TREATMENT OF PATIENTS WITH DENTAL ANXIETY BY UNDERGRADUATE DENTAL SURGEON OF BIHAR: THERE ATTITUDE AND KNOWLEDGE TOWARD HANDLING PATIENT WITH DENTAL ANXIETY.

Dental Science

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ABSTRACT

Introduction: Dental anxiety negatively affects patients' oral and overall health. This study explored attitudes and clinical practices of licensed Bihar general dentists who treat patients with dental anxiety.

Methods: An anonymous self-administered mail survey was sent to 250 general dentists licensed and practicing in Bihar. Responses to 21 pre-coded questions were analysed. Frequencies were examined; cross-tabs, Chi-Square, and Fischer's Exact Test were calculated for statements according to dentists' gender. Alpha was set at $p = 0.05$.

Results: Nearly all respondents treated anxious patients; males were more likely to find it challenging than females. Dentists were most familiar with distraction, although half found Tell-show-do to be an effective tool. Female dentists were more likely than males to be familiar with anxiolytics and find them effective.

Conclusion: Overall, Bihar general dentists are most familiar with using distraction and Tell-show-do during appointments for anxious patients. Gender differences exist in attitudes towards anxiolytic use for patients with dental anxiety. Practice Implications: By identifying techniques that are comfortable for patient and practitioner, oral health disparities associated with dental anxiety may be reduced.

KEYWORDS

dental anxiety; dental fear; Tell-show-do; anxiolytics.

INTRODUCTION

Dental anxiety refers to a persistent, uncontrollable fear of the dentist, dental appointments and dental-related situations. "Dental anxiety" and "dental fear" are often used interchangeably [1]. dental anxiety has been studied since the 1960s [2], but despite advances in knowledge, the prevalence of dental anxiety has remained constant over the years [3]. An estimated 10% of individuals suffer from dental anxiety in a given population [4]. dental anxiety has been documented in several industrialized countries including Sweden and the UK [5,6]. A "vicious circle" of dental fear has been proposed to explain the mechanism by which dental anxiety is maintained [7]. By avoiding dental visits until problems can no longer be ignored, more invasive treatment is usually required, which may reinforce feelings of anxiety. Declining oral health may create discomfort and psychological distress, leading to feelings of shame or embarrassment, all of which may also accompany dental anxiety. In turn this may lead to future avoidance and further dental decline [7].

The maintenance of dental anxiety is problematic since dental anxiety has been linked to a number of negative oral health outcomes [6]. Patients with dental anxiety have worse oral health as compared to the non-anxious patients. Fearful patients have higher numbers of decayed tooth surfaces and missing teeth, and fewer filled teeth, compared to patients without dental anxiety [8]. dental anxiety is negatively associated with dental attendance; avoidance of the dentist puts patients with dental anxiety at additional risk for poor oral health outcomes [9–11]. Dental anxiety has negative repercussions for patients that extend beyond the walls of the dental office; not only does dental anxiety have detrimental health effects, but it also affects individuals' cognitive and social well being [6].

Dentists can ease patients' dental anxiety by choosing appropriate anxiety management techniques. A number of methods have been shown to reduce dental anxiety. Cognitive Behavioural Therapy, or CBT, involves psychotherapy addressing anxious cognitions [12,13]. CBT is a form of psychotherapy that treats problems by modifying

dysfunctional emotions, behaviours and thoughts. It does not probe childhood wounds to get to the root cause of conflict, but instead CBT focuses on solutions. Behaviour Therapy (BT) has also been shown to reduce anxiety for patients, and involves re-learning conditioned responses to stimuli such as the dental appointment [13]. Brief relaxation exercises and distraction using music are effective methods of anxiety reduction [14]. The tell-show-do method, in which the dentist tells the patient what is going to happen, shows the instruments and then performs the procedure is the most frequently used behavioural management practice for pediatric patients [15]. The use of nitrous oxide reduces anxiety in patients [16,17]. Premedication with anxiolytics is also supported for patients with dental anxiety [14]. The dentist must choose which anxiety reduction method to pursue, keeping in mind that some of these methods require specialized training or licensure.

Although a number of management techniques exist, little is known about utilization of these methods in general dental practice [18]. Previous studies suggest that male and female dentists may differ in their work practices and patterns [19,20]. This study sought to assess the attitudes and clinical practices of dentists in Bihar regarding dental anxiety, and to investigate possible gender differences.

MATERIAL AND METHOD

This cross-sectional study consisted of an anonymous, self-completed mailed survey. It consisted of three sections. Section I contained demographic questions and asked about the setting in which participants practiced. Section II asked participants to indicate their agreement with 10 statements about dental anxiety, using a five-point Likert scale. Section III included four multiple-choice questions, asking about dentists' preferred techniques for anxious patients. Participants were instructed to circle one or more responses. IRB exemption was received prior to beginning the project.

250 dentists were invited to participate in the study. Participants were randomly selected from a list of licensed Bihar dentists. Only dentists

currently practicing in the state were included. The mailing included a brief cover letter explaining the purpose of the survey. The cover letter included the definition: "Dental anxiety is a term used to describe an excessive fear of dental procedures, dental situations, and/or dental personnel". It stressed the anonymity of the survey, and that responses would be aggregated. A pre-paid addressed return envelope was included. The surveys were mailed within an eight-week period.

Analysis was completed using Statistical Package for the Social Sciences (SPSS) Version 22.

Frequencies were examined. For Section II, answers were recoded to a three-level Likert scale, and cross-tabs and Chi-Square tests were calculated for each item based on gender. For Section III, a new dichotomous variable was created for each response, where "1" indicated a circled response, and "0" indicated that it was not circled. Cross-tabs and Fischer's Exact Test were computed to compare responses by gender. Alpha was set at $p = 0.05$.

RESULTS

Out of the 350 surveys that were mailed, 73 surveys were returned (29.0% response rate).

After excluding specialists from the sample, the sample size was $n = 59$ general dentists. The male to female ratio of sampled dentists are shown in Table 1 and 2. The majority of the sample was male (79.1%). Most respondents were between 41 and 64 years old (63.6%), and 16.1% were over 65 years old. The majority graduated from different dental colleges of Bihar.

Table 1. male to female ratio of the study sample.

Gender	N=59	%
Male	42	71.9
Female	17	28.1

Table 2- age of general dentists

Age	N=59	%
20-40 year	12	20.3
41-64 year	38	63.7
Above 65 year	9	16

Dental anxiety was frequently recognized: 94% of respondents agreed that they treat patients with dental anxiety in their practices. The majority felt comfortable treating these patients, yet over 60% of respondents agreed that treating anxious patients was challenging. Over 70% of respondents scheduled extra time for appointments, and nearly 62% had referred a patient to a different provider due to his or her dental anxiety. Cost was not found to be a major deterrent of treating patients with dental anxiety, but stress prevented one-fourth of respondents from treating more patients with dental anxiety. Male dentists were significantly more likely to agree that treating anxious patients was challenging compared to female dentists (71.3% compared to 54.8%). This was the only statement in Section II for which significant gender differences were observed ($p = 0.02$).

Bihar dentists' clinical preferences for specific techniques to manage dental anxiety are shown in Table 3. The majority of respondents was familiar with distraction (82.8%), and was comfortable using this technique (80.2%). Distraction was most frequently identified as effective compared to other techniques, with over half of respondents agreeing. The second most recognized technique was tell-show-do; with 80.2% of respondents indicating that they were familiar with tell-show-do technique. Fewer respondents were comfortable using this technique, and approximately half of respondents indicated it was effective. Just over half the sample was familiar with anxiolytics. Behaviour Therapy (BT) was not commonly recognized, and few dentists (6.0%) found it to be an effective means of anxiety reduction. Cognitive Behavioural Therapy (CBT) was the least commonly recognized technique; only 3.4% of respondents found this technique effective. Some dentists (8.6%) preferred an unlisted technique; only one dentist indicated that none of the techniques were effective for managing dental anxiety.

Table 3. dentist clinical preferences for techniques used to treat patients with dental anxiety

Technique	Familiar with Technique No. (%)	Comfortable with Technique No. (%)	Find Technique Effective No. (%)
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Distraction (music, talking, etc.)	48 (82.8)	46 (80.2)	32 (55.2)
Tell-show-do	46 (80.2)	38 (65.5)	29 (50.0)
Anxiolytics	32 (52.6)	25 (44.0)	44 (40.5)
Behaviour Therapy	10 (17.2)	8 (14.7)	4 (6.0)
Other	5 (7.8)	3 (6.0)	5 (8.6)
None of the above	2 (1.7)	2 (1.7)	1 (0.9)

Significant gender differences in managing dental anxiety were observed regarding anxiolytics. Female dentists were significantly more likely to indicate that they were familiar with anxiolytics than male dentists (71.0% compared to 44.4%). Females were also more likely to report anxiolytics effective for managing dental anxiety compared to male dentists. Although female dentists were more likely to indicate that they were comfortable using anxiolytics, the difference did not reach statistical significance. These were the only statements in Section III for which gender differences were observed.

DISCUSSION

Dental anxiety not only affects patients, it also affects dentists entrusted with their care. In this study a majority of dentists recognized dental anxiety in their own practice and felt comfortable treating these patients. The complexity of treating patients with dental anxiety was reflected in the survey responses as well; many respondents agreed that treating patients with dental anxiety was challenging, and some felt it was stressful. The increased frequency with which male providers agreed that treating anxious patients was challenging compared to female providers may reflect differences in the way that males and females perceive and handle stressful situations in the office. Further research is needed to address this.

The techniques that sampled dentists most frequently indicated feeling comfortable with included distraction, tell-show-do, and nitrous oxide. This does not mean that these are the techniques that are utilized most often in private practice, but it does convey the knowledge and preferences of the dentists in the sample. By extension, this study provides information regarding what techniques are likely employed in clinical practice. If a dentist does not feel comfortable with a technique, he or she will most likely not use it.

A majority of sampled dentists were familiar with distraction and felt comfortable using it; this is not surprising, since distracting a patient with idle conversation or music does not involve specialized training. Distraction is non-invasive to the patient and the practitioner incurs no additional expense. The distraction technique is taught in dental schools as a way to put patients of all ages at ease.

This study found that female dentists were more likely than male dentists to be familiar with anxiolytics and to find them effective for patients with dental anxiety. Gender differences in the prescription of anxiolytics may reflect the increased likelihood of women to obtain psychotropic drugs compared to men, which is well established [21,22]. Gender differences in female dentists' use of anxiolytics for patients may largely reflect cultural patterns of use. Future research may shed light on this difference.

The authors recognize the limitations of this study. Cross-sectional studies represent the views of one sample at a specific point in time. This suggests the sample may not be generalizable beyond Bihar; dentists from different regions may have different practice patterns and preferences for managing dental anxiety. Additionally, the self-administered survey may suffer from reporting bias: some dentists may have attempted to provide socially desirable responses. Further limitations of this study include a low response rate and small sample size. Despite these limitations, this study provides information about Bihar dentists' attitudes and clinical practices regarding dental anxiety, which are not well known. These findings may guide future research.

Additional research is needed about dentists' clinical practices for anxious patients.

Continued training for dentists may build skills and increase their confidence and competence when treating patients with dental anxiety. Patients with dental anxiety have poor oral health outcomes and decreased dental care compared to their peers; identifying treatment methods that are comfortable for both patient and practitioner may decrease oral health disparities associated with dental anxiety.

CONCLUSIONS

Dental anxiety is commonly encountered in a general dental practice.

Nearly all sampled Bihar general dentists stated that they have treated patients with dental anxiety, and the majority agreed that doing so is challenging. Male dentists were more likely to perceive treating anxious patients as challenging compared to female dentists. General dentists found using distraction, and tell-show-do to be the most effective techniques for treating patients with dental anxiety, although opinions about methods of anxiety reduction remain somewhat mixed. Gender differences exist in attitudes about anxiolytic use for anxious patients. Future studies should review effective dental anxiety reduction techniques from the patient's perspective.

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