GLOBAL JOURNAL OF MEDICINE AND PUBLIC HEALTH

# Psychology in dentistry—"An emerging field of dentistry in India"

*Srivastava A[1] Anuradha P[2]*

GJMEDPH 2013; Vol. 2, issue 5
[1]Post Graduate Student
Department of Public Health Dentistry
Babu Banarasi Das College of Dental Sciences
Lucknow
[2]Professor
Head Department of Public Health Dentistry
Babu Banarasi Das College of Dental Sciences
Lucknow

**Conflict of Interest**—none

**Funding—**none

## ABSTRACT

**The provocation of anxiety by dental treatment is a universal phenomenon. It can be variously called as dental phobia, dental anxiety, odontophobia etc. Patients suffering from dental anxiety are a population of public health importance because of the extensive dental health problems caused by dental treatment avoidance, delay in seeking dental care or even irregular dental attendance as a result of fear and the suboptimal dental health behaviors that are highly prevalent in this group. A thorough knowledge in this field will not only help dentists to understand their patients but also motivate and plan a better treatments for them**

**Keywords:** Psychology, dental anxiety, Cognitive Vulnerability Model

## INTRODUCTION

The behavioural sciences have become an increasingly important component of dental education and research (General Dental Council, 1992; Kent and croucher, 1998)[1].The social science and psychology in particular has much to say about the dynamics of applied dental medicine, including but not limited to, interactions between patients and dental professionals, coping with stress of dental pain, examining the very young and very old, and compliance with recommended oral health practice.

India is a developing country and so the need for dental health care is increasing. The success of dental practice is not only dependent on the technique applied or the technical skills of dental professionals; but also on patients, their attitudes and behavior, and the interaction between dental professionals and patients. By establishing good communication with patients, the dentist can provide reassurance, attention, and moral support which improves the chances that patients may follow their advice. An understanding of behavioural sciences will help dental professionals in promoting oral health and also changing the patient's attitude towards dental treatment

### ***Dental Anxiety***

Fear is a dread of something specific in the external environment[3]. It is evoked by real, specific stimulus. On the other hand, anxiety is a general non-specific feeling of apprehension[3]. It arises from within the patient's psyche as a reaction to an undefined, unrealistic anticipated stress[4]. Provocation of anxiety by dental treatment is a universal phenomenon. In its severe form, anxiety may have an impact on the dentist-patient relationship.

Dental anxiety is a multidimensional complex phenomenon, and no one single variable can exclusively account for its development[1]. The terminologies "dental anxiety" and "dental fear" are often used interchangeably in the literature; the two are distinct but interconnected entities[6].A severe form of this fear is variously called dental phobia, odontophobia, dentophobia, dentist phobia, or dental anxiety.

### ***Factors associated with Dental Anxiety***

#### ***Predisposing personality characteristics***

Dental anxiety is related to personality types and the individual's susceptibility to anxiety rather than being associated with past painful treatment[7]. Pohjola, Mattila, Joukamaa and Lahti (2011) looked at the association between dental fear and anxiety or depressive disorders using a standardized

structured psychiatric interview. The results indicated that dental fear was associated with generalized anxiety disorder and with comorbidity of anxiety and depressive disorders when controlling for confounding factors[6]. It was concluded that individuals with anxiety and/or depressive disorders were more likely to be anxious about dental treatment than those without such problems.

***Fear of pain***

Fear of pain associated with dental treatment has been identified as a major component of dental anxiety (McNeil & Berryman, 1989) and the expectation of pain as a major barrier to the seeking of dental care. Injection and the drill are the factors most commonly associated with the anxiety-provoking stimuli in the dental situation[3]. Udoye et al (Udoye, Oginni & Oginni, 2005) have tried to evaluate which treatment corresponded to the highest anxiety level by the administration of a questionnaire based on the Corah Dental Anxiety Scale (DAS) prior to each dental procedure (root canal therapy, scaling and polishing, extraction and filling). They found that root canal treatment and tooth extractions are associated with the most anxiety level[11]. A study done by Nair M et al to determine the prevalence of dental fear among the oral surgical patients in Pacific dental college, Udaipur showed that higher fear from dental injections was found in *35.5%,* of the patients[14].

***Dentist – patient relationship***

Dentally anxious subjects were inclined to feel unfavourable toward dentists. The genesis of the relationship between dental anxiety and an unfavourable attitude toward dentists is unknown, but it is likely affected by the dentist-patient relationship. Research has found that subjects who reported seeing an angry dentist or a dentist making condescending remarks were more likely to have higher dental anxiety[10]. Further, dentally anxious patients have complained that dentists don't take their worries seriously or that dentists make them feel guilty for being anxious. The period of time spent waiting for dental treatment is cited commonly by patients as being anxiety-provoking, as it increases the time to think about what will (or could) happen, and to ponder the worst-case outcomes.

***Negative experiences***

According to a study published in the Journal of the American Dental Association (Smith & Heaton, 2003), dental anxiety can be initiated by a bad experience that unknowingly has become associated with dentistry[8]. The study found that despite the advancement of modern techniques and the use of very effective anesthetics, patients still seem to maintain the same level of anxiety as they did years ago. The proportion was shown to be the same today as it was in the 1950's (Smith & Heaton, 2003). It is also believed that dental anxiety in some instances may result from model learning effects, i.e., fearful behavior communicated by relatives (Hägglin et al., 2001).

.

***Gender***

Gender is one of the most commonly reported factors in the extant literature that is associated with differences in dental fear (Liddell & Locker, 1997). Heft, Meng, Bradley and Lang (2007) investigated gender differences in global dental fear, global fear of dental pain, and specific fear of dental pain. They found a higher prevalence of reported fear of pain for most of the specific dental treatment among females[7].

Differences in pain thresholds between genders may explain the observed difference in the prevalence of dental anxiety between male and female. Another explanation is that male patients may be more reluctant to express their anxiety even if they are anxious about dental treatments (Ilguy et al., 2005). A study carried out by Doerr, Lang, Nyquist & Ronis (1998) support these findings. Shrestha A, Rimal J in a study done on patients visiting a teaching dental hospital in Manglore, India found that the mean DAS for dentally anxious females was higher than for the males. This study was supported by Ajithkrishnan G and Ekta A

***Age***

The prevalence of dental anxiety in specific age groups has been studied by numerous authors. Some studies (Hägglin et al., 1999; Locker & Liddell, 1995; Schwarz & Birn, 1995) have suggested that older people score lower on dental anxiety measures than younger individuals. Locker and Liddell (1995) conducted the first longitudinal

study among older adults and found that over a three-year follow-up, dental anxiety stayed virtually unchanged. Hägglin et al. (1999) conducted a longitudinal study among women aged 38 to 54 in Sweden over a 28 years period and reported reduced dental anxiety. These finding are in agreement with recent literature stating that older adults (i.e., older than 60 years old) report lower dental anxiety levels than younger adults. Locker et al. (1996) have suggested lack of control over dental treatment as one reason to explain higher levels of dental anxiety in younger individuals. According to a study conducted by Ekta A, Ajithkrishnan CG on adult patients visiting a dental institution in Vadodara city showed that anxiety scores were higher for subjects below 20 years of age.[15]

***Family History***

Family history has been recognized as a contributing factor in anxiety disorders (Antony & Swinson, 1996). Locker et al. (1999) identified a correlation between childhood age of onset of dental anxiety and family history. They found that 55.9% of the subjects who became anxious in childhood had a mother, father, or sibling who was dentally anxious, in comparison with 35.6% of those with adult onset anxiety[11]. Due to the lack of dental literature on this topic, the association between dental anxiety and family history remains unclear.

***The Cognitive Vulnerability Model***

Armfield (2006) has suggested a model of the etiology of fear which places cognitions as the central element in fear acquisition and expression. The Cognitive Vulnerability Model proposes the person's perceptions of a stimulus or of certain characteristics of a situation as the main component in the etiology of fear[8]. Armfield (2008) studied the Cognitive Vulnerability Model in relation to dental fear[4]. The author found a strong correlation between dental anxiety and patients' perceptions of uncontrollability, unpredictability and danger. In other words, highly anxious patients considered the dental environment as being very uncontrollable, very unpredictable or very dangerous.

***Motivation for Dental Treatment***

Oral self-care and dental treatment are not enjoyable or intrinsically motivated but are in most cases extrinsically motivated. External regulation of dental treatment behaviors involves engaging in the behaviors in order to attain desired tangible rewards or to avoid threatened punishment[13]. Examples are: visiting the dental clinic in order to avoid criticism from the dental professional, to get a reward, to avoid nagging from others, or to avoid a painful dental treatment in the future. The next type of extrinsic motivation on the continuum is introjected regulation. Examples are to attain contingent self-worth (pride) or to avoid guilt, shame, and feeling bad about oneself (Deci and Ryan 2000)[11]. The third type of extrinsic motivation is identified self regulation, which is present when people recognize and accept the underlying value of a behavior[12]. Examples are: people who truly believe it is important to visit the dental clinic regularly for their own health and well-being. The fourth and most self-determined type of extrinsically motivated behavior is called integrated[13]. An example of integrated regulation would be parents who value and pursue visits to the dental clinic regularly for their own health, as well as to model it for their children.

## CONCLUSION

Dental anxiety is a common problem affecting a major population. It is a multidimensional phenomenon influenced by several factors like personality characteristics, fear of pain, past traumatic dental experiences and dentally anxious family members or peers. Females are found to be more dentally anxious than males, with lower age group affected more than older age group of population.

Not enough baseline data is available in India due to lack of coordinated research in this area. Dental anxiety is a major barrier to seeking professional dental care which can lead to deterioration of their dentition, and a range of psychosocial problems. Further coordinated studies are to be done with this context in India. A research in this field can help dentists to well manage these patients with both pharmacological and behavioural techniques. A reduction in their anxiety can result in improvement of oral health and overall quality of life.

## REFERENCES

1. Acharya S et al. Dental anxiety and its relationship with self perceived health locus of control among Indian dental students. Oral Health Prev Dent.2010.Vol 8.Pages 9-14
2. Mostofsky D. Behavioural dentistry. Blackwell publishers
3. Hmud R.et al. Dental anxiety: causes, complications and management approaches. Journal of Minimum Intervention in Dentistry 2009.vol 2.Is1.Pages 67-78
4. Locker D.et al. Age of Onset of Dental Anxiety. J Dent Res. March 1999.vol 78. Is 3.Pages 790-96.
5. Patricia A.et al. Factors associated with dental anxiety. JADA.1998.Vol.129. Pages 1111-9.
6. Gordon J.et al. The psychodynamics of dental anxiety and dental phobia. Dental clinics of North America.1988.Vol 32. Is 4.
7. Timothy J.et al Anxiety and pain measures in dentistry: A guide to their quality and application. JADA. October 2000.Vol131. Pages1449-57
8. Locker D et al. Negative dental experiences and their relationship to dental anxiety. Community dental health 1996.vol 13.Pages 86-92
9. Timothy A et al. Reliability of DSM-IV anxiety and mood disorders. Journal of Abnormal Psychology. Feb 2001.Vol 110.Is1.Pages 49-58
10. Scott D et al. Historical antecedents of dental anxiety. JADA. Jan1984.vol108.Is1. Pages 42-45
11. Sinan AY et al. An Assessment of Dental Anxiety in Oral Surgery Patients. Gülhane Tıp Dergisi 2002.Vol 44. No.4. Pages 395 – 398.
12. Berggren U et al. Long-term management of the fearful adult patient using behavior modification and other modalities. Journal of Dental Education.2001. Vol. 65.No.12.pages 1350-1360.
13. Hill C.M. et al. Clinical sedation in dentistry.2009.Wiley-blackwell publications.
14. Nair M et al .The Dental Anxiety Levels Associated with Surgical Extraction of Tooth. International Journal of Dental Clinics 2009.vol1.Iss 1. Pages 20-23
15. Malvania E etal.Prevalence and socio-demographic correlates of dental anxiety among a group of adult patients attending a dental institution in Vadodara city, Gujarat, India.Indian Journal of Dental Reasearch 2011.vol 22. Iss1.Pages 195-200