

## Original Research

### Knowledge of Dental Students on Managing Dental Fear and Anxiety in Pediatric Patients: A Qualitative Study

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#### ABSTRACT:

**Aim of the study:** The purpose of the study was to assess the knowledge of dental students in managing fear and anxiety pediatric patients towards various dental situations. **Methodology:** A questionnaire survey was conducted amongst 120 dental students which comprised of 45 post graduate students especially from pedodontics branch and rest were undergraduate students over a period of 3 months. The questions were based on the strategies followed by dental graduate as well as post-graduate students to calm and handle anxious as well as phobic children and the difficulties they faced in doing so. **Results:** It was observed that most of the undergraduate students (76.5%) were less than capable to handle anxious and phobic pediatric patients. In case of post graduate students, most of them (67.8%) were more empathetic towards the pediatric patients. Desensitization techniques as well as CBT was also applied (42.7%) but many dental students had little experience or knowledge of the procedures used. Most of them (89.5%) were not aware of conscious sedation as well. **Conclusion:** Dental anxiety and phobia can have adverse impacts on a person's quality of life, and hence it is imperative to identify and alleviate these significant obstacles to pave the way for better oral health and overall well-being of the individual. More knowledge as well as experience is required to handle such patients which was evident in post graduate students who had more clinical experience in tackling such cases, however there was scope for further improvement.

**Key words:** Anxiety, coping strategy, behavioral therapy, cognitive therapy.

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#### INTRODUCTION

Fear and anxiety toward the dentist and dental treatment are both significant characteristics that contribute to avoidance of dental care.<sup>1</sup> Anxiety associated with the thought of visiting the dentist for preventive care and over dental procedures is referred to as dental anxiety. It has been cited as the fifth-most common cause of anxiety by Agras et al.<sup>2</sup> Dental fear is a reaction to threatening stimuli in dental situations. Phobia is

persistent, unrealistic, and intense fear of a specific stimulus, leading to complete avoidance of the perceived danger.<sup>3</sup> Overwhelming and irrational fear of dentistry associated with devastating feelings of hypertension, terror, trepidation, and unease is termed "odontophobia", and has been diagnosed under specific phobias according to the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV and the International Statistical Classification of Diseases and

Related Health Problems (ICD)-10.<sup>4</sup> The etiology of dental anxiety is a highly debated topic and many theories are put forth. One such theory states that there are two groups of dentally anxious individuals; exogenous and endogenous. In the exogenous group, dental anxiety results from traumatic dental experiences or even vicarious learning; and in endogenous group, the individual has a constitutional vulnerability to the anxiety disorders as evidenced by general anxiety states. The age of origin of dental anxiety is during childhood which continues to persist in later life too, a view challenged by other authors.<sup>5</sup> The nature of dental anxiety is more often related to age of onset; and it is believed that child-onset subjects are more often exogenous and the later-onset individuals are more likely to be endogenous.<sup>6</sup> Several studies have proved that most of the potent triggers are from the procedures of restorative dentistry which can be due to sight, sound and the vibrational sensation of dental drills, coupled with the sight and sensation of a local anaesthetic injection.<sup>7</sup> Thus, it is imperative that anxious patients who are to undergo any restorative procedure must be managed by using the “4S” rule which aims to reduce the stress triggers, sights of needles and drills, sounds from drilling and any possible sensations which may be due to high frequency vibrations coupled with a high annoyance factor and lastly any smell possibly from eugenol or bonding agents. Some possible modifications in the form of Atraumatic restorative technique, incorporation of ultra-low speed cutting, use of chemo-mechanical caries removal etc. can be effectively used in such anxious patients to wean them away from anxiety.<sup>8</sup> One critical factor which can trigger anxiety can be the aspect of Dentist-Patient interactions, possibly from the statements made by the Dentist,<sup>9</sup> which may happen in an unlikely scenario of when they are angry or in case of condescending comments. The other possible triggering factor may be the time spent waiting for dental treatment thus inducing a chain reaction in the patients mind about what will or what could happen next and also to ponder about the worst-case outcomes.<sup>10</sup> Children often face a variety of stressful dental procedures and experience dental anxiety when attending appointments. Whenever oral health is compromised, the overall health of a person and the quality of his or her life may be at risk.<sup>11</sup> Every child should begin to receive oral health risk assessments by 6 months of age by a qualified paediatrician or a qualified paediatric health care provider. The Caries Risk Assessment Tool (provided and continually updated by the American Academy of Paediatric Dentistry) and can be used to determine the relative risk of caries in children.<sup>12</sup> Children use a variety of coping strategies to manage potentially stressful dental treatment-related events. Coping may be seen as a defence mechanism, which deals with threats to an individual's psychological integrity. Many children, however, try to cope with the potential stress involved in dental situations by means of uncooperative

behaviours, aiming to either completely avoid dental treatment or to interfere with the process of carrying out specific dental procedures. In this regard, Klingberg, found that 61% of dentally fearful children presented with destructive coping behaviours and did not, therefore, collaborate with the dentist during treatments.<sup>13</sup>

#### AIM OF THE STUDY

The purpose of the study was to assess the knowledge of dental students in managing fear and anxiety pediatric patients towards various dental situations.

#### METHODOLOGY

A questionnaire survey was conducted amongst 120 dental students which comprised of 45 post graduate students especially from pedodontics branch and rest were undergraduate students over a period of 3 months. The questions were sent by Email and were in English language. Open ended format was chosen for the survey. Their replies were entered in Microsoft Excel sheet and later was analyzed by descriptive statistics. The questions were based on the strategies followed by dental graduate as well as post-graduate students to calm and handle anxious as well as phobic children and the difficulties they faced in doing so.

#### RESULTS

It was observed that most of the undergraduate students (76.5%) were less than capable to handle anxious and phobic pediatric patients. The techniques that they frequently used were to make the dental environment calm as well as explaining them the procedure as well as using distraction with toys for younger children. (Table 1) In case of post graduate students, most of them (67.8%) were more empathetic towards the pediatric patients and tried to calmly introduce themselves as well solve any relevant queries which a child has and to introduce the child patient with the clinic in the first visit and trying to form a connection with the child so that further treatment is easier on them. They also categorized the patients on the basis of severity of phobia's and/or anxiety which helped them to chalk out a customized plan for each pediatric patient. Few of them (34%) also tried to understand the parents understanding about oral hygiene practices as well any anxiety they had for the procedures involved in dental treatment. As it is vital, that parents of the child should understand the importance of oral health so that they can encourage the child to maintain the same which in turn becomes a positive reinforcement. Desensitization techniques as well as CBT was also applied (42.7%) but many dental students had little experience or knowledge of the procedures used. Most of them (89.5%) were not aware of conscious sedation as well which might be an alternative for severe pediatric patients who suffer from serious phobia's or anxiety. 'Tell show do' technique was the most common (96%) behavioral modification used by graduate as well as post-graduate students.

**Table 1- Strategies to cope up with anxiety and phobia of pediatric patient**

Strategies used	Undergraduate students	Post-graduate students
Categorize the patients based on anxiety levels	21%	78%
Distraction techniques	45%	87.2%
Densitization techniques	7%	23%
CBT	3.5%	42.7%
Tell show do technique	28%	96%
Conscious sedation	0%	10.5%
Connection with the pediatric patient	41%	67.8%
Understanding parental concerns	12%	34%

## DISCUSSION

The initial interaction of the dentist with the patient can fairly reveal the presence of anxiety and fear, and in such situations, subjective and objective evaluations can greatly enhance the diagnosis for successful management. The dentist needs to identify the reason for the current visit, the kind of experience the patient has had during previous dental treatment, the main fears and worries, and the expectations. In some cases, the psychologist and the dentist need to work together, with the former deciding the treatment plan concerning anxiety.<sup>3</sup> Multiple- and single-item self-reporting questionnaires are available for assessing anxious and phobic patients. A few such popularly used multi-item scales are Corah's Dental Anxiety Scale (CDAS), Modified Dental Anxiety Scale (MDAS), Dental Fear Survey (DFS), Dental Anxiety Inventory and Gatchel's 10-point fear scale. The CDAS is a widely used instrument; it is brief and has good psychometric properties. The scale consists of four questions about different dental situations. Each question is scored from 1 (not anxious) to 5 (extremely anxious), so the range of possible scores is 4–20. The cut-off point of more than 15 indicates high anxiety level or possibly phobic.<sup>14-19</sup> Based on these questionnaires, patients can be categorized as mildly anxious, moderately anxious, and extremely anxious or dental-phobic. Broadly, dental anxiety can be managed by psychotherapeutic interventions, pharmacological interventions, or a combination of both, depending on the dentist's expertise and experience, degree of dental anxiety, patient characteristics, and clinical situations.<sup>3</sup> Receptionists, dental nurses, and dental hygienists are crucial personnel in creating an apt atmosphere in the dental office. They should be positive and caring, and elicit information from the patients in a unhurried concerned tone to make the patients comfortable. The office atmosphere can be made calm and unthreatening by the playing of soft music and avoidance of bright lights.<sup>3</sup> A good patient–dentist relationship is crucial for the management of anxiety. Communication strategies are very important. There should always be two-way communication. The dentist should first introduce themselves and personally converse with the patient in their office, and listen carefully in a calm, composed, and non-judgmental way.<sup>20</sup> Keep inquiring if the

patients are having any discomfort, give moral support, and reassure during the procedure. Usually, a friendly, sensitive, and sympathetic approach will be well appreciated by patients.<sup>21</sup> The strategies of Behaviour modification involve relaxation along with guided imagery and adjuvant use of physiological monitoring using biofeedback, hypnosis, acupuncture, distraction, positive reinforcement, stop-signalling, and exposure-based treatments, such as systematic desensitization, “tell-show-do”, and modelling. Multiple relaxation techniques have been proposed, such as Ost's applied relaxation technique, Jacobsen's progressive muscular relaxation, functional relaxation, the rapid-relaxation technique, autogenic relaxation, and relaxation response. Dentists need to familiarize themselves with these techniques, and if required undergo special training before they can implement them in practice.<sup>22</sup> Distraction is a useful technique of diverting the patient's attention from what may be perceived as an unpleasant procedure. Cognitive Behavioural Therapy which is most successful strategy, is a treatment generally contains psychoeducation, graded exposure, cognitive restructuring, behavioural experiments, and relaxation, as well as self-assertiveness training. Dental-phobic patients and those with severe learning difficulties, severe anxiety and phobias, in whom sedation may not be safe and perioperative monitoring is required, are candidates for general anaesthesia in special care dentistry. 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.<sup>3</sup>

## CONCLUSION

Dental anxiety and phobia can have adverse impacts on a person's quality of life, and hence it is imperative to identify and alleviate these significant obstacles to pave the way for better oral health and overall well-being of the individual. It is the duty and responsibility of the dentist to provide excellent dental care to these patients with special needs as well. More knowledge as well as experience is required to handle such patients which

was evident in post graduate students who had more clinical experience in tackling such cases, however there was scope for further improvement.

## REFERENCES

1. Pohjola V, Lahti S, Vehkalahti MM, Tolvanen M, Hausen H. Association between dental fear and dental attendance among adults in Finland. *Acta Odontol Scand.* 2007;65(4):224–230.
2. Agras S, Sylvester D, Oliveau D. The epidemiology of common fears and phobia. *Compr Psychiatry.* 1969;10(2):151–156.
3. Appukuttan DP. Therapies for alleviating dental anxiety and phobia. *Clinical, Cosmetic and Investigational Dentistry* 2016;8:35-50.
4. Berggren U, Hakeberg M, Carlsson SG. No differences could be demonstrated between relaxation therapy and cognitive therapy for dental fear. *J Evid Based Dent Pract.* 2001;1(2):117–118.
5. Ost L. Age of onset in different phobias. *Journal of Abnormal Psychology* 1987; 96:223-29.
6. Weiner AA, Sheehan DV. Etiology of dental anxiety: psychological trauma or CNS chemical imbalance? *General Dentistry* 1990; 38(1):39-43.
7. Moore R, Birn H, Kirkegaard E, Brødsgaard I, Scheutz F. Prevalence and characteristics of dental anxiety in Danish adults. *Commun Dent Oral Epidemiol* 1993; 21: 292-6.
8. Deepak Viswanath, Mahesh Kumar, Prabhuji M LV. Dental Anxiety, Fear and Phobia in Children *IJDRD* 2014;4(1):1-14.
9. Eitner S, Wichmann M, Paulsen A, Holst S. Dental anxiety - an epidemiological study on its clinical correlation and effects on oral health. *J Oral Rehab* 2006; 33: 588-93.
10. Cohen SM, Fiske J, Newton JT. The impact of dental anxiety on daily living. *Br Dent J* 2000; 189: 385-90.
11. Hmud R, Walsh, LJ. Dental anxiety: Cause, Complications and Management Approaches. *JMD* 2009;2:1.
12. American Academy of Pediatric Dentistry. AAPD.org/policy,2008/2009 <http://www.aapd.org>.
13. Shimmaa Moustafa. School Children Dental Health, Dental Fear and Anxiety in relation to their Parents' Dental Anxiety: Comparative Study. *IOSR-JNHS* 2015;4(6):39-46.
14. Corah NL. Development of a dental anxiety scale. *J Dent Res.* 1969;48(4):596.
15. Humphris GM, Morrison T, Lindsay SJ. The Modified Dental Anxiety Scale: validation and United Kingdom norms. *Community Dent Health.* 1995;12(3):143–150.
16. Spielberger CD. Assessment of state and trait anxiety: conceptual and methodological issues. *South Psychol.* 1985;2(4):6–16.
17. Kleinknecht RA, Klepac RK, Alexander LD. Origins and characteristics of fear of dentistry. *J Am Dent Assoc.* 1973;86(4):842–848.
18. Stouthard ME, Mellenbergh GJ, Hoogstraten J. Assessment of dental anxiety: a facet approach. *Anxiety Stress Coping.* 1993;6(2):89–105.
19. Gatchel RJ. The prevalence of dental fear and avoidance: expanded adult and recent adolescent surveys. *J Am Dent Assoc.* 1989;118(5): 591–593.
20. Marci CD, Ham J, Moran E, Orr SP. Physiologic correlates of perceived therapist empathy and social-emotional process during psychotherapy. *J Nerv Ment Dis.* 2007;195(2):103–111.
21. Corah NL. Dental anxiety: assessment, reduction and increasing patient satisfaction. *Dent Clin North Am.* 1988;32(4):779–790.
22. American Academy of Pediatric Dentistry. Special issue: Proceedings of the conference on behavior management for the pediatric dental patient. *Pediatr Dent.* 2004;26(2):110–183.