RESEARCH ARTICLE

Acceptance of Parents for Behavior Management Technique with Reference to Previous Dental Expertise and Dental Anxiety

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Abstract

Introduction: Behavior management of pediatric patients may be done by behavioral and pharmacological techniques. Parents play a vital role when making a decision for treatment for the kid.

Aim: To evaluate parental acceptance towards behavior management techniques (BMT) at the side of its reference to previous dental expertise and dental anxiety.

Materials and methods: A descriptive cross-sectional survey was conducted among forty parents of children between three to twelve years before dental treatment. The statistical analysis was done using the Chi-square test, Student's paired and unpaired *t*-test. $p < 0.05$ was considered statistically significant. Data analysis was performed using software package of statistical analysis (SPSS 22.0 version and GraphPad Prism 6.0 version).

Results: The most accepted technique was audiovisual technique followed by tell-show-do and anesthesia. The least accepted technique was oral sedation. Parents whose children were treated at the Postgraduate Clinic of Department of Pediatric Dentistry had lower incomes than those from the private practice. 24% preferred general anesthesia compared to active restraint.

Conclusion: Audiovisual technique is the most accepted behavior management technique by parents and is an efficient distraction technique for behavior management for anxious pediatric patients. Postgraduate clinic parents had lower incomes than those at the private practice. Parental dental experience and dental anxiety didn't have an effect on the acceptance of any specific behavior management technique.

Keywords: Audiovisual technique, Behavior management (BMT), Parental dental anxiety.

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Introduction

McElory (1895) has fantastically expressed that "Although operative dentistry could be perfect, the appointment may be a failure if a child departs in tears." Stress is usually related to infants initial dental visit and has a poor impact on infant's psychology creating the dental appointment ugly one.[1]

Anxiety is one of the vital reasons for not seeking dental treatment by youngsters. Malamed, claims that anxiety, associate degreed pain are related to the dentistry since past though he acclaims that dentist shouldn't be considered as an instrument of pain.

Alvesalo (1993) expressed that among 6–12-year-old youngsters showed that 20–43% exhibited high dental fear. Anesthetic needles verified to be the foremost fear-eliciting stimuli. Negative dental experiences due to dental pain end up in the development of fear and anxiety, which may result in the turning away of further dental treatment. Thus, the concern of painful dental treatments and dental anxiety square measure unsupportive issues with that dentists should cope up.[4] Since youngsters exhibit a broad variety of physical, intellectual, emotional, and social development and a diversity of attitudes and temperament, it's vital that dentists have a large variety of Behavior guidance techniques to fulfill the wants of the individual child and be tolerant and versatile in their implementation.[5]

Behavior management of the child patient is an associate degree integral element of the pediatric practice to attain the cooperation of the child throughout the dental treatment. A substantial proportion of youngsters don't cooperate within the dental chair, therefore forestalling the delivery of high-quality attention. To attain cooperation throughout dental treatment, it became necessary to switch or influence the children's behavior.[6]

Behavior management technique (BMT) is extremely useful in some children if they are unwilling or unable to cooperate. These techniques dissent in their averseness, and additional aversive techniques could also be needed for kids. These techniques square measure alternatives or adjuncts to the dentist to deliver efficient dental treatment.[7] Different studies suggested that all BMT were not equally acceptable to parents and some techniques were generally unacceptable.[6]

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Tell-show-do is the most accepted technique in most previous studies (Murphy et al., 1984; Lawrence et al., 1991; Abushal and Adenubi, 2003; Eaton et al., 2005; Alammouri[6]; Luis de Leo'n et al., 2010; Muhammad et al., 2011). General anesthesia, conscious sedation, physical restraint, and hand-over-mouth are always reported, although in differing order, as the least accepted techniques (Murphy et al., 1984; Lawrence et al., 1991; Abushal and Adenubi, 2003; Eaton et al., 2005; Alammouri[6]; Luis de Leo'n et al., 2010; Muhammad et al., 2011).[8]

Parents have a really vital factor for the productive dental treatment of a toddler, since he/she is answerable for the kid, brings the kid to the dentist, and makes the final selections concerning treatment for the kid (Themessl-Huber et al., 2010; Roberts et al., 2010; AAPD Clinical pointers, 2011). Parental dental anxiety could also be related to the child's dental behavior (Roberts et al., 2010; AAPD Clinical pointers 2011). Parental dental anxiety and their turning away from dental treatment were found to be related to missing dental appointments and better risk of decay for his or her youngsters (Wigen et al., 2009).[8] Another integral side of kid attention is to produce folks with previous data of behavior management techniques (BMTs). This delivery of knowledge provides a mechanism by which parents will participate in treatment selections with full understanding of things associated with their child's projected attention and helps in reducing situational parental anxiety. Thus, insights into factors that influence parental perceptions square measure necessary.[9]

Havelka et al. three had examined the hypothesis that parental rank influences preference toward behavior management techniques used throughout dental treatment of youngsters. Peretz and Zadik complete that the majority folks most well-liked an evidence before behavior management was thought-about for his or her youngsters, so an in depth clarification would increase the parent's acceptance to firm techniques.[6] Ayral (2002) expressed that the utilization of video data for getting consent before associate degree invasive procedure in medical specialty complete that video data decreases operative anxiety all told collaborating patients.[10]

The hypotheses of the present study were: (1) There is a possible association between parents' dental anxiety and/or dental experience and their acceptance of different behavior management techniques applied to their children; (2) There is a difference in parental acceptance between children treated in the Institutional Postgraduate clinic or in private practice. The aim of the present study was to examine parents' acceptance of nine behavior management techniques used in everyday clinical practice of pediatric dentistry and the association of this acceptance with several possible confounding factors, including parental dental anxiety and experience.

Materials and Methods

Ethical approval

The study was approved by the Institutional Ethical Committee. Informed consent was taken from parents.

Study Sample

The study was conducted in two locations; the postgraduate clinic of the Department of Pediatric Dentistry at Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur and the private pediatric dental practice. The parents of all 3 to 12-year-old children who visited these two clinical settings over a 2-months period participated in the study. Parents of children with mental or physical disabilities were excluded from the sample (Fig. 1).

Video

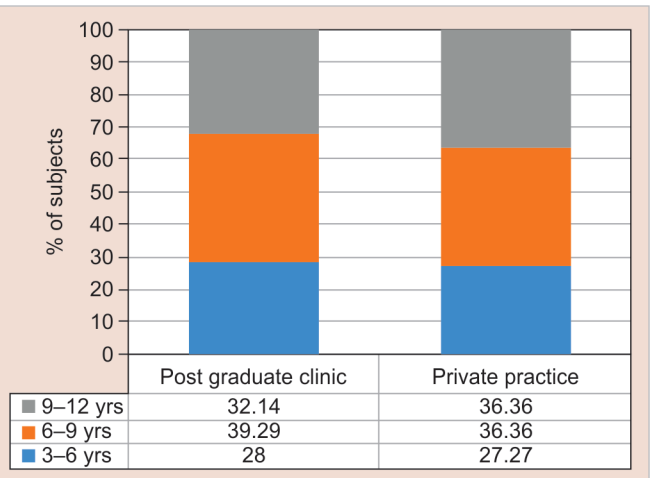
Video with an introduction to each behavior management technique, explaining the techniques one by one, was made for use in this study. Three children (one girl seven years old, and two boys eight years old) acted in the video with the prior written informed consent of their parents. The children were instructed to react as if they were actually receiving the dental treatment. The video, which lasted 10 minutes, was recorded in the postgraduate clinic. The BMT included in the video were: (1) Tell-show-do, (2) Voice control, (3) Modelling, (4) HOME (hand-over-mouth exercise), (5) Active restraint, (6) Parental presence/absence (PPA), (7) Audiovisual, (8) Oral sedation and (9) General anesthesia. The techniques were presented in the same order.[16]

Rating

While watching the video alone, before the dental treatment of the child, parents were given 10 seconds between each successive presentation of a technique to rate the technique just viewed on a scale of 0–10, as a measure of their acceptance. Rating 0 meant that the parent completely opposed the technique and 10 meant that the parent completely accepted its use for their child (Eaton et al., 2005; Luis de Leo'n et al., 2010).

Questionnaire

After watching the video, the parents were asked to fill questionnaire which was given to them in vernacular language, similar in form to those used by Eaton et al. (2005) and Luis de Leo'n et al. (2010). The questionnaire included information concerning gender, age, and previous dental experience (positive, negative, never been to the dentist before) of the parents and also concerning the family income of the parents. An annual family income for parents of less than `50,000 was considered low, `50,000–`1,00,000 was classified as average and that of over `1,00,000 was considered high. The questionnaire included the Greek version of modified corah dental anxiety scale (MDAS) for measuring parental dental anxiety (Coolidge et al., 2008). At the end of the questionnaire, the parent was asked to answer the following question: "In the situation where your child was not cooperative enough to complete



	Post graduate clinic	Private practice
9–12 yrs	32.14	36.36
6–9 yrs	39.29	36.36
3–6 yrs	28	27.27

Fig. 1: Distribution of study participants according to sociodemographic details

Fig. 2: Audiovisual technique

Fig. 3: Tell-show-do

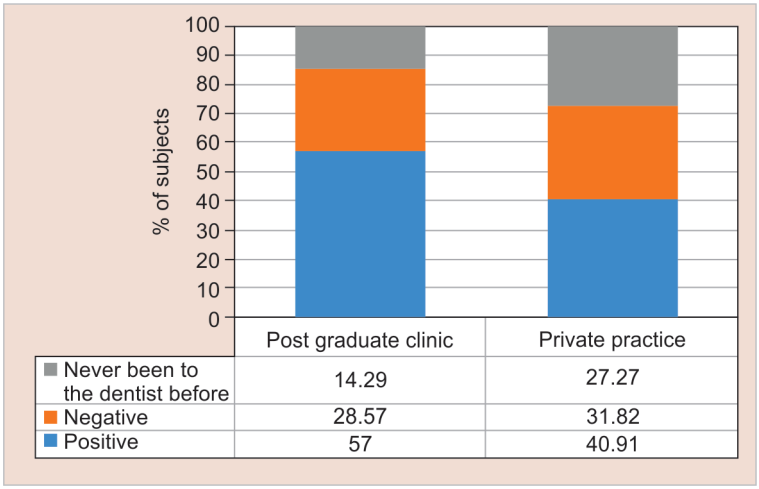


Fig. 4: Parents' previous dental experience

the dental treatment, and the pediatric dentist recommended the use of either (1) general anesthesia or (2) one of active restraint, voice control or hand-over-mouth techniques, which would you prefer?'' The parent was asked to write the number 1 or 2 to indicate the answer.

Statistical Analysis

Statistical analysis was done by using descriptive and inferential statistics using Chi-square test, Student's paired and unpaired *t*-test, and software used in the analysis was SPSS 22.0 version and GraphPad Prism 6.0 version and $p < 0.05$ is considered as the level of significance.

Results

A total of 50 parents (28 from the Postgraduate clinic and 22 from the private practice) agreed to participate in this study. Parents from the Postgraduate clinic statistically significant lower incomes ($p < 0.05$) than those from the private practice. Acceptance of each BMT was not related to parental age, gender, or family income. Out of 50 children, 14 were from 3–6 age-group, 19 from 6–9 age-group, 17 from 9–12 age-group. No statistically significant correlation was found between the parental rating of each technique and the child's age, (50% positive, 30% negative, 20% never been to the dentist before), either for children treated in the Postgraduate clinic or those treated in private practice.

Out of all proposed behavioral management techniques, audiovisual aid (24%) was rated higher than any other by all parents (Fig. 2). Tell-show-do (16%) was the second most accepted technique followed by general anesthesia (12%) (Fig. 3). The least accepted techniques were oral sedation (4%) Parental previous dental experience (50% positive, 30% negative, 20% never been to the dentist before) was not associated with their acceptance of individual Behavior management techniques (Fig. 4).

Parents from the Postgraduate clinic rated active restraint (14.29%), HOME (14.29%) higher than those at the private practice, where the respective values were 4.55% for both. No statistically significant correlations were found between the acceptance of the different techniques (Fig. 5).

Parental dental anxiety (mean MDAS = 10.09 ± 4.87, range = 5–25) was not associated with their acceptance of Behavior management techniques. The mean MDAS score for the parents from the private practice was 10.1 ± 4.41 and that for the parents from the Postgraduate clinic 10.08 ± 5.38, being not statistically significantly different. However, 24% of the parents of both study locations selected General Anesthesia when answering the last question described above (Fig. 6).

Discussion

The management of children's behavior is integral element of pediatric practice. Behavior modification techniques measure used

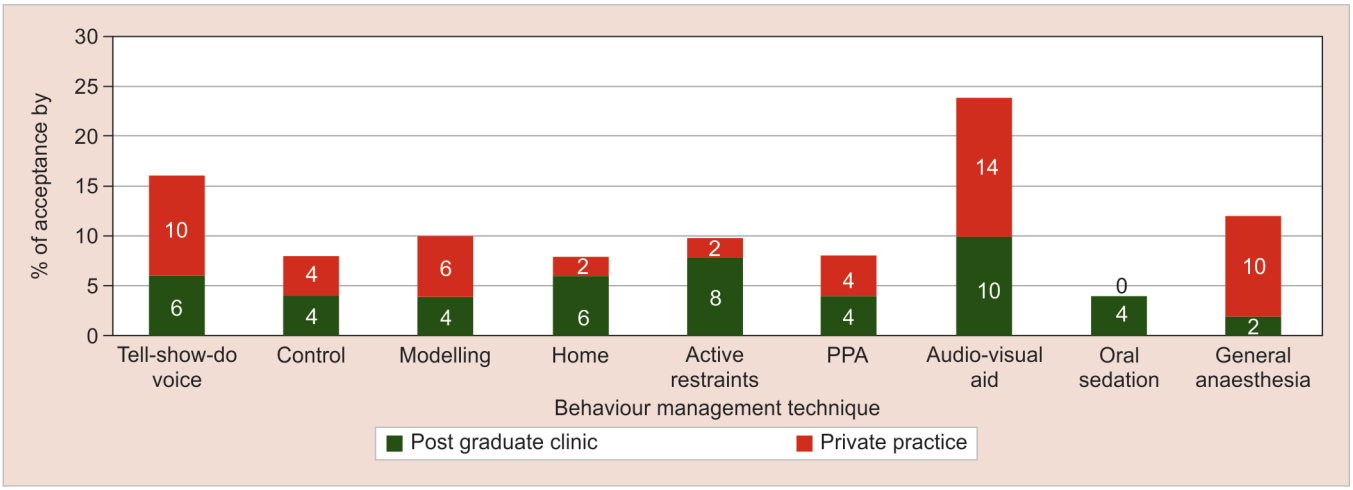


Fig. 5: Parental acceptance of behavior management technique

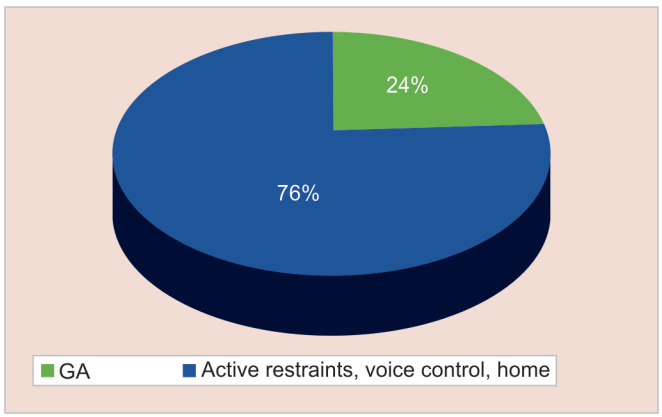


Fig. 6: Parental acceptance of BMT in case of uncooperative patient

Table 1: The most and least accepted techniques in previous studies

Author	*Most accepted technique*	*Least accepted technique*
Boka et al.[8]	Tell-show-do Parental presence/ absence nitrous oxide inhalation sedation	Passive restraint general anesthesia
Muhammad et al. (2011)	Positive reinforcement Effective communication	General anesthesia Hand-over-mouth
Luis de Leo'n et al. (2010)	Tell-show-do Voice control	Hand-over-mouth
Alammouri[6]	Tell-show-do Positive reinforcement Distraction	Hand-over-mouth Nitrous oxide sedation
Eaton et al. (2005)	Tell-show-do N_2O	Hand-over-mouth
Abushal and Adenubi (2003)	Tell-show-do Positive reinforcement Distraction	Parent separation Physical restraint

by dental practitioners to ascertain communication, alleviate worry and anxiety, facilitate delivery of quality dental care, build a trusting relationship between medical practitioner, child, and parent, and promote the child's positive angle towards oral healthcare, so serving to them to cope and show disposition to undertake dental treatment procedures.[11]

Dental anxiety has been the first reason for not seeking dental care for kids. These fears and anxieties ought to be addressed or it will have an effect on patients' oral health and will end in costly dental treatments that might be avoided through preventive care. So, there's a necessity for correct assessment of dental anxiety followed by a treatment session during a pleasant or less nerve-racking dental setting to alleviate worry and anxiety. The people of the patients selected within the present study belonged to 3-12 years as kids show tumultuous or negative behavior during this people and have measure tough to manage.[12]

There measure varied modes of presentation, namely, oral, written, and videos. Videos square measure additional and will have an enduring impact on the observer. Only a few Indian studies square measure done to assess the parent's angle to BMT. Thus, this study was carried out using videos with an explanation of the procedure as a method to assess the parent's angle.[7]

Parents perpetually accompany kids through all dental appointments. they're concerned about a lot of the decision-making and delivery of care. Parents play a crucial half in reducing a child's anxiety and permitting the pedodontist to create a treatment alliance. Earlier, the extent of communication with Parents was terribly less and actively discouraged by the dental workers. With ever-changing attitudes in society, parental involvement has accumulated. Drawing the parent into treatment choices through consent procedures is currently a regular of care.[7]

The use and acceptance of a method by the profession doesn't assure its lawfulness as viewed by today's courts. With the stress on children's rights, the angle of parents toward BMT constitutes necessary issue that should be thought of once choosing an approach for managing behavior. Thus, the study was allotted to assess the attitude of parents toward different BMT utilized by pediatric dentists in children of various age teams.[7]

In the present study majority of parents accepted audiovisual technique as BMT for his or her kid, that may be a novelty factor as the majority of the previous study explicit tell-show-do to be the most accepted BMT by parents (Table 1). Within the past, major focus around patient pain and anxiety management was focused on pharmacological treatments, whereas the literature printed throughout the last decade has progressively centered on non pharmacological techniques. One cognitive behavioral strategy is named distraction—a method supported the notion of

a human's restricted capability for attention. Distraction techniques vary from passive to active interventions, with the assumption that the additional interactive the distraction technique, involving visual, sense modality and tactile stimuli, the bigger the potential for distraction from pain. In recent years, video game has become well-liked in clinical analysis studies as innovative distraction technique.[4]

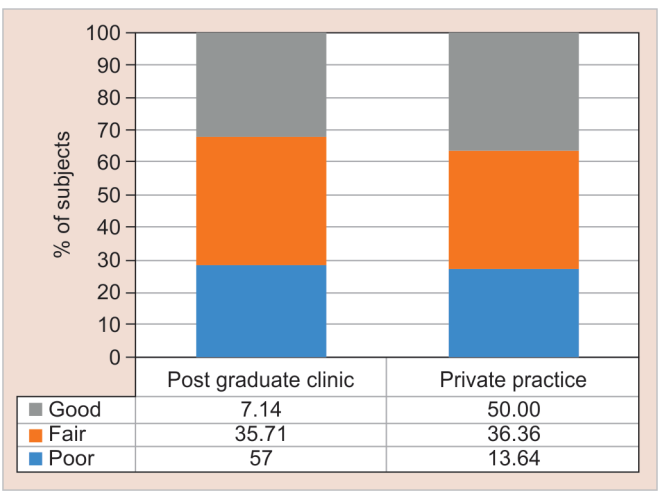
Fernandez et al. concluded that the employment of the audiovisual material used as a way of distraction improves the world behavior of youngsters aged 6–8 years however doesn't cut back their parent's perception of the patients' anxiety, or the patient's self-reported anxiety, pain or pulse rate in line with the measure scales used.[13]

Tell-show-do was the second most typically accepted BMT during this study. The terribly high rating found for tell-show-do was expected because it is among the safest and least invasive Behavior management techniques and its satisfactoriness seems comparatively stable over time (Eaton et al., 2005; Roberts et al., 2010; AAPD Clinical pointers, 2011).[8]

General anesthesia (12%) being the third most typically accepted BMT that was the foremost stunning part. Parental acceptance towards sedation was rated not up to alternative BMT as reportable in studies by alternative investigators (Fields et al., 1984; Potato et al., 1984). Oldsters overtime square measure actually tending to be more well-off with the concept of getting their kid treated underneath general anesthesia or sedation as reportable by Eaton et al. (2005).[14]

Acceptance of general anesthesia was more in private practice (22.73%) than in Postgraduate clinics (3.57%) this could be attributable to distinction within the socio-economic standing at each place. Parents of high education viewed dental sedation for kids as a secure approach.[14] During this study, we have a tendency to failed to address the extent of education; it's potential to assume that prime socioeconomic standing is similar to high education as a result of it's typically measured as a mix of education, financial gain, and occupation.

In the present study, it had been discovered that patients visiting Postgraduate clinics were from poor socioeconomic standing and people visiting private practice majority were from good socio-economic standing that was found to be statistically significant ($p < 0.05$) (Fig. 7). Winnier et al. stated that the patients from higher socioeconomic class may be going to private dentists where the cost of dental treatment is high, whereas the lower socioeconomic find government hospitals more convenient than private where cost may be low but waiting period for treatment and number of visits may be much more.[15]



	Post graduate clinic	Private practice
Good	7.14	50.00
Fair	35.71	36.36
Poor	57	13.64

Fig. 7: Socioeconomic status

Previous dental experience of the parent or the child was not statistically significantly associated with the acceptance of specific individual behavior management techniques, and this is in agreement with the results of other studies (Peretz and Zadik, 1999; Luis de Leo´n et al., 2010).

Parents were asked to choose if they would prefer general anesthesia or one invasive technique in the case where their child was not cooperative enough to complete dental treatment. 24% stated a preference for general anesthesia. A possible explanation is that, these parents based on their previous negative dental experience, expect general anesthesia to be less stressful to their children or they believe that the implementation of those invasive techniques would be a negative experience for them. In a study by Eaton et al., the third most acceptable technique by parents was general anesthesia. Modern parents are willing to abdicate disciplinary actions and opt for pharmacological techniques.[2,3]

Sheller (2004) found that parents demanded that general anesthesia be given to their children for any dental procedure to a greater extent because they believed their children would not cooperate during dental treatment.[8]

On the overall acceptance of every technique, there were no statistically significant correlations between them.

Conclusion

Behavior management is a key factor in providing dental care for children. Audiovisual technique is the most accepted BMT by parents and is a novel method that can be an effective and alternative distraction technique for the behavior management for anxious pediatric patients. Postgraduate clinic parents had lower income than those at the private practice. General anesthesia was accepted by the majority of the parents as BMT which is a rare finding. Prior explanation of BMT to parents would increase the acceptance by reducing the dental anxiety amongst the parents.

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