TO COMPARE THE ANXIETY LEVEL IN PATIENTS UNDERGOING DENTAL TREATMENT LIKE ROOT CANAL TREATMENT AND EXTRACTION

[1]TANDRA DAS. T, [2]Dr. Balakrishna

[1]Bachelor of Dentistry, [2]Senior Lecturer
Saveetha Dental College and Hospitals, Saveetha University
162, Poonamallee High Road,
Velappanchavadi, Chennai- 600077

ABSTRACT

Introduction: Anxiety is one the most common factor seen in most of the pateints undergoing dental treatment. One of the key reason behind this could be the treatment set up and environment in dental clinics which could Instil or provoke fear and anxiety. 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.

Aim: The aim of the present study is to evaluate the levels of dental anxiety among patients undergoing various dental treatments like Root Canal Treatment and Extraction

Objective: The objective of this study is to understand the key role which causes anxiety in both the procedures, estimate the similarities and differences which can aid in better patient co operation

Materials and Method: A questionnaire was distributed among 60 Out Patient undergoing extraction and Root Canal Treatment in Saveetha Dental College

Result: This study shows patient undergoing extraction undergo more anxiety compared with patients undergoing root canal treatment. The parameters like mild to moderate where high in pateints undergoing root canal treatment whereas the parameters like high to severe were more in patients undergoing extraction.
Conclusion : The parameters like mild to moderate where high in pateints undergoing root canal treatment whereas the parameters like high to severe were more in patients undergoing extraction. Anxiety in dental chair can be managed by various psychological methods. Communicating and interacting better with patients can help, explaining the procedures in advance. Reducing anxiety on dental chair bring better patients compliance and cooperation.

Keywords: Anxiety, Root canal treatment, patients, extraction, Fear.

INTRODUCTION:

Anxiety is one the most common factor seen in most of the pateints undergoing dental treatment. One of the key reason behind this could be the treatment set up and environment in dental clinics which could Instil or provoke fear and anxiety. Physiological stress as a result of anxiety and stress and lead to sever physiological changes in the body which can include sympathetic or autonomic system and hypothalamic – pituitary – adrenal (HPA) a is. Fear and anxiety triggers the activity of the HPA axis which influences the secretion of cortisol. Cortisol is dissipated to all body fluids. Traces of cortisol can be detected in urine, serum, saliva. It is also known as the stress hormone, hence increased levels of cortisol can be indicative of increased stress.

Dental fear denotes a response to a real or active threat. It is usually brief, the danger is external, the stimulus is readily identified, and the unpleasant physiologic body feelings that are associated with this emotion pass as the danger passes.[1] Anxiety is a subjective state of feelings. It may be defined as a state of unpleasant feelings combined with an associated feeling of impending doom or danger from within rather than from without. Unlike fear, anxiety and its associated symptoms are most often anticipatory in nature; that is, they are often felt when a stimulus is not present or readily identifiable.[2] Other symptoms of anxiety are the same as those of fear; therefore, for the purpose of this study, dental fear and anxiety will be used synonymously.Dental anxiety is an important, if not the major, component of distress to patients in the dental operatory.[3] Despite the technological advances in modern dentistry, anxiety about dental treatment and fear of pain associated with dentistry remain widespread. Epidemiological studies suggest between 3% and 20% of the population have levels of fear and anxiety about dental treatment that is considered to be problematic.[4] Anxiety and the fear of pain keep patients from seeking dental care. If they manage to actually seek care, they often become difficult to manage once they are in the dental chair. Dental fear is thought to be a factor in broken and cancelled appointments. Avoidance of dental treatment due to anxiety is very common and may be strongly associated with deterioration of oral and dental health.[5] This condition is well reported in the Western world. In a survey of the general population in the United States approximately 15.5% of the respondents surveyed had some degree of dental fear and were dental avoiders. Also, one in eight older people in

Britain are dentally anxious and this is associated with their use of services and oral health status. Data availability regarding anxiety associated with various dental treatments and variations in different populations is scanty. If dentists are aware of the level of anxiety of their patients, they can anticipate the patient's behaviour and be better prepared to take measures to help alleviate the anxiety. It is, therefore, the purpose of the present study to evaluate the levels of dental anxiety among patients undergoing various dental treatments. Various studies have detected a gender difference, with women showing a higher prevalence of dental anxiety[6] . It is accepted that fear of pain, due to actual painful experience in the past, is the principal factor causing dental anxiety and is responsible for most of the cases of avoidance of dental treatment [7,8]. Injection was found to lead the anxiety-provoking stimuli in the dental situation [9], followed by the drill. As for anxiety from various dental procedures, very little research documentation is available. Extraction and root canal treatment were found most frightening [9]. However, researchers have also found that it is not necessarily the drilling and filling that patients find frightening . Edentulous patients have nothing to fear in these ways, yet 37% said that they sometimes delayed visiting because they were "scared" of the dentist and felt uneasiness toward him/her, suggesting that a previous experience had left a substantial mark on these patients' dental memory. In a recent study, root canal therapy and oral surgery were found the most anxiety provoking treatments.

Anticipation and experience of root canal associated pain is a major source of fear for patients and a very important concern for dentists. Pretreatment, treatment, and posttreatment pain is anticipated, expe- rienced, remembered, and shared by patients.[9]

Nonsurgical root canal treatment (RCT) is an important element of comprehensive dental healthcare[10,11]. Previous studies have reported success rates >90% for nonsurgical RCT under controlled conditions [12,13]. However, this high success rate has been reported to decrease to 40–65% in cases where RCT is performed by general practitioners [5]. This decrease can be attributed to the inadequacy of educational programs and lack of self- confidence in performing root canal procedures [14,15] . Therefore, it is important to improve under- graduate programs, where it is possible to recognise the reasons that affect the success of dental treatments [16,17].

Radiographic evaluation is a common method for assessing the technical quality of RCT [18,19]. This assessment process is important because the quality of root canal obturation greatly affects the prognosis of therapy. Several factors determine the technical quality of root canal obturation, including the distance between the end of the root canal obturation material and the root apex, density, presence of voids, and taper. Radiographic evaluation of root canal obturation depends on these factors [20]. The radiographic appearance of an appropriate root canal obturation is characterised by a uniformly tapered canal from the coronal to apical ends, a dense root canal obturation with- out voids, and presence of filling materials 0.5– 2 mm below the radiographic apex [15]. In root canal obturation, each 1-mm loss of working length in teeth with apical periodontitis increases the failure rate by 14% . Underfilling and overfilling of a root canal obturation will also compromise the success rate of RCT . In addition, other iatrogenic errors such as instrument fracture, ledge formation, and apical perforations can cause failure of nonsurgical RCT [21]. The entire process of root canal treatment can be time consuming and hectic for pateints. Injections used to anaesthetise, the long waiting hours before and the duration of the procedure itself, the drills used are some of the factor which can be one of the factors which can make the patient anxious.

The most common problem faced by oral and maxillofacial surgeons is patients fear and anxiety regarding the pain and discomfort associated with the treatment. Anxiety is a term generally used to present nervousness, fear and worrying. It is an unpleasant emotional state, the causes of which are less clear. It is often accompanied by physiological changes and behaviours similar to those caused by fear. We are aware that dental treatment causes fear among patients.

Anxiety related to surgical extraction of teeth is a fairly common phenomenon. It is a problem in simple extraction and a factor in the avoidance of extraction. Dental anxiety is generally considered to have origin in childhood and develops further as a result of aversive conditioning and family influences.3 It is most commonly provoked by treatments involving anaesthetic injection and use of the drill for tooth removal. Diverse factors have been implicated in the etiology of dental anxiety including congenital determinants, trauma and the experiences of family and friends. The complete questionnaires pertaining to patient's preoperative assessment of anxiety about the procedure and to know the amount of explanation required. 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. Dental anxiety may be specific to dental context, or a manifestation of a more general state of anxiety. 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.

MATERIAL AND METHODS

This study was conducted among 60 patients in Saveetha Dental College. A questionnaire based on DAS-R (Corah's dental anxiety scale- revised) was answered by 30 patients undergoing extraction and root canal treatment. This study aims in comparing the anxiety scale among both these dental procedures and can be used clinical practice to eliminate or minimise the cause resulting in better patient cooperation.

Corah's Dental Anxiety Scale, Revised (DAS-R)
Name _____ Date _____

1. If you had to go to the dentist tomorrow for a check-up, how would you feel about it?

- I would look forward to it as a reasonably enjoyable experience.
- I wouldn't care one way or the other.
- I would be a little uneasy about it.
- I would be afraid that it would be unpleasant and painful.
- I would be very frightened of what the dentist would do.

2. When you are waiting in the dentist's office for your turn in the chair, how do you feel?

- Relaxed.
- A little uneasy.
- Tense.
- Anxious.
- So anxious that I sometimes break out in a sweat or almost feel physically sick.

3. When you are in the dentist's chair waiting while the dentist gets the drill ready to begin working on your teeth, how do you feel?/ how would you feel if you were going to get your tooth extracted

- Relaxed.
- A little uneasy.
- Tense.
- Anxious.
- So anxious that I sometimes break out in a sweat or almost feel physically sick.

4. Imagine you are in the dentist's chair to have your teeth cleaned. While you are waiting and the dentist or hygienist is getting out the instruments which will be used to scrape your teeth around the gums, how do you feel?

- Relaxed.
- A little uneasy.
- Tense.
- Anxious.
- So anxious that I sometimes break out in a sweat or almost feel physically sick.

5. How would you feel if you were subjected to injections as a part of Dental procedure

- Relaxed.
- A little uneasy.
- Tense.
- Anxious.
- So anxious that I sometimes break out in a sweat or almost feel physically sick.

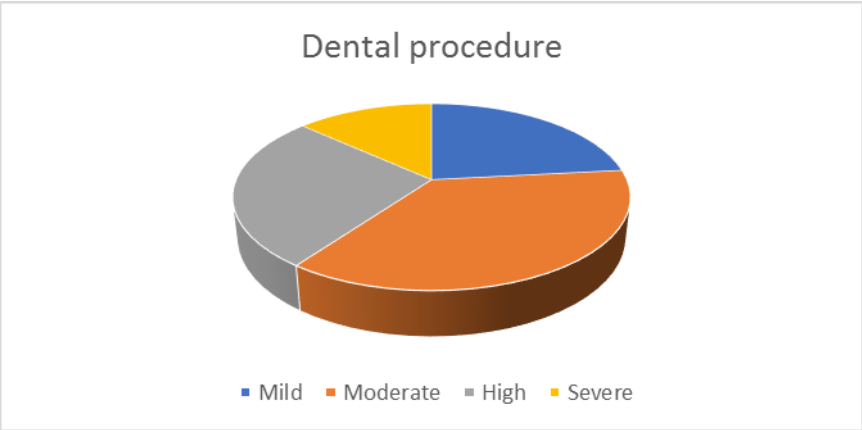
6. When you finish a dental procedure are you scared of the post operative pain

- Relaxed.
- A little uneasy.
- Tense.
- Anxious.
- So anxious that I sometimes break out in a sweat or almost feel physically sick.

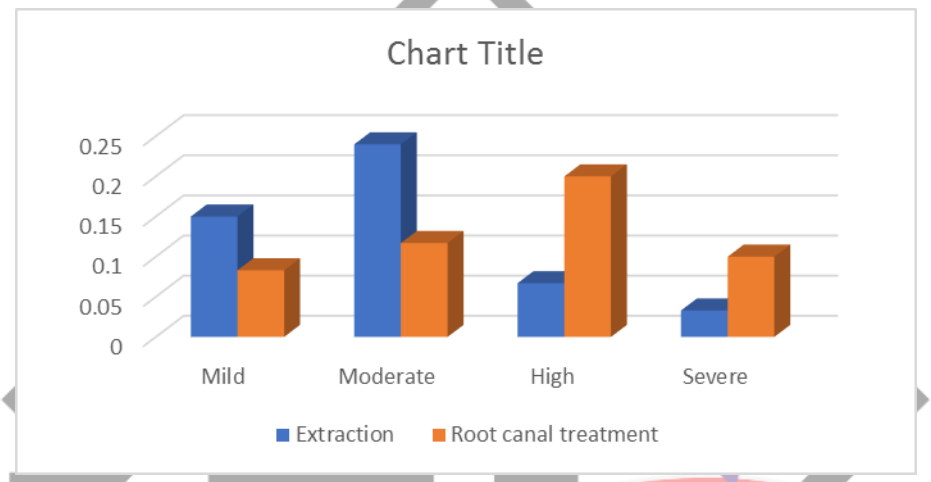
a = 1, b = 2, c = 3, d = 4, e = 5 Total possible = 20
• <9=mild
• 9 - 12 = moderate anxiety
• 13 - 14 = high anxiety
• 15 - 20 = severe anxiety (or phobia).

RESULTS:

	Extraction	Root canal treatment
Mild anxiety	5	9
Moderate anxiety	7	15
High anxiety	12	4
Severe anxiety	6	2



This study shows patient undergoing extraction undergo more anxiety compared with patients undergoing root canal treatment. The parameters like mild to moderate where high in pateints undergoing root canal treatment whereas the parameters like high to severe were more in patients undergoing extraction.



Discussion:

In this study, overall 23.3 % of Pateints has mild anxiety before a dental procedure, 36.6% has moderate anxiety, 26.7% of the patients had undergone high anxiety. 16.3% had severe anxiety.

Among 23.3 % with mild anxiety 15% were Pateints undergoing root canal treatment and 8.3% were patient undergoing extraction. The 36.6% population with moderate anxiety , 25% were undergoing root canal treatment and 11.7% were undergoing extraction. 6.7% of the pateints undergoing root canal treatment and 20% were undergoing extraction among 26.7% who went through high anxiety prior to treatment. Among 13.3% patients have severe anxiety, 3.3% were going through extraction and 10% were undergoing extraction.

Study conducted by Liau F L et al on 180 adult patients scheduled to receive routine dental extraction under local anesthesia, anxiety was measured at 15 minutes before local anesthetic delivery using Corah's DAS. They concluded that Corah's DAS is a useful tool for estimating the impact of anxiety, and younger patients with anxiety were more likely to have high levels of anxiety. In the present study we also used the Corah's DAS preoperatively just before the removal of tooth.[22]

In a study by Yusa et al, they concluded 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.A study by Peretz and Efrat, they included that Corah's DAS in their study.[23] A study done by Mendez and Freitos to evaluate dental anxiety in patients who consulted for surgical removal of teeth and to assess possible relationships with general trait of anxiety. Dental anxiety was measured using Corah's DAS, the Dental Fear Survey (DFS), and the State Trait Anxiety Scale of the State Anxiety Inventory (STAI). The result suggested that the trait anxiety may be a useful predictor of a patient's predisposition to dental anxiety. But in the present study only preoperative anxiety was recorded using Corah's DAS and no relation was compared with DFS and STAI.[24]

LeClaire, et al. [25] in his study also ranked subjects highly anxious about tapping or pushing on a sore tooth and the most unpleasant aspect of root canal therapy. Needle fear, in particular, is a major issue given that the delivery of local anaesthesia via injection is the central plank of pain relief techniques in dentistry

Ali S, et al. [26]reported that 59.5% of males and 48.4% of females showed fear of injection needle followed by 29.7% of males and 29.7% of females reported fear from vibration of the drill, 21.6% of males and 28.1% of females had fear from rubber dam placement, 16.2% of males and 10.9% of the females reported fear from X-rays. The present study reported that 36% of females and 22.7% of males, 28.2% of females were highly anxious when x-ray film was placed in mouth. 26.8% of males, were found to be highly anxious when multiple x-rays taken. 25.2% of females and 20.6% of males were highly anxious about the length of appointments required during root canal treatment.

Dental anxiety can be managed by psychotherapeutic interventions, pharmacological interventions, or a combination of both, depending on the patient characteristics, level of dental anxiety, and clinical situations. Psychotherapeutic interventions are either behaviorally or cognitively oriented. Pharmacologically, these patients can be managed using either general anesthesia or sedation. Behavior-modification therapies aim to change unacceptable behaviors through learning, and involve muscle relaxation and relaxation breathing, along with guided imagery and physiological monitoring using biofeedback, hypnosis, acupuncture, distraction, positive reinforcement, stop-signaling, and exposure-based treatments, such as systematic desensitization, "tell-show-do", and modeling

CONCLUSION:

This study shows patient undergoing extraction undergo more anxiety compared with patients undergoing root canal treatment. The parameters like mild to moderate where high in pateints undergoing root canal treatment whereas the parameters like high to severe were more in patients undergoing extraction. Anxiety in dental chair can be managed by various psychological methods. Communicating and interacting Better with patients can help, explaining the procedures in advance. Reducing anxiety on dental chair bring better patients compliance and cooperation.

REFERENCES

[1] Weiner AA. The basic principles of fear, anxiety and phobias as they relate to the dental visit. Quintessence Int Dent Digest 1980;11: 119-123.2.

[2] Weiner AA, Sheeham DV. Differentiating anxiety-panic disorders from psychologic dental anxiety. Dent Cli North Am 1988;32: 823-840.3.

[3] Corah NL, Gale EN, Illig SJ. Assessment of a dental anxiety scale. J Am Dent Assoc 1978;97: 816-819.4.

[4] Milgrom P, Fiset L, Melnick S, et al. The prevalence and practice Consequences of dental fear in a major US city. J Am Dent Assoc 1988;116: 641-647.5.

[5] Gatchel RJ, Ingersoll BD, Bowman L, et al. The prevalence of dental fear and Avoidance: a recent survey study. J Am Dent Assoc 1983;107: 609-610.

[6] Locker D, Poulton R, Thomson WM. Psychological disorders and dental anxiety in a young adult population. Community Dent Oral Epidemiol 2001;29: 456-463.

[7] Bergius M, Berggren U, Bogdanov O, et al. Dental anxiety among adolescents in St. Petersburg, Russia. Eur J Oral Sci 1997;105: 117-122.

[8] Peretz B, Moshonov J. Dental anxiety among patients under- going endodontic treatment.] Endod 1998 24 435-437.

[9] Shenoy PB. Prevalence of Pain Post Endodontic Therapy. Journal of Pharmaceutical Sciences and Research. 2018 Apr 1;10(4):962-3.

[10] Wardle J. Fear of dentistry. Br JMed Psycho2 1982 55 119-126. 19. Todd J E, Walker A, Dodd P. Adult Dental Health, United Kingdom. London: HMSO, 1982.

[11] Barrieshi-Nusair K, Al-Omari M, Al-Hiyasat A. Radiographic technical quality of root canal treatment performed by dental students at the Dental Teaching Center in Jordan. J Dent. 2004;1132(4):301–307.

[12] Er O, Sagsen B, Maden M, et al. Radiographic technical quality of root fillings performed by dental students in Turkey. Int Endod J. 2006;39(11):867–872.

[13] Friedman S, Mor C. The success of endodontic therapy —healing and functionality. J Calif Dent Assoc. 2004;32 (6):493–503.

[14] Imura N, Pinheiro ET, Gomes BP, et al. The outcome of endodontic treatment: a retrospective study of 2000 cases performed by a specialist. J Endod. 2007;33 (11):1278–1282.

[15] Sunay H, Tanalp J, Dikbas I, et al. Cross-sectional eva- luation of the periapical status and quality of root canal treatment in a selected population of urban Turkish adults. Int Endod J. 2007;40(2):139–145.

[16] Jenkins S, Hayes S, Dummer P. A study of endodontic treatment carried out in dental practice within the UK. Int Endod J. 2001;34(1):16–22.

[17] Stewardson D. Endodontics and new graduates: part I, practice vs. training. Eur J Prosthodont Restor Dent. 2002;10(3):131–137.

[18] Moor R, Hülsmann M, Kirkevang LL, et al. Undergraduate curriculum guidelines for endodontol- ogy. Int Endod J. 2013;46(12):1105–1114.

[19] Khabbaz M, Protogerou E, Douka E. Radiographic qual- ity of root fillings performed by undergraduate stu- dents. Int Endod J. 2010;43(6):499–508.

[20] Hansrani V. Assessing root canal fillings on a radio- graph–an overview. Br Dent J. 2015;219(10):481–483.

[21] Tsuneishi M, Yamamoto T, Yamanaka R, et al. Radiographic evaluation of periapical status and pre- valence of endodontic treatment in an adult Japanese population. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2005;100(5):631–635.

[22] Moussa-Badran S, Roy B, Bessart du Parc A, et al. Technical quality of root fillings performed by dental students at the dental teaching centre in Reims, France. Int Endod J. 2008;41(8):679–684.

[23] Liau F L, Kok S H, Lee J J, Kuo R C, Hwang C R, Yang P J, Lin C P, Kuo Y S, and Chang H H. Cardiovascular influence of dental anxiety during local anesthesia for tooth extraction. Oral Surg Oral Med Oral Path Oral Radiol Endod 2008; 105:16-26.

[24] Yusa H, Onizawa K, Hori M, Takeda S, Takeda H, Fukushima S, Yoshida H, Tsukuba. Anxiety measurements in university students undergoing third molar extraction. Oral Surg Oral Med Oral Path Oral Radiol Endod 2004; 98:23-7.

[25] Mendez LL, Freitas DM, Senra-Rivera C, Seoane-Pesqueira G et al. Dental anxiety before removal of a third molar and association with general trait anxiety. J Oral Maxillofac Surg 2006; 64:1404-08

[26] LeClaire AJ, Skidmore AE, Griffin JA, Balaban FS. Endodontic fear survey. J Endod. 1988;14(11):560-564.

[27] Ali S, Farooq I, Khan S, Moheet I, Al-Jandan, Al-Khalifa. Self-reported anxiety of dental procedures among dental students and its relation to gender and level of education. Journal of Taibah University Medical Sciences. 2015;10(4);449-453.