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# Assessment of Preoperative and Postoperative Dental Anxiety among Dental Patients in Kanyakumari District

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***ABSTRACT--****The dental awareness plays a main role in anxiety of the person during dental treatment. People are more anxious during dental treatment. Researcher has chosen the study area for the present study as Kanyakumarai District which is in southern part of Tamilnadu. Objectives of the study is to evaluate the preoperative and postoperative anxiety among the dental patients and also suggest solutions to the psychological problems faced by the dental patients before and after treatment The tool used is Dental Concerns Assessment Scale, Clarke & Rustvold (1993) for measuring anxiety level of dental patients before and after treatment. The questionnaire for the study was conducted on a small population consisting of 370 dental patients randomlyAfter treatment the anxiety level is low and moderate. To reduce the anxiety level the dentists should give proper orientation and motivation.*

***Keywords—*** *Assessment of Preoperative and Postoperative Dental Anxiety among Dental Patients in Kanyakumari District*

## I. INTRODUCTION

Measurement of Anxiety is important for clinicians as a consequence of the effect it has on the patients' coping strategy in addition to the patient management technique used by the dentist. The terms anxiety and fear both are related to one another and are distinct from each other.Anxiety is experienced but there is no specific feared object. Instead, there is unfocused 'free-floating' anxiety. An individual experiences intense apprehension and physical symptoms such as racing heart, shortness of breath, dizziness. Stress has been linked with dental procedures, particularly surgical procedures. This study is to evaluate the anxiety of patients have dental problems before and after undergoing dental treatment.

## II. ANXIETY

The tenure Anxiety could be defined as a unpleasant feeling of fear and apprehension. The anxious person has a lot of uncertainties, predominantly about unknown dangers. Moreover, the anxious person spectacles mixtures of the following symptoms: rapid heart rate, shortness of breath, diarrhea, loss of appetite, dizziness, fainting, sweating, frequent urination, sleeplessness, and tremors. The anxiety includes the feelings of uncertainity, helplessness, and physiological disorder. An anxiety person has complains of feeling nervous, tense, jumpy, and

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irritable.The very usual anxiety symptoms are nervousness, dizziness, frequent urination, heart palpitations, feeling faint, jitterness, tension, feeling tired, sweating, trembling, worry and apprehension, sleeplessness, difficulty in concentrating, breathing, sleeping and hypervigilance.

## III. ANXIETY DISORDERS AND ITS TYPES

**(a) General anxiety disorder** can be explained as an enduring, excessive, overwhelming worrying about present and impending events and activities. This can be preeminently designated as comprising of extended, imprecise, unidentified, but extreme fears that do not seem to be involved to any specific object. (Irwin G. Sarason, 2005)

**(b) Panic Disorder** Recurrent, unexpected panic attacks, which lead to fear of future events and avoiding the certain situations that seem to be linked with the events.

**(c) Phobic disorders** are the marked fear and avoiding of social situations because of embarrassment or humiliation ( social phobias), or labelled fear and avoiding of specific objects or situations.

**(d)** Obsessive **- Compulsive Disorder** is the recurrent intrusive thoughts or images or impulses (for example, over doubting, behavioural repetition or mental activities aimed at reducing distress.

Anxiety is a psychological and physiologic phenomenon which happens when a person is in stress that may arise from unidentified or different events, medical treatment, or an unsatisfied experience. Anxiety is associated with dental treatment which is one such stressor, which poses a challenge for children and adults and that may cause the patient to avoid dental consultations. Even though all the category of people gets anxiety studies have noted that people with special needs are especially susceptible to dental challenges.

Most of the dental treatments are invasive procedures with inherent risk of substantial harm inside the oral cavity. Hence, dental patients displaying uncontrolled, impulsive, and aggressive behavior may endanger both themselves and dental staff. To take precaution about the risks, healthcare professionals must know and apply behavioral anxiety management techniques for patients with special needs. Several methods are used to manage anxiety during dental treatment. Practical strategies include, but are not limited to, cognitive behavioral techniques, medication and pain control, and Sensory Adaptation Techniques (SATs).

High anxiety and fear of dentistry could lead to an acute exacerbation of medical problems such as angina, seizures, and asthma, as well as other stress related problems such as hyperventilation and vasodepressor syncope. One of the goals in patient evaluation is to findout whether a patient is psychologically capable of tolerating the stress associated with the planned dental treatment. There are three methods available to help the doctor to recognize that anxiety is existing.

Dental treatment accompanied by anesthetic injection and surgical removal of teeth results in stress, burnout and anxiety, results unease, prolonging the intervention and complicating postoperative recovery. The dentist should observe the patients initially visit a dental clinic for treatment of surgical extraction of teeth with severe dental stress and anxiety which is due to habituation or learned responses which these patients might have experienced. Thus, a previous cognizance of the patient's predisposition to dental stress and also anxiety should be evaluated, permitting to take suiable measures preoperatively to provide dental treatment without anxiety then better postoperative recovery.

## IV. ANXIETY AND DEPRESSION

The two emotional responses of anxiety and depression are closely related, and are associated with stress, but it is not necessarily as cause and effect. As a general rule, anxiety tends to be a reaction to stressful threats, and depression is a reaction to stressful losses, but most of the people have experience of a mixture of the two. An anxious person is often tense and watchful, as if waiting for information, and may over-react noise and other stimuli. He or she might felt in imminent, unnoticed danger and unable to disclose this fear. Hope and despair tend to alternate, whereas depression is a prevailing mood of pessimism and discouragement.

## V. REVIEW OF LITERATURE

On the basis of theories, principles and studies the researcher has reviewed so many previous studies and presented selected studies. The researcher has listed reviews related to anxiety and presented chronologically.

Mufti (2017) analysed Stress and Anxiety in Patients undergoing Dental Extraction. Dental treatment linking anesthetic injection and also surgical extraction of teeth causes stress and anxiety, resulting in emotional uneasiness, prolonging the intervention and complicating postoperative recovery. A dental surgeon should consider that patients initially visit a dental office for treatment of surgical extraction of teeth with severe dental stress and anxiety which could be because of habituation or learned responses which these patients might have experienced. Thus, a prior awareness of the patient's predisposition to dental stress and anxiety must be assessed, enabling to take appropriate measures preoperatively to give anxiety-free dental treatment and better postoperative recovery.

Duskova (2017) researched on The Role of Stress Hormones in Dental Management Behavior Problems. Dental management behavior problems are thought to be both multifactorial and multidimensional, consisting of physiological, behavioral and cognitive components. The stress response to pain or even the anticipation of distress initiates activation of the hypothalamic-pituitary-adrenal axis and causes an increase of cortisol and catecholamines.

## VI. SCOPE OF THE STUDY

The dental awareness plays a main role in anxiety of the person during dental treatment. People are more anxious during dental treatment. Researcher has chosen the study area for the present study as Kanyakumarai District which is in southern part of Tamilnadu.

## VII. OBJECTIVES

- To evaluate the preoperative and postoperative anxiety among the dental patients
- To suggest solutions to the psychological problems faced by the dental patients before and after treatment

## VIII. MATERIALS AND METHODS

The tool used is Dental Concerns Assessment Scale, Clarke & Rustvold (1993) for measuring anxiety level of dental patients before and after treatment. The scale was translated to Tamil so that illiterate and educated people can respond the questionnaire without any difficulty. This helped the researcher to fine tune the wide range of responses, thereby improving likelihood of obtaining high response rate and timely return of questionnaire. The questionnaire for the study was conducted on a small population consisting of 370 dental patients randomly.

## IX. COLLECTION OF DATA

The investigator collected the required data in an orderly manner by getting prior permission from the doctors of private clinics. After giving self-introduction and establishing good rapport with the dental patients, the author described the need for research encouraged them to feel free and frank to give responses sample. Selection is done on the basis of stratified random sampling technique by giving due weightage to various personal variables like age, gender, locale, education and occupation

Then the investigator distributed the research tools to the respondents and they were asked to read all the items carefully after filling the persona data form given in the first page. Then they were asked to put tick mark in the corresponding places.

**Table 1:** Basic data

| Sl no | Age | Gender | | | | Locale | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Male | % | Female | % | Rural | % | Urban | % |
| 1 | Below 20 | 20 | 10.75 | 18 | 9.78 | 18 | 11.11 | 20 | 9.78 |
| 2 | 20-30 | 15 | 8.06 | 19 | 10.32 | 16 | 9.88 | 18 | 10.33 |
| 3 | 30-40 | 33 | 17.74 | 48 | 26.09 | 30 | 18.52 | 51 | 26.09 |
| 4 | 40-50 | 78 | 41.94 | 67 | 36.41 | 66 | 40.74 | 79 | 36.41 |
| 5 | Above 50 | 40 | 21.51 | 32 | 17.39 | 32 | 19.75 | 40 | 17.39 |
| Total | | 186 | 100 | 184 | 100 | 162 | 60 | 208 | 100 |

Source: Primary data

Table 1 explains the basic data of the respondents. It shows that the dental patients are maximum at the age of 40-50, in that category also percentage of male (41.94%) is high and low at the category of respondents of 20-30 category (8.06%). The rural dental patients are more (208) where as the rural respondents are less (162) .

The scholar observed that the urban respondents are well aware of oral health hygiene on comparing rural respondents. Majority of the male respondents are highly educated than female so that they have more awareness about oral health hygiene.

**Table 2 :** Status of Education and occupation

| Education | Respondents | % | Occupation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Private | % | Public | % | Govt | % | Self | % | Student | % | Unemployed | % |
| Below +2 | 76 | 20 | 18 | 23.08 | 8 | 12.69 | 3 | 8.33 | 19 | 26.33 | 16 | 21.62 | 12 | 25.53 |
| Degree | 104 | 28 | 17 | 21.79 | 28 | 44.44 | 12 | 33.33 | 18 | 25 | 32 | 43.24 | 16 | 34.04 |
| Technical | 96 | 26 | 31 | 39.74 | 14 | 22.22 | 8 | 22.22 | 8 | 11.11 | 12 | 16.21 | 4 | 8.51 |
| Professional | 44 | 12 | 4 | 5.13 | 8 | 12.69 | 6 | 16.66 | 15 | 20.83 | 6 | 8.1 | 5 | 10.63 |
| Post Graduation and above | 50 | 14 | 8 | 10.26 | 5 | 7.93 | 7 | 19.44 | 12 | 16.66 | 8 | 10.8 | 10 | 21.27 |
| Total | 370 | 100 | 78 | 100 | 63 | 100 | 36 | 100 | 72 | 100 | 74 | 100 | 47 | 100 |

Source: Primary data

Table 2 depicts the status of education and occupation. The degree holders are more (28%) and below +2 qualification respondents are less (20 %). The private sector employees are more 78 (21.08 %) whereas government employees are less (9.72 %) .

The scholar justified that in kanyakumari district most of them have minimum qualification as degree and they are mostly employed in private sectors and very few are unemployed.

Table 3 states the Dental Concerns Assessment scores before and after treatment which shows that before undergoing treatment maximum patients (205,206) worried about the treatments like vibration of the drill, the sound or feel of scraping during teeth cleaning, extraction, fear of being injured, being criticized, put down or

lectured o, worried that the need of lot of dental treatment, worried about the cost of the dental treatment, embarrassed about the condition of their mouth. They have high anxiety about their oral hygiene treatment.

After treatment the anxiety level is low and moderate. To reduce the anxiety level the dentists should give proper orientation and motivation.

**Table 3:** illustrates Dental Concerns Assessment scores before and after treatment

| | Low | | Moderate | | High | | Don't Know | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | Pre | Post | Pre | Post | |
| 1. Sound or vibration | 45 | 158 | 102 | 128 | 205 | 83 | 18 | 1 | of the drill |
| 2. Not being numb | 24 | 194 | 112 | 119 | 187 | 40 | 47 | 17 | enough |
| 3. Dislike the numb | 32 | 193 | 131 | 186 | 191 | 21 | 16 | 30 | feeling |
| 4. Injection | 53 | 187 | 173 | 104 | 136 | 65 | 8 | 14 | ("Lignocaine") |
| 5. Probing to assess | 74 | 178 | 156 | 164 | 134 | 27 | 6 | 1 | gum disease |
| 6. The sound or feel of cleaning | 45 | 158 | 102 | 128 | 205 | 83 | 18 | 1 | scraping during teeth |
| 7. Gagging, for | 31 | 192 | 113 | 121 | 186 | 39 | 40 | 18 | example during |
| impressions of the | 32 | 193 | 112 | 119 | 187 | 40 | 47 | 17 | mouth |
| 8. X-rays | 54 | 187 | 172 | 104 | 136 | 66 | 8 | 13 | |
| 9. Rubber dam | 19 | 187 | 111 | 164 | 186 | 19 | 54 | - | |
| 10. Jaw gets tired | 31 | 192 | 113 | 121 | 186 | 47 | 40 | 10 | |
| 11. Cold air hurts teeth | 53 | 192 | 173 | 121 | 135 | 56 | 48 | 1 | |
| 12. Not enough | 44 | 159 | 103 | 130 | 206 | 87 | 17 | - | information about |
| procedures | 4 | 211 | 143 | 150 | 205 | 9 | 18 | - | |
| 13. Root canal | 74 | 178 | 156 | 164 | 134 | 27 | 6 | 1 | treatment |
| 14. Extraction | 53 | 187 | 173 | 104 | 136 | 79 | 8 | - | |
| 15. Fear of being | 32 | 193 | 132 | 186 | 191 | 21 | 16 | 30 | injured |
| 16. Panic attacks | 24 | 203 | 112 | 119 | 187 | 47 | 47 | 1 | |
| 17. Not being able to | 5 | 211 | 142 | 152 | 206 | 8 | 18 | 1 | stop the dentist |
| 18. Not feeling free to | 19 | 187 | 111 | 164 | 186 | 19 | 54 | - | ask questions |
| 19. Not being listened | 5 | 211 | 142 | 152 | 206 | 8 | 18 | 1 | to or taken seriously |
| 20. Being criticized, | 74 | 178 | 156 | 164 | 134 | 27 | 6 | 1 | put down, or lectured |
| to | | | | | | | | | |
| 21. Smells in the | 45 | 158 | 102 | 128 | 205 | 83 | 18 | 1 | dental office |
| 22. I am worried that I | | | | | | | | | may need a lot of |
| dental treatment | | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 23. I am worried about the cost of the dental treatment I may need | 18 | 185 | 112 | 166 | 185 | 19 | 55 | - |
| 24. I am worried about the number of appointments and the time that will be required for necessary appointments and treatment; time away from work, or the need for childcare or transportation | 4 | 210 | 145 | 150 | 204 | 8 | 17 | 2 |
| 25. I am embarrassed about the condition of my mouth | 2 | 219 | 89 | 120 | 196 | 31 | 83 | - |
| 26. I don't like feeling confined or not in control | | | | | | | | |

## X. RECOMMENDATIONS

The dentist could play ambience can part an important role in commencing fear of dental treatment and anxiety. In a dental clinic the receptionists, dental nurses, and also dental hygienists are decisive persons in making an suitable atmosphere in the dental clinic. They should be caring and elicit data from the patients in an unhurried pleasing tone to make the patients peacefully. The clinic situation made calm and unthreatening by playing melody songs and dodging of more lights. A somewhat cooler dental clinic is favored by patients. The posters and pictures should be kept in the waiting area supplied with ample books and magazines. The sounds created from the instruments in the treatment room should be hushed by departing the door. Significantly, patients having anxiety should not be made to wait too long, so that they have less time to engross different anxious experiences; moreover waiting times tend to recall the menacing stimuli.

Presenting enjoyable pleasant fragrant odors to the dental environment can also aid to decrease anxiety by disguising the smell of eugenol and with the help of the potential anxiolytic effects of the smell. Smell can generate an array of emotions, and can condition a patient negatively towards dental treatment. Aromatherapy is another treatment method, wherein essential oils of aromatic plants are utilized to yield positive physiological or pharmacological effects through the sense of smell. Inhalation of pleasant scents like essential oils has an anxiolytic effect and progresses mood. Studies have shown it to be more effectual in managing moderate rather than severe anxiety. In healthy individuals, inhalation of lavender has been shown to considerably decrease the levels of salivary cortisol, salivary chromogranin, and serum cortisol, upsurge blood flow, and decline galvanic skin conductance and systolic blood pressure. The clinical smell, atmosphere, situations etc should be changed and the clinic shouldgive them encouragement and motivation to undergo treatment.

Distraction is a beneficial method which should divert the attention of the patient from the unpleasant process so that it reduces negative thought and behaviour. Generous the patient a short break throughout a stressful process can be an effective usage of distraction prior in view of more advanced behavior-guidance methods. More number of modern technological diversions should be provided for both audio, video, greenery setup, television, radio, CCTV,computer and so on.

When it is demanding to expose the patient unswervingly to the dental setting, it may be suitable to advice the clients to practice imaginary systematic desensitization, in which the patients are revitalized to predict that they are inflowing the dental clinic, able to sit in the dental chair, and eventually able to obtain dental treatment. Flooding or implosion therapy is an intensive form of in-vivo exposure therapy should be for treating phobias. The

patient is confronted with the dreadedstimuli for repeated and prolonged duration until they experience a reduction in their anxiety level. The use of this technique requires more caution, due to adverse effects and limited evidence in the literature.

Creating positive thought is an actual technique to reward desired behaviors and thus strengthens the recurrence of those behaviors. Reinforces include positive voice modulation, symbolic representation, verbal praise, verbal and non verbal expression, and appropriate physical demonstrations of affection by the dentist and staff. These should be modified, frequently provided, and speckled over time.

Cognitive therapy is nowadays the most accepted psychological treatment for anxiety associated withspecific situations and certain phobias which has learning to change negatively distorted thoughts (cognitions) and actions. Primarily, new skills are cultured to accomplish anxiety symptoms over multiple sessions with the therapist. Usually training comprises of psycho-education, graded exposure, behavioral experiments, cognitive restructuring, and relaxation and also self-assertiveness training. Self-assertiveness aims to progress fearful patients' communication skills concerning personal opinions, feelings, and desiresthrough dental treatment. Case reports, systematic reviews, and meta-analyses designate that CBT is effective in tumbling dental anxiety and phobia. Dentists need special training to assimilate this therapy in practice.

A plastic hand piece is less menacing in appearance than the traditional syringe. Injecting local anesthetic solution graduallydecreases tissue distension and leads to a more comfortable injection with less postoperative pain. The thin syringe and the fixed flow rate of the drug are accountable for a meaningfully improved injection experience, as established in some of the clinics with computer-controlled local anesthetic delivery devices in dentistry.

Anxious patients who must endure restorative procedures are frequently managed with the help of the "4 S" rule or the so-called 4 S principle. This is on the basis ofexcluding four of the primary sensory triggers for dental anxiety when in the dental setting: sight (air-turbine drill, needles), sounds (drilling), sensations (high-frequency vibrations [the annoyance factor]), and smells. Newer approaches, like a traumatic restorative treatment, air abrasion with the help of alumina powder streams, ultrasonic tips coated with diamond particles, chemo mechanical caries removal targeting collagen in infected dentine that are susceptible to proteolysis by sodium hypochlorite and chloramines, and lasers for cavity preparation, may decrease painful or uncomfortable aspects of dentistry, thereby decreasing anxiety and fear of pain at the time of treatment.

Pharmacological control of pain and anxiety can be attained by the usage of sedation and general anesthesia, and should be sought only in situations in which the patient is not able to respond and cooperate well with psychotherapeutic interventions, is not willing to undergo this kind of treatment, or is considered dental fear. Some patients needs (mental retardation, autism, mental illness, traumatic brain injury) and clinical situations can also require medicinal management.

The dentist should be sufficiently trained and familiar with proper regulations conferring to ethics of practice. Each country has its own guidelines and advice on special training for dentists.

## XI. CONCLUSION

Dental anxiety and fear could can have adverse impacts on a person's life style, and hence it is imperative to identify and alleviate these significant difficulties to direct better oral health and general well-being of the patient. The dentist should offer full dental care to these patients with special needs as well. Management of these patients should be an important portion of clinical practice, as a substantial proportion of the population agonizes from anxiety and fear. Therapy should be adapted to each individual following proper assessment, and should be on the basis of the dentist's experience, patient intellect, expertise, degree of anxiety, cooperation, age, and clinical situation. The dentist should connect with the patient and classify their source of fear and anxiety, with adjuvant use of self-reporting anxiety and fear scales to permit categorization as mild, moderate, or extreme anxiety or dentalfear. So many psychological therapies are engaged to mollify emotional, cognitive, behavioral, and physiological dimensions of dental anxiety and fear. Those are effectual on a long-term basis with positive effects on the patients, permitting them to seek dental care in future that should be the primary focus of the dentist. Mildly and moderately anxious patients can be regularlyaccomplishedwith the help of psychological interventions, and infrequently anxiolytic drugs or conscious sedation may be necessary. Enormously anxious or phobic patients most frequently necessitate combined management methods. Because of the high risk tangled in pharmacological interventions, it is compulsory that the dentist and dentist trail proper guidelines and be sufficiently trained and adequately equipped with proper infrastructure before pharmacological interventions can be unified. All successful treatment will depend on dentist–patient cooperation, and thus a relaxed patient will evidently result in a less stressful atmosphere for the dental team and better treatment outcomes.

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