International Journal of Medical and Health Research
ISSN: 2454-9142
Impact Factor: RJIF 5.54
www.medicalsciencejournal.com
Volume 3; Issue 10; October 2017; Page No. 86-88

Evaluation of anxiety of patients for dental procedures by using CORAH'S dental anxiety scale

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Abstract
Aim: Present study evaluated the anxiety of patients towards dental procedures and to dental office environment.
Materials and methods: Total number of 45 patients (mean age 25.1 years) from Out-patient departments of SVS Institute of Dental Sciences, Mahabubnagar, Telangana, India were included in the study. This survey includes questionnaire type of survey and dental concerns assessment. While waiting for their scheduled appointments at various departments, consenting patients completed both basic questionnaires and Corah's DAS.
Results: Novocaine local anaesthetic injection, dental extractions, tooth drilling procedures and sound ,probing to assess periodontal diseases, cost of dental procedures and root canal treatments anxiety levels are high for other questionnaires anxiety levels are moderate.
Conclusion: A number of different sets of data concerning the Corah dental anxiety scale were evaluated. The data indicate that the scale is a reliable, valid, and useful measure of dental anxiety. We concluded that Corah's DAS gives an acceptable sensitivity and therefore the patient's fear survey is essential before the treatment.

Keywords: questionnaire, survey, Corah's DAS

Introduction

General anxiety is distinct from dental anxiety and can be categorized as either state or trait anxiety. State anxiety evaluates how one feels in the moment and is measured using subjective feelings of apprehension, tension, nervousness, worry, and activation/arousal of the autonomic nervous system. Trait anxiety evaluates one's overall susceptibility to anxiety. Thus, classifications for trait anxiety are relatively stable, whereas classifications for state anxiety can vary in the presence of anxious stimuli [1].

Dental anxiety and phobia frequently encountered problem in avoidance of dental care dental offices. These patients need to be identified and their concerns should be addressed at the earliest. The initial interaction among the dentist and the patient can reveal the presence of fear, anxiety and phobia [2]. Multiple- and single-item self-reporting questionnaires are available for assessing anxious and phobic patients. A few such widely used multi-item scales are Corah's Dental Anxiety Scale (CDAS), Modified Dental Anxiety Scale (MDAS), Stouthard et al's Dental Anxiety Inventory, Spielberger State–Trait Anxiety Inventory, Gatchel's 10-point fear scale and Kleinknecht et al's Dental Fear Survey (DFS). Single-item questionnaires are a Seattle survey item, the Dental Anxiety Question, a Finnish single dental anxiety question, the visual analog scale and a single-item dental anxiety-and-fear question. Nevertheless, none of these existing instruments has been regarded as a gold standard, as they have their own boundaries. The CDAS, MDAS, and DFS are the most commonly used questionnaires, and have been shown to be reliable and valid in multiple languages [2].

Use of epinephrine (vasoconstrictor) as an adjuvant to boost the efficacy of the local anaesthetic is the cause to changes in the haemodynamics. Dental anxiety impacts the effects of delivery of local anaesthesia on blood pressure, heart rate and electrocardiograph and is significantly associated with the increase in systolic blood pressure, heart rate, pulse rate and changes in electrocardiograph [3]. It has been documented that increased anxiety in hypertensive patients who underwent extraction is associated with cardiovascular changes is most common [4].

The present study surveyed about all the parameters of corah's dental anxiety sclale.

Materials and Methods

Total number of 45 patients (mean age 25.1 years) from out-patient departments of SVS institute of dental sciences, mahaboob nagar, telangana, india were included in the study. This survey includes questionnaire type of survey and dental concerns assessment. While waiting for their scheduled appointments at various departments, consenting patients completed both basic questionnaires and Corah's DAS. Inclusion criteria is patients without any systemic disease. Exclusion criteria is pregnant and lactating women.

Statistical Analysis

The data was analysed by using descriptive analysis and frequency distribution.

Results

From total of 45 patients, they were asked about different procedures and their anxiety scores were given according to scoring criteria. For teeth extractions, cost of the procedures, sound and vibration of drilling procedures on teeth and root canal treatments they have shown highest anxiety scores (90%), next for local anaesthesia (novocaine injection) 85% and probing for gum diseases. For other procedures they scored 60% and their anxiety levels are moderate.

Discussion

A high level of pre-treatment anxiety was present in about one third of the sample population. The prevalence of this anxiety demonstrates the want for both early detection and patient management strategies (psychological and pain management) to optimistically influence their treatment experience.

Helping apprehensive patients to defeat their fear of dental treatment is a challenge; nevertheless if attained it may bring about alteration in their oral care and in their general personal satisfaction [5].

The dental anxiety levels in parents may persuade the anxiety levels of children and also all children exhibited an improvement in the levels of dental anxiety from the first dental visit to the subsequent dental visits [6]. Dental fear and anxiety related with dental extractions under local anesthesia can be reduced by viewing a tooth extraction video to the patients preoperatively [7]. Postoperative distress associated with dental extractions under local anesthesia was abridged by the application of topical anesthetic (20% benzocaine) at the site of injection [8].

Dental anxiety can be managed by psychotherapeutic interventions, pharmacological interventions, or a combination of both, depending on the patient characteristics, level of dental anxiety, and clinical situations. Psychotherapeutic interventions are either behaviorally or cognitively oriented. Pharmacologically, these patients can be managed using either general anesthesia or sedation. Behavior-modification therapies aim to change unacceptable behaviors through learning, and involve muscle relaxation and relaxation breathing, along with guided imagery and physiological monitoring using biofeedback, hypnosis, acupuncture, distraction, positive reinforcement, stop-signaling, and exposure-based treatments, such as systematic desensitization, "tell-show-do", and modeling [9].

Conclusion

Based on the results of our study, we conclude that dental anxiety has a moderate but significant correlation with intraoperative dental extraction pain.

The etiology for dental anxiety is multifactorial, and hence there is no monotherapy for management. Proper appraisal of the patient and identifying the source and level of anxiety may enable the dentist in deciding a suitable treatment plan.

Table 1: Dental Concerns Assessment - Response to the questions by the patients.

Sl. No.	Concern	Level of concern or Anxiety			
		Low %	Moderate %	High %	Don't know%
1	Not being numb enough	10	20	65	5
2	Not enough information about procedures	5	75	15	5
3	Smells in the dental office	15	60	20	5
4	Being criticized, put down, or lectured to	5	60	20	15
5	Injection (Novocaine)	10	5	85	0
6	Probing to assess gum disease	10	8	82	0
7	Not feeling free to ask questions	5	60	20	15
8	X rays	80	5	15	0
9	I am worried about the cost of dental treatment I may need	5	5	85	5
10	Dislike the numb feeling	7	70	17	6
11	Rubber dam	60	20	10	10
12	Panic attacks	7	70	16	7
13	Extraction	5	5	90	0
14	Cold air hurts teeth	5	60	20	15
15	Gagging, like in impression making	5	70	10	15
16	The sound or feel of scraping during teeth cleaning	3	80	10	7
17	Not being able to stop the dentist	5	5	90	0
18	Sound/vibration of the drill	10	20	70	0
19	I am embarrassed about the condition of my mouth	5	70	17	8
20	I am worried about the number of appointments and the time that will be required for necessary appointments and treatment; time away from work, orthe need for childcare or transportation	5	5	90	0
21	Not being listened to or taken seriously	5	60	20	15
22	Jaw gets tired	5	60	20	15
23	I am worried that I may need a lot of dental treatment	5	5	90	0
24	Root canal treatment	5	5	90	0
25	I don't like feeling confined or not in control	5	70	10	10

Table 2: Norman Corah's Dental Questionnaire.

	Question	Relaxed	A little uneasy	Tense	Anxious	So anxious that almost feel physically sick
1	Imagine you are in the dentist's chair to have your teeth cleaned. While you are waiting and the dentist or hygienist is getting out the instruments that will be used to scrape your teeth around the gums, how do you feel?	0	10	20	60	10
2	When you are in the dentist's chair waiting while the dentist gets the drill ready to begin working on your teeth, how do you feel?	0	10	20	60	10
3	When you are waiting in the dentist's office for your turn in the chair, how do you feel?	0	10	20	60	10
4	If you had to go to the dentist tomorrow for a check-up, how would you feel about it?	0	3	17	70	10

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