

## DENTAL ANXIETY-A REAL FACT

<sup>1\*</sup>Amit Tirth and <sup>2</sup>Sunil Chaudhary

<sup>1</sup>Professor Department of Public Health Dentistry Kothiwal Dental College and Research Centre, Kanth Road, Mora Mustaqueem Moradabad – 244001 Uttar Pradesh- India.

<sup>2</sup>Professor, Department of Oral Medicine and Radiology, ESIC Dental College Sector 15 Rohini New Delhi.

**\*Corresponding Author: Amit Tirth**

Professor Department of Public Health Dentistry Kothiwal Dental College and Research Centre, Kanth Road, Mora Mustaqueem Moradabad – 244001 Uttar Pradesh- India.

Article Received on 28/05/2017

Article Revised on 18/06/2017

Article Accepted on 30/10/2019

### ABSTRACT

Anxiety associated with the thought of visiting the dentist for preventive care and over dental procedure is referred to as dental anxiety. It is a multi system response to a believed threat or danger. It is an individual subjective experience which varies among people. A patient's anxiety also poses major management problems for the dental team as more treatment will be required for an anxious patient and is very likely to miss appointments. Dental anxiety varies from patient to patient. Dental phobia is a more serious condition that leaves people panic stricken and terrified. People with dental phobia have awareness that the fear is totally irrational. People with dental phobia not take the treatment and put up with the gum infection, pain without treatment dental phobia getting worse. The dentist should communicate with the patient and identify the reason of fear and anxiety, with auxiliary use of self reporting anxiety and fear scales to enable categorization as mild, moderate and extreme anxiety. Extremely anxious patients or phobic patient needs management.

### INTRODUCTION

The evolving trends in dentistry, anxiety and feeling of fear stills persists for dental treatment in general population. It is common observation that anxious patient defer their visits to dental practitioners till time it become absolutely necessary to obtain treatment. Anxiety associated with the thought of visiting the dentist for preventive care and over dental procedure is referred to as dental anxiety. It is a multi system response to a believed threat or danger. It is an individual subjective experience which varies among people. The incidence of dental fear and dental anxiety seems to be consistent throughout the world.<sup>[1]</sup> A patients anxiety also poses major management problems for the dental team as more treatment will be required for an anxious patient and is very likely to miss appointments. Dental anxiety varies from patient to patient.<sup>[2]</sup>

Many patients are afraid of some of stimuli involved with dental therapy, which could affect the dentist patient relationship and the dental treatment plan. The occurrence of dental anxiety may be attributed to age, sex, educational qualification and socioeconomic position. Anxiety is a state of uneasiness or distress regarding something with a feeling of uncertain outcome, it is a not concerned with the fear of pain but also other incursive procedure but it is also linked to distress of separation from the parents and communicating with unknown people. The most common origins of dental

anxiety happen to be previously painful or negative experience during visits to a dentist. Anxious patient were considered among the most stressful situations a dentist might face. Evaluation of fear in patients is very difficult for the success of the management. Anxiety may also reduce the social interactions and performances reduce due to low confidence and self esteem. The practitioner should aim to reduce the anxiety and fear so patient feel self motivated for long basis treatment and future visits to the dentists. Dental fear and dental anxiety are used to denote early signs of dental phobia, an excessive or unreasonable fear or anxiety with regard to challenge, threat of dental examination and treatment , which influences daily living and results in prolonged avoidance of dental treatment. Dental phobia represents a severe type of dental anxiety and characterized by marked and persistent anxiety in relation either clearly discernible situation, objects (eg. Drilling and injections).<sup>[3]</sup>

Dental phobia is a more serious condition that leaves people panic stricken and terrified. People with dental phobia have awareness that the fear is totally irrational. People with dental phobia not take the treatment and put up with the gum infection, pain without treatment dental phobia getting worse. That's because emotional stress can make dental visits more uncomfortable than they need to be. Those adults having dental visits of their child/relatives are also not regular.<sup>[4]</sup> The dentist should

communicate with the patient and identify the reason of fear and anxiety, with auxiliary use of self reporting anxiety and fear scales to enable categorization as mild, moderate and extreme anxiety. Extremely anxious patients or phobic patient needs management.<sup>[5]</sup> The development of dental anxiety can be prevented with pain control, behavior management and consideration of patient as whole Dental anxiety ranked fifth among all situations most feared by the subjects in this study.<sup>[6]</sup>

### PREVALENCE AND ASSOCIATED FACTORS

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), the criteria for diagnosis of a specific phobia are: (i) marked and out of proportion fear within an environmental or situational context to the presence or anticipation of a specific object or situation, (ii) exposure to the phobic stimulus provokes an immediate anxiety response, which may take the form of a situation bound or situation predisposed panic attack, (iii) the person recognizes that the fear is out of proportion, (iv) the phobic situation is avoided, or else is endured with intense anxiety or distress, and (v) the avoidance, anxious anticipation, or distress in the feared situation interferes significantly with the person's

normal routine, Occupational (or academic) functioning, social activities, or relationships, or there is marked distress about having the phobia.<sup>[7]</sup>

Although meticulous care has been taken to exclude the patients with psychological disorders which may influence assessment of anxiety, some patients might have been missed out as reliability was based on the response of patient. The development of dental anxiety could be prevented with pain control, behavior management, and consideration of patient as a whole. The inclusion of behavior in dental education and the integration of ethical considerations in the academic dental curriculum could help to improve the situation. A lack of knowledge of the effects of demographics, causal factors, ethnicity, and treatment modalities relative to the origin and pathways of fear in dentistry. Understanding, the origin of a patient's fears and anxiety could help enhance patient management and care. Another factor reported by the respondents to be influential in the development of dental anxiety and phobia is parental modeling and family reinforcement. Patients may learn to fear dental treatment based on the expressions of anxiety by their parents, other family members, or close friends.

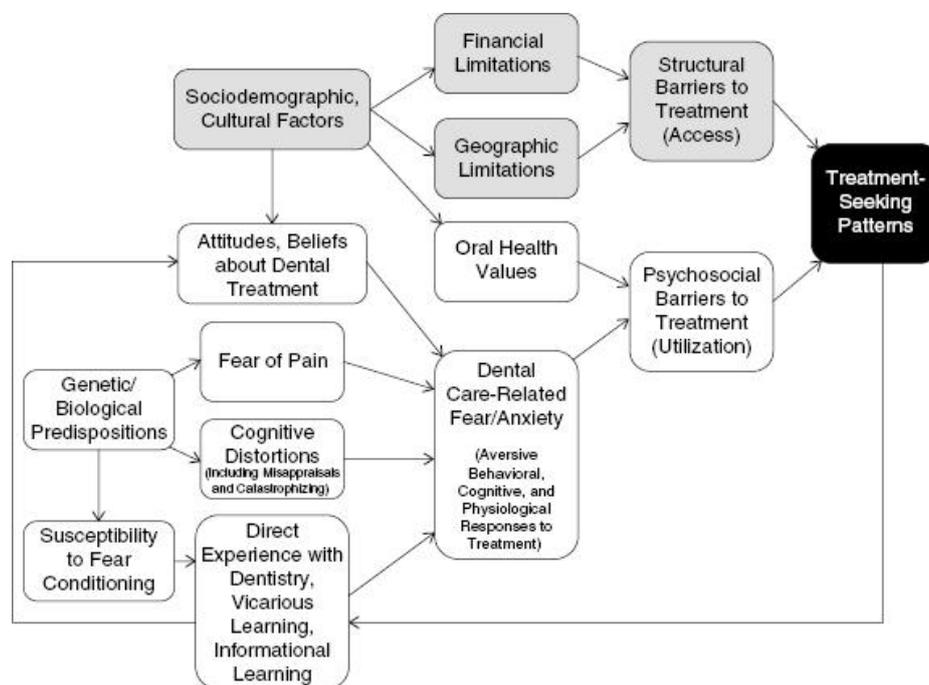


Figure 1 : Prevalence OF Anxiety.

A number of mechanisms have been proposed in order to describe the development, maintenance, and life-course of dental care-related fear and anxiety. Once thought to have direct antecedents almost always in childhood, dental care-related anxiety and fear can appear at various stages across the life span, although childhood onset nevertheless is the most common. While a full review of each of these hypotheses is beyond the scope of this chapter, a basic examination of the major ideas will shed some light on the complex phenomena.

In trying to discern the determinants of dental fear and anxiety, it is important to be cognizant that human behavior is multidetermined ; it is unlikely that there is "one" factor that predisposes or produces dental anxiety or fear. It also is critical to consider whether one is trying to predict dental anxiety/fear across an entire population as a whole (including the entire continua of dental anxiety and dental fear) or for a subpopulation (e.g., persons with high dental anxiety and/or fear, people who are dental avoidant); the larger the constituent group, the more likely that factors which affect only particular

subgroups will be submerged in statistical analyses and that individual difference factors will be overlooked.<sup>[8]</sup>

### **IMPACT OF DENTAL ANXIETY ON ORAL HYGIENE**

Oral and dental health has a significant impact on the quality of life, appearance, and self esteem of an individual. DA affects a significant proportion of people of all age groups from different socioeconomical classes and remains to be serious concern for both the dentist and the patient for seeking dental health care.<sup>[9]</sup>

The etiology of DA depends on the age of onset; likewise, during childhood, the cause is usually a negative dental experience, and in adulthood, it is more likely due to general anxiety states.<sup>[10]</sup>

Patients suffering from dental anxiety are a population of public health importance because of the extensive dental health problems caused by dental avoidance as a result of fear and the suboptimal dental health behaviors that are highly prevalent in this group. Dental anxiety is still a serious barrier to dental treatments and prolonged dental avoidance may lead to severe general health problems such as pneumonia, urinary tract infections, fever, septicemia, mediastinitis, intracranial extension of periapical abscess, facial osteomyelitis, sinusitis and sepsis.<sup>[11]</sup> Deteriorating dental health may also become a serious source of insecurity and dwindling self-respect and thus lead to increasing social isolation which in turn may cause depressions and other serious psychiatric and psychosomatic conditions, or exacerbate such conditions which are often already present in this group.<sup>[12]</sup>

People with strong dental fears are also characterized by an above-average consumption of alcohol and illicit drugs and a high frequency of sick-leave days, which, on a national scale, may cause considerable financial costs to the community.<sup>[13]</sup> Behavioral therapy of dental fears has been shown to cause a substantial reduction in these behaviors and in the frequency of health problems.<sup>[14]</sup>

There is major evidence that subjects with low socioeconomic status have a higher prevalence of dental fear. Socioeconomic status was effectively a parameter for a raft of behavioral, social, economic, and psychological covariates.<sup>[15]</sup> The current findings are consistent with evidence that people from lower socioeconomic backgrounds have poorer dental health.<sup>[16]</sup> This research indicates that socioeconomic status is related to dental fear. Dental anxiety is a major issue with respect to the provision of access and dental care. It can be a prime reason for missed or cancelled dental appointments in general practice. In addition, it can lead to irregular dental attendance, delay in seeking treatment or its avoidance all together. More recently there is growing interest in the psychosocial impact of dental anxiety and five main impacts on daily life have been identified; physiological, cognitive, behavioral, health and social.<sup>[17]</sup>

Another factor that may play a central role in differentiating very dentally fearful people who fit the vicious cycle profile from those who do not is differential use of coping strategies. However, and despite a well-developed literature on coping in relation to many pain and anxiety disorders, very little work has looked at coping strategies and dental fear. In regards to children, it appears that the level of dental fear and the experience with pain at the dentist is significantly associated with both ability to cope and with choice of coping strategies.<sup>[18]</sup>

### **DENTAL ANXIETY EXPERIENCES IN CHILDREN AND OLDERS CHILDREN**

Although a worldwide decrease in untreated dental caries in permanent and primary teeth have been observed, dental caries still are a major dental public health problem, affecting approximately 35% permanent teeth and 9% primary teeth of the world population often leading to emotional, social and functional impairment. The presence of dental fear in childhood may be a problem even for latter periods of life, because this feeling may persist for a long time. A negative experience or an inadequate first dental visit during childhood can lead a grown person to present high levels of dental fear.

There is evidence that dental fear or anxiety in children may be influenced by socioeconomic position, levels of dental caries, the child's personality and the social environment, and family behavior. The relationship between child's gender and dental fear is not completely unveiled, with contradictory results exhibited by the literature. Children's dental experience has also an important impact in dental fear occurrence, with higher prevalence observed in children who had never visited the dentist, who had frequently experienced dental pain and whose reason for the first dental visit was curative or urgency. Also, dental fear can influence the behavior of children

### **OLDER**

Older people may be a specific vulnerable group with respect to the development and maintenance of anxiety. The experience of loss and bereavement are frequent negative life events in later life and may pose a significant risk for mental health in old age. It has been suggested that bereavement may increase worrying and that worry could hinder the adjustment after bereavement. Similarly, psychiatric morbidity including anxiety disorders has been found to be considerably elevated in bereaved spouses in general. While it has been suggested that older adults may be better prepared for such adverse life events and may have developed better coping mechanisms through life experience, research indicates an increase in anxiety symptoms in older adults after bereavement.

## MANAGEMENT OF DENTAL ANXIETY

### Pharmacological approach

For a patient with a high level of anxiety this is often the most appropriate method, particularly if they have several dental treatment needs. Following a successful session of treatment such patients are positively encouraged and find it easier to cope with subsequent treatment. However there are some medical risks involved, particularly with general anaesthesia.<sup>[19]</sup> Conscious and unconscious methods utilised for persistent dental anxiety prior to dental treatments include: General anesthetics, Relative analgesia: inhalation of a mixture of nitrous oxide and oxygen, Intravenous diazepam (a tranquillizer) or midazolam as a sedative and Hypnosis.

### Non-pharmacological approaches

Non-pharmacological approaches involve behavioural therapy and cognitive therapy. Behavioural therapy employs behaviour modification techniques to change maladaptive behaviours, whereas cognitive therapy mainly concentrates on maladaptive beliefs and thoughts by restructuring the interpretations in the mind.<sup>[20]</sup>

### Behavioural therapies

In behavioural therapy pain, discomfort or physiological arousal are often the cause of anxiety and subsequent avoidance and attendance for dental care. It is essential that the clinician recognizes each individual's uniqueness - in age, personality and previous experiences - and tailor the therapy accordingly. By identifying the patient's personal strategies for coping with anxiety the process of cooperation is enhanced and may bring about a more successful result in turn. Below are examples of some techniques that can be used in dental settings to help patients.

### Preventing anxiety

Excellent prevention strategies will obviously impact and deter the traumatic events of oral diseases. Optimum oral health can be achieved and maintained in the early stages of a child's life with a healthy diet, good oral hygiene habits and dental care on regular basis. Should invasive dental treatment be required, this should be delayed at the first visit to the idea that the surgery is a safe environment.

### Reducing uncertainty and increasing control and predictability

Many people are unfamiliar with dental procedures or the use of dental instruments. Good open communication and dialogue with patients increases their perception of control and helps overcome some difficulties during the treatment, and may increase their pain tolerance. With many patients their anxiety is linked to uncertainty as to what is going to happen to them in the chair. The following are suggestions of ways that information can be exchanged between clinician and patient, before or during the dental procedures to ease the task:

### Before task

By providing accurate and truthful information to patients, or in the case of children, the parents or siblings, prior to the treatment, as to what the procedure will entail, increases their knowledge and understanding and sense of control.

### During task

Tell-Show-Do is a good way to introduce children and adults to dental equipment and procedures in the surgery and dental chair. Enhancing the patient's control by giving them the authority to communicate with signs, or offering choices to enhance their comfort during the treatment will promote their confidence and sense of being in control of the situation.

### Modelling

A patient's behaviour depends not only on the consequences of their own actions but also on observing the consequences of other people's behaviour. There are some studies to confirm that one way of helping the anxious patient is via observing cooperation of others visually or by using films. By modelling, a patient can see that the treatment does not have any lasting adverse effects or causes distress, and the clinician can be perceived as a caring individual whose only concern is the welfare of the patient.

### Relaxation and distraction

Learning the techniques of relaxation and distraction can help to reduce anxiety. This can be achieved by such techniques as controlled breathing or progressive muscle relaxation, as well as focusing a patient's attention away from the distressing procedure or situation. Control theory by distraction focuses our attention on our environment details rather than our body because we are limited in the amount of information that can be processed at once. As environmental information increases we have less mental capacity to process bodily information.

### Systematic desensitisation and encouragement

This technique can be best explained by Gale and Ayer's case study<sup>17</sup>, where the patient is gradually introduced to the feared object or situation in a hierarchy of steps. Relaxation techniques are employed to enable them to tolerate each step, from the least fearful to most feared. Progress to the next step can only be achieved when the patient is comfortable with the previous step. By repeating the gradual systematic scenario, the patient becomes desensitised to the feared object or situation. With a systematic desensitisation approach it should be possible to change small aspects of behaviour one at a time, so that over a long period considerable improvements can be made. Furthermore, valuing the patient's ability to overcome their anxiety encourages them to become more positive and find the strength to repeat the act for further improvement. The possibility that a person will behave in a certain way depends on the consequences of that behaviour. When someone

completes an action and the consequence is rewarding, the person is likely to repeat that action again in the future.

### Emotional and educational support

Each individual's needs must be taken into account, by listening to and responding to their requests, in order to build a trusting relationship. It is vital that we identify the patient's worry or concerns, about the clinician or the treatment, and work to relieve these apprehensions. Calming and positive dialogue is always helpful in anxious situations. It is also important that we are aware of ethnic minorities' beliefs and cultural differences with regards to health, to minimise any miscommunication. Educating and motivating these anxious patients is important and it should be our aim to encourage them to take ownership of their health behaviour and improve their oral health. An educational approach provides part of the answer to changing behaviour but it should be combined with empathy and understanding.

### Cognitive therapy

Cognitive Restructuring is often used in combination with behavioural therapy - as behaviour is reshaping it helps that the way of thinking is also changing at the same time. In the case of dental anxiety, the idea is to encourage your patient to challenge and alter their way of thinking through understanding that the feared stimuli is not dangerous. This can be achieved further through examining the evidence for its safety against the fearful beliefs. The catastrophic ideas, that the dental visit is uncontrollable, unpredictable and dangerous, should be replaced with realistic ideas.<sup>[21]</sup>

### Autogenic relaxation

Autogenic relaxation can be useful in teaching patients to reduce muscle tension and control their breathing. It is defined as a psychophysiological self-control technique that aims at physical and mental relaxation.<sup>[22]</sup> The technique uses autosuggestions by which patients learn to alter certain psychophysiological functions. Autogenic exercises should be practiced in a quiet room with reduced lighting, so as to exclude the possibility of disturbance, all restricted clothing should be loosened or removed, and the body should be relaxed with the eyes closed, before the mental exercises are begun. It involves mental repetition of brief verbal phrases, emphasizing feelings of 1) general peace, 2) heaviness in the limbs, 3) peripheral warmth, 4) respiratory regularity, 5) cardiac regularity, 6) abdominal warmth, and 7) coolness of the forehead. The technique requires daily training for several weeks.

### CONCLUSION

Dental anxiety is a public health problem as it affects not only the individual, but also the community as a whole. Elimination of dental anxiety is very important and should be treated according to a patient-centered assessment. Dentists should be able to identify, and be prepared to treat, fearful patients in a way that reduces

their levels of dental anxiety. To treat dental disease successfully we require the development of special communication skills and an ability to provide reassurance, personal care and comfort. This will improve the anxious patient's satisfaction with treatment as well as ensuring high quality dental care. It is important to understand anxiety and identify this, and related behaviors, early in life to safeguard the future dental health of these individuals. In the clinical situation, children with behavior management problems who reveal general anxiety problems and who frequently miss appointments should be regarded as patients potentially at risk of developing dental fear. It is the duty and responsibility of the dentist to provide excellent dental care to these patients with special needs as well. Management of these patients should be an integral part of clinical practice, as a substantial proportion of the population suffers from anxiety and fear. Therapy should be customized to each individual following proper evaluation, and should be based on the dentist's experience, expertise, degree of anxiety, patient intellect, age, cooperation, and clinical situation. All successful treatment will rest on dentist-patient cooperation, and thus a relaxed patient will obviously result in a less stressful atmosphere for the dental team and better treatment outcomes.

### REFERENCES

1. Boman U, Psychological Treatment of dental anxiety among adults A systematic review Eur J Oral sci, 2013; 121: 225-234.
2. Silveira D, Clinical and Individual Variables in Children's Dental Fear: A School - Based Investigation.
3. Economou G, Dental Anxiety and Personality: Investigating the Relationship Between Dental Anxiety and Self-Consciousness, Journal of Dental Education, 67: 970-80.
4. Anthonappa RP, Non-pharmacological interventions for managing dental Anxiety in children, Cochrane Database of Systematic Reviews 2017, Issue 6.
5. Quteish Taani DS. Dental anxiety and regularity of dental attendance in younger adults. J Oral Rehabil, 2002; 29: 604-8.
6. Fotedar s, Dental anxiety levels and factors associated with it among patients attending a dental teaching institute in Himachal Pradesh, July 21, 2018, IP: 112.79.152.13.
7. Fyer AJ, Mannuzza S, Chapman TF, Martin LY, Klein DF. Specificity in familial aggregation of phobic disorders. Arch Gen Psychiatry, 1995; 52: 564-573 [PMID: 7598633]
8. Seligman MEP. Phobias and Preparedness. Behav Ther, 1971; 2: 307-320.
9. Wolpe J. The dichotomy between classical conditioned and cognitively learned anxiety. J Behav Ther Exp Psychiatry, 1981; 12: 35-42 [PMID: 7251880].

10. Hosoba T, Iwanaga M, Seiwa H. The effect of UCS inflation and deflation procedures on 'fear' conditioning. *Behav Res Ther*, 2001; 39: 465-475.
11. Kryukov VI. Towards a unified model of pavlovian conditioning: short review of trace conditioning models. *Cogn Neurodyn*, 2012; 6: 377-398.
12. Watson JB, Rayner R. Conditioned Emotional Reactions. *J Exp Psychol*, 1920; 3: 1-14.
13. Mineka S, Keir R. The effects of flooding on reducing snake fear in rhesus monkeys: 6-month follow-up and further flooding. *Behav Res Ther*, 1983; 21: 527-535.
14. Hugdahl K. Direction of changes in the cardiac component in a Pavlovian conditioning paradigm with variations in CS- and UCS-contents. *Biol Psychol*, 1979; 9: 91-102 [PMID:540114].
15. The conditioning theory of fear-acquisition: a critical examination. *Behav Res Ther*, 1977; 15: 375-387 [PMID:612338 DOI: 10.1016/0005-7967(77)90041-9]
16. Askew C, Field AP. The vicarious learning pathway to fear ears on. *Clin Psychol Rev*, 2008; 28: 1249-1265 [PMID: 18614263 DOI: 10.1016/j.cpr.2008.05.003]
17. Milgrom P, Weinstein P, Getz T. *Treating Fearful Dental Patients: A Patient Management Handbook*. Seattle: Reston Prentice Hall, 1995.
18. Armfield JM, Heaton LJ. Management of fear and anxiety in the dental clinic: a review. *Aust Dent J*, 2013; 58(4): 390-407.
19. McGlynn FD, Harkavy J. Factor analysis of the dental fear survey with cross-validation. *J Am Dent Assoc*, 1984; 108(1): 59-61.
20. Lahti S, Tuutti H, Hausen H. Comparison of ideal and actual behavior of patients and dentist during dental treatment. *Community Dent Oral Epidemiol*, 1995; 23(6): 374-378.
21. McGlynn FD, Harkavy J. Factor analysis of the dental fear survey with cross-validation. *J Am Dent Assoc*, 1984; 108(1): 59-61.
22. BERGGREN U. Dental fear and avoidance. A study of etiology, consequences and treatment. Thesis, Go"teborg, Sweden: University of Go"teborg, 1984.