after the extraction, the patient becomes more relaxed and calm. This is because the patient have a relief that the treatment was done without complication. However, some of the patients might feel nervous even after the completion of the extraction. This is because, the patient might have the fear of regaining the pain after the analgesic effect is gone.

Rankin, MA in his study showed that the dental anxiety can also be influenced by patient who had dental treatment earlier. It is noticed that the patient had experience of dental treatment before was more relaxed and calm compare to the patient who visit the clinic for the first time.[1] In another study, Pia López-Jornet observed that the anxiety level in patient before the extraction is higher. The study was done to analyse the amount of anxiety and fear felt before, immediately after, and one week after, dental extraction. The study concluded that the dental anxiety is influenced by other factors also.[9]

According to Armfield et al.,[7] dental fear is multidimensional and is associated with the personal and socioeconomic characteristics of the participants as well as with several aspects of oral health care.[10] The number of missing teeth may be an indicator of the number of traumatic experiences; the strength and direction of the association between dental fear and numbers of sound and missing teeth vary considerably

according to age. Patients who have never had painful or adverse experiences in dentistry may nevertheless acquire dental fear based on indirect experiences.[11]. In our study ,the anxiety level is recorded and compared using the visual analog scale and Hamilton Anxiety scale.

Hence, with regards of the dental fear and anxiety there are various possible avenues to explore with which includes the pre treatment anxiety questionnaire, cognitive behavioural therapy, relaxation therapy, computer assisted relaxation learning, hypnotherapy, group therapy, individual systemic desensitization, pharmacological, flooding (implosion), swallowing relaxation, early morning appointment, anti anxiety medications and dental procedure should be done with the minimum time requirement[12,13,14,15].

In the case of anti anxiety medications, the selective serotonin reuptake inhibitors are widely used to prevent the level of anxiety. The commonly used once to treat the chronic anxiety level will also include the citaloporam (Celexa),escitalopram (Lexapro), Fluoxetine ( Prozac), paroxetine (Paxil), and sertraline( Zoloft). This anti anxiety medications will act on the brain chemicals serotonin and norepinephrine. The selective serotonin reuptake inhibitors need to be taken daily on a particular day basis as prescribed by the health care.Meanwhile, anti histamines such as hydroxyzine and the beta blockers such as propranolol will also help in mild cases of anxiety and they are required to be taken only when needed for anxiety or immediately before an anxiety provoking event[16].

### CONCLUSION

In this study, the anxiety level in patient before the extraction is higher when compared to the anxiety level post operatively.

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