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Assessment of Level of Anxiety before Endodontic Treatment: Old versus New Patients

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Abstract: ***Introduction: Dental procedures are usually stressful situations for most of the patients. When the need for endodontic treatment is present, some patients experience huge amount of stress and fear which leads to avoidance of the dentist, results in poor oral health. The aim of the study was to assess the level of anxiety among old and new patients visiting for endodontic treatment. Material and Methods: A simple random sampling technique was used for the study. The Survey done was based on set of questionnaires before endodontic treatment. The data was statistically analyzed for frequency and percentages of dental anxiety before endodontic treatment. P value of less than 0.05 were considered as statistically significant. Chi - square test was done to compare anxiety levels in new and old patients. Results: There was no significant differences in level of anxiety between subjects with previous endodontic treatment compared to those who had not undergone endodontic treatment before. Conclusion: Anxiety associated with Endodontic treatment is prevalent. Dental fear often creates problems in patient management, which in turn affects the quality of dental care. Better understanding of dental anxiety may prevent treatment avoidance.***

Keywords: Endodontic treatment, Anxiety level, New patients, Old patients

1. Introduction

Despite the technological advances in dentistry, anxiety about dental treatment and the fear of pain associated with dentistry remain globally widespread and is considered a major barrier to dental treatment.[1] High levels of dental fear and anxiety have been reported to be major reasons for patients delaying or cancelling dental appointments.[2]

Dental anxiety refers to patient's specific reaction toward stress associated with dental treatment in which the stimulus is unknown, vague or not present at the moment.[3, 4] The prevalence of high dental anxiety varies from 2% to 30% worldwide depending on the study population, the methods applied, and the scores used.[5, 6]

Quite a number of demographics, behavioral and psychosocial variables have been found to be related to dental anxiety.[7, 8]A woman tends to experience more root canal treatment associated anxiety and anticipate more pain than men.[9] Younger adults anticipate and experience higher pain levels and they may also experience more anxiety.[10, 11] In addition, it has reported that anxiety subsides with age.[12]

Various dental procedures evoke an anxiety response in an individual ranging from minor scaling to a surgical procedure. However, extraction and root canal treatment were found most frightening.[13] Among dental events, endodontic treatment ranked seventh among procedures that were most fear - arousing.[14]

There appears to be five different pathways associated with fear and anxiety cognitive conditioning, informative, parental, verbal threat and vicarious pathways (Field et al.2007). Rachman (1977) was one of the first to look at the pathways of fears and anxiety.[15] The most commonly reported pathway for fear and anxiety of endodontic procedures among patients is the cognitive conditioning pathway.[16]

A wide range of self - assessment questionnaires are available to measure dental anxiety and fear. MDAS is the most commonly used questionnaire which is a modification of Corah's Dental Anxiety Scale. MDAS comprises 5 questions, each assessing the dental anxiety levels in different dental situations. The total score of this scale ranges from 5 to 25.[4]

If dentists are aware about the level of anxiety among their patient, they can anticipate patient's behavior and be better prepared to take measures to help alleviate anxiety.

2. Materials and Method

Patient Selection

This questionnaire was conducted in dental college in Shimla district. A simple random sampling technique was used and data were collected from the 127 patients reporting at the outpatient Department of Conservative Dentistry and Endodontics and undergoing endodontic treatment during study period.

Procedure

Informed consent was obtained from the study participants prior to filling of the questionnaire and complete confidentiality were assured.

Inclusion Criteria

- Male and female patients in the age of 18 or above.
- Patients who were willing to participate.
- Patients with no abnormal medical condition

Exclusion criteria

- Patients with known history of anxiety - related disorders
- Patients with non - endodontic treatment like scaling, extraction, denture requirement, and restorations were excluded from the survey.
- Patients with any serious physical anomaly or psychological limitations which will hinder in understanding the questionnaire
- All patients with mental, psychological, or neurogenic disorders, or those taking antidepressants, anxiolytics, sedative medications.

- Patients who refused informed consent

3. Instruments

Survey form including three sections. First section contained questions concerning demographic information and previous endodontic treatment.

Second section was MDAS. This scale includes 5 brief multiple - choice questions and concerns patients' anxiety in the fallowing situations:

a) Anticipating a visit to dental clinic,
b) Waiting in the dentist's office for treatment,
c) Waiting in the dental chair for drilling of teeth,
d) Waiting in the dental chair for scaling the teeth, and
e) Waiting in the dental chair for receiving a local anesthetic injection.

Possible answers could range from "non - anxious" with a value of 1, to "extremely anxious" with a value of 5. Summation of values for all answers assembles a score for level of dental anxiety with a minimum of 5 and maximum of 25. Patients scores of 0–10 were considered slightly/ non - anxious. Scores from 11 to 14 reflect moderate anxiety; and scores from 15 to 19 show high anxiety. In this scale, high levels dental anxiety that may need special attention, is designated with an experimentally established cut - off value of 19 and above.1[7]

4. Results

The present study was carried out with 127 patients. The sample consisted of 55 males (43.3%) and 72 females (56.7%). Table1 and Fig 1 shows that the prevalence of dental anxiety among the study population. Based on severity of dental anxiety, 52.7%, 21.2% and 9.4% were found to be slightly, fairly and very anxious.

Table 2 shows the general distribution of the level of anxiety among all the patients. It was observed that patients are slightly anxious a day before their appointments (37%), when they were sitting in the waiting room (37%), as well as when they were about to have their teeth scaled and polished (44.09%).31.4% of patients were fairly anxious when they were about to have their tooth drilled and local anesthetic injection.

Table 3 shows there is no significant difference in level of dental anxiety between new and old cases for endodontic treatment (p value >0.05).

Table 1: Modified dental anxiety scale (MDAS)

0 - 5 (no anxiety)	20
6 - 10 (mild anxiety)	67
11 - 14 (moderate anxiety)	27
15 - 18 (high anxiety)	12
19 - 25 (severe anxiety)	1
n=	127

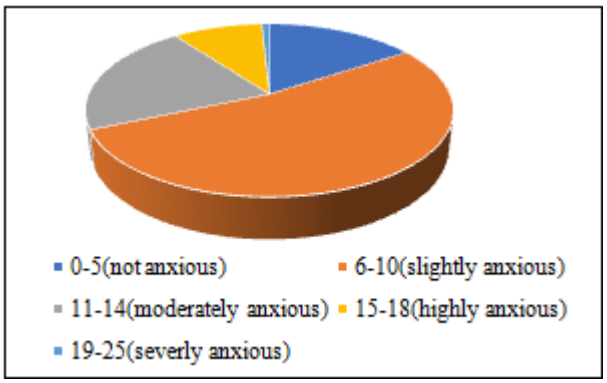

Figure 1: Anxiety level among participants (MDAS)

Table 2: Assessment of dental Anxiety level in patients undergoing endodontic treatment

Question	Visit tomorrow		Waiting room		Use of drill		Scale and polish		Injection	
	Count	%	Count	%	Count	%	Count	%	Count	%
Not Anxious	77	60.63	75	59.06	37	29.13	48	37.8	28	22.04
Slightly anxious	47	37	47	37	37	29.13	56	44.1	38	29.92
Fairly anxious	3	2.37	5	3.94	40	31.5	18	14.2	40	31.5
Very anxious					12	9.44	5	3.9	16	12.6
Extremely anxious					1	0.8			5	3.94

Table 3: Association between new and old cases and anxiety level

Category	Anxious (> 6 score as per MDAS)	Not Anxious (< 6 score as per MDAS)	Total	Chi square value	*p* value	Interpretation
New patients (1st endodontic treatment)	45	10	55	0.4331	0.51	The result is not significant at p <.05
Old Patients (Previous endodontic treatment)	62	10	72			
Total	107	20	127			

Statistical Analysis

Data was analyzed by using IBM statistics version 19 for frequency and percentages of dental anxiety before and after endodontic treatment. Chi - square test was done to compare anxiety levels in new and old patients.

5. Discussion

Dental fear and anxiety are major concern as it can often lead to avoidance of the dentist and delay in requesting advice or treatment (Hakeberg et al.1992).[18]

This study was carried out in order to assess the level of anxiety among patients undergoing endodontic treatment in the age group of 18 to 70 years. Oosterink et al. (2009) reported that out of the various dental procedures, patients were most fearful of endodontic treatment.[19] It was observed that the level of anxiety was high for invasive procedure, such as tooth drilling and local anesthesia administration. In comparison, the level of anxiety was comparatively low when patients were sitting in the waiting area and one day prior to the treatment. The noninvasive procedure of scaling and polishing evoked low anxiety. The results were similar to study by Curson et al.[20]and Kunal et al.[21] conducted in India.

Honkala S, et al.2[2] reported that use of drill and injection were the highest anxiety arousing dental procedure. Ali S, et al.[23] also reported the most feared dental procedure was fear of an injection/ needle.

There was no significant difference found in dental anxiety scores among the subjects who had received endodontic treatment compared to those who had not undergone endodontic treatment. Similar results were reported by Benjamin Peretz (1998).2[4] This finding is not in contrast with the findings of Wong and Lytle[25] who showed that previous experience in endodontic treatment had reduced patients' dental anxiety Another study by Alghofaily M. et al.[26] showed Previous experience with endodontic treatment did not result in any differences in anxiety levels. A reason given for this was endodontic treatment provided by endodontists, means less likely to cause dental trauma in patients. Which supports the findings of previous studies that avoidance of dental treatment and dental fear come mainly from cognitive conditional pathways that originate from their past dental experience.[16]

Determining why patients fear is important in treatment planning and managing patients. The use of pretreatment dental anxiety questionnaires may help identify patients with fear and anxiety; this can aid the practicing dentist in managing patients effectively.[28]

Modified Dental Anxiety Scale was chosen in the current study as it is more useful in a clinical setting for screening and diagnosing patients with dental anxiety.[4]

In children, high dental anxiety or phobia occurs due to fear of the unknown, and in adults it can be activated by the fear stimulus from the past negative experiences of dental office situations.[29] Moderate dental anxiety can be reduced by a pleasant dental clinic environment, a calm atmosphere and a patient's support attitude by medical staff, a trust relationship established through good communication between the patient and the doctor.[30]Wolpe (1981) postulated that phobias learned from indirect experiences may benefit more from cognitive treatment such as relaxation therapy, whereas conditioned fear should be best treated with Cognitive Behaviour Therapy, desensitization and deconditioning procedures.[31]

6. Conclusions

High dental anxiety in 10.2% of patients, severe anxiety in 0.78% of patients before endodontic treatment. Injection and tooth drilling show high anxiety level. While day before their appointments, sitting in the waiting and scaling show less anxiety level. There is no difference in anxiety level in patients with previous experience of endodontic treatment than new patients. Dental anxiety in dental practice is a significant problem for both the patient and the dentist. These patients need to be identified and managed accordingly.

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