

Parental Acceptance and Attitudes Towards Various Behavior Management techniques for Children During Dental Treatment: A Cross-Sectional Study



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OBJECTIVE: To evaluate the parental perceptions and attitudes towards different behavior management techniques commonly employed by dentists.

METHODOLOGY: A cross-sectional descriptive study was conducted using a self-structured questionnaire. Data was collected from 134 parents accompanying their children (aged 5-10 years) for dental treatment. Descriptive and inferential analyses were carried out using SPSS v21.

RESULTS: Among the 134 parents, 41.7% were males and 58.3% were females. The mean age of the children included in the study was 6.67 (SD+ 0.92) of which 44.02% were males and 55.9% were females. In addressing non-cooperation during dental procedures 30.1% of the parents would opt to defer the treatment and 24.4% expressed a preference for the dentist to perform the procedure forcefully. A majority of 86.5% expressed the desire to accompany their child during the dental treatment. The most acceptable technique by the parents was Tell-Show-Do and live modeling followed by positive reinforcement while treatment under general anesthesia was the least acceptable.

CONCLUSION: Parents prefer using less aggressive techniques like Tell-Show-Do, modeling and positive reinforcement for the management of their children and the majority want to accompany the child during the treatment. The parents' least accepted technique is treatment under general anesthesia. A thorough understanding of parental desires promotes a healthy dentist-parent relationship.

KEYWORDS: Behavior therapy, Parental consent, Dentist-patient relationship, Pediatric Dentistry, Behavior management techniques

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INTRODUCTION

Behavior management of children is a fundamental constituent of the provision of dental treatment to children. It helps to build rapport between the child

and the dentist and alleviates anxiety related to dental treatment.¹ The importance of behavior management in pediatric dentistry was highlighted by McElroy in 1895 as "Although the operative dentistry may be perfect, the appointment is a failure if the child departs in tears".² This approach emphasizes that the foundation of dental treatment of children lies on the positive dental experience by the child.

Dental anxiety is a prevalent issue among young children, affecting both their oral health and general well-being. The fear and apprehension often associated with dental visits arise from factors like the unfamiliar dental environment, perceived invasiveness of procedures, and parental anxiety.¹ This anxiety may lead to avoidance of dental care, potentially

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causing delayed treatment and oral health complications. A research was conducted in Peshawar, Pakistan, which highlighted that dental anxiety among children 5-10 years of age was found to be notably high at 96.7%, particularly evident during their initial dental appointments.³ A recent study in Lahore, Pakistan, measured dental anxiety in pediatric patients by employing the Children's Fear Survey Schedule-Dental Subscale (CFSS-DS) revealed that 66% of the surveyed participants exhibited dental fear and anxiety.⁴

These statistics underscore the importance for dentists to implement successful behavior management strategies to address the prevalent issue of dental anxiety among children. American Academy of Pediatric Dentistry recommends various pharmacological and non-pharmacological behavior management techniques to tackle behavior issues in children.¹ The objective of these techniques is to foster a healthy relationship between the child, parent and dentist and to build a positive dental attitude among the children. These techniques have their foundation in child psychology and therefore help dentists understand the development of fear, anxiety and anger experienced by the child in dental situations. Advanced behavior management techniques are applied when the basic techniques are not fruitful. Sedation or general anesthesia are indicated when the chair-side behavior management techniques fail.

The choice of the behavior management technique (BMT) depends on the needs of the individual patient as well as the expertise of the dentist.⁵ With advances in dentistry, a dramatic shift in the approach to managing patients has been observed.⁶ Parents have an important role in the decision-making for the child. The temperament of the parents is translated into their preferences for managing their child's behavior. Research has revealed that some BMTs are generally unpopular and that not all are equally acceptable to parents. With the evolution of societal norms, there is a change in the parental attitude⁵ and this needs to be assessed to get an insight to their requirements.

The use of the various behavior management techniques during the dental treatment of the child needs to be approved by the parents. Therefore, a thorough knowledge about the acceptance of the various BMTs is important to strengthen the parent-dentist relationship. There is limited data on the acceptance of the BMTs by the Pakistani parents. The aim of the current study was to evaluate the attitudes of the parents towards different BMTs commonly employed by dentists.

METHODOLOGY

A cross-sectional, descriptive study was conducted at University College of Dentistry, The University of Lahore

after getting ethical approval from the institutional Ethical Review Board (UCD/ERCA/21/11dj). Sample size was determined using WHO calculator resulting in a calculated size of 134 with 95% confidence level and 5% margin of error taking the value of interest to be 90.4%.⁷

Data was collected from 134 parents accompanying their children for dental treatment. Non-probability convenience sampling technique was employed. Parents of children aged between 5 to 10 years who gave voluntary informed consent were included. Parents of children who were medically compromised or those with special healthcare needs were excluded from the study. Informed consent was taken by the parents enrolled in the study.

A self-structured questionnaire was used as a study tool. It comprised questions about the parents' perception and preferences regarding the behavior management techniques employed dental treatment. Parents were shown photographs depicting frequently used BMTs along with a short written explanation of the technique in English and native Urdu language. The American Academy of Pediatric Dentistry's recent clinical guidelines on behavior management approaches were used to define each technique and provide an explanation of it in the questionnaire.¹ In order to validate the description of the techniques, it was presented to two dental specialists. Adjustments were implemented based on the recommendations provided by these specialists.

The nine different BMTs mentioned were: tell-show-do, modelling, positive reinforcement, distraction, voice control, hand-over-mouth exercise (HOME), mouth prop and physical restraints. Acceptance of dental treatment under general anesthesia was also included. Parents were asked to rate the acceptance of each technique according to their willingness to have them used on their children. A five-point Likert scale was used with score 1 being least acceptable and 5 being most acceptable. Data was analyzed using SPSS version 21. Frequency and percentage tables were generated to present the descriptive stats. The mean score \pm standard deviation (SD) for each technique was calculated to rank its acceptability. The normality of the data was assessed using the Shapiro-Wilk test, revealing a deviation from normal distribution. The acceptance of the behavior management technique was dichotomized as either 'not-acceptable' (mean score ≤ 2.5) or 'acceptable' (mean score ≥ 2.5). To explore the relationship between parental acceptance and the age of the child and the age of the accompanying parent, Mann-Whitney U test was employed. Additionally, the associations between parental acceptance and categorical variables, such as the gender of the child, gender of the accompanying parent and parental education, were assessed using the Chi-square test. A p-value ≤ 0.05 was considered to be statistically significant.

RESULTS

Among the 134 parents, 41.8% (n=56) were males and 58.2% (n=78) were females. The mean age of the parents was 39.54 (SD + 3. 65). The demographic details of the parents and their children enrolled in the study are summarized in Table 1.

Table 1: Descriptive and Inferential statistics for the demographic variables

Variable		Descriptive statistics		Inferential Analysis
		Mean (±SD)	% (n)	p-value
Parents	Age	39.54 (3. 65)		0.356*
	Gender			0.203**
	Male		41.8 (56)	
	Female		58.2 (78)	
	Education Level			0.542**
	Primary		7.4 (10)	
	Secondary		23.9 (32)	
Higher		31.3 (42)		
Secondary/Intermediate		26.9 (36)		
Graduate		11.9 (16)		
Post-graduate				
Children	Age	6.67 (0.92)		0.124*
	Gender			1.068**
	Males		44.02 (59)	
	Females		55.9 (75)	

*Mann-Whitney U test: p-value ≤0.05 considered significant

**Chi-square test: p-value ≤0.05 considered significant

The perceptions of the parents regarding the behavior management during the child's dental treatment were explored. In terms of preparing their children for dental treatment, 35.3% stated relying solely on the dentist for counseling, 33.3% using positive reinforcement by offering rewards, 21.1% showing a video of the dental treatment before the appointment and 10.2% giving warning of threatening consequences.

In addressing non-cooperation during dental procedures, the study revealed that 41.7% of parents would attempt counseling their child, 30.1% would opt to defer the treatment, 24.4% expressed a preference for the dentist to perform the procedure forcefully, while a minority, 3.8%, would consider having the treatment conducted under general anesthesia. A majority of 86.5% expressed the desire to accompany their child during the dental treatment. The most acceptable technique by the parents was Tell-Show-Do and live modeling followed by positive reinforcement while treatment under

general anesthesia was the least acceptable. The mean scores and standard deviations for each technique are given in Table 2. The BMTs been arranged in order of their acceptance. No significant association was found between the age or

Table 2: The mean score and standard deviation for different techniques used by the dentists

Behavior Management Technique	Mean Score (±SD)
Tell Show Do	5 (0)
Live Modeling	5 (0)
Positive Reinforcement	4.62 (.03)
Distraction	4.21 (.21)
Parents absence/presence	3.37 (.48)
Voice Control	2.61 (1.79)
Oral Sedation	1.89 (1.16)
Hand Over Mouth Exercise	1.54 (1.35)
Physical Restraints	1.33 (1.05)
General Anesthesia	1.19 (.47)

gender of the child and the acceptance of the techniques with p-values of 0.124 and 1.068 respectively. The p-values for various variables of the study are given in Table 1.

DISCUSSION

Cultural background plays an imperative role in the acceptance of various BMTs.⁸ The most acceptable techniques in our study were found to be Tell-Show-Do and live modeling while HOME, physical restraints were comparatively less acceptable ones. Treatment under general anesthesia was the least accepted by the parents for dental treatment. This is in accordance with most of the studies conducted on the acceptance of behavior management techniques. Tell-Show-Do is ranked as the most acceptable technique in the literature^{7,8} while physical restraints, HOME and treatment under sedation and general anesthesia, although in a different order, have always been reported in the literature to be the least acceptable techniques.¹⁰⁻¹² This outcome is very logical as the inclination towards the minimally invasive and less aggressive techniques align with the prevailing attitude of the parents.² However a study conducted by Eaton et al.¹⁵ reported the changing trends in the acceptance of behavior management techniques by parents. Their study found nitrous-oxide sedation to be the second most acceptable technique after Tell-Show-Do. Another study conducted in India reported

similar trends where sedation and general anesthesia were more acceptable by the parents compared to aggressive techniques like voice control, HOME and physical restraints.⁷ Due to the evolution of the societal and cultural norms, with an increasing number of working parents and nuclear family set-ups, an increased anxiety towards the children has been observed.¹⁶ There has also been an increase in the oral health literacy and parents want to get dental treatment done to improve the quality of life of their children. These factors have been translated into a shift in parental preferences towards the BMTs used by dentists.

Although parents exhibit limited acceptance of assertive behavior management techniques, it has been reported that these methods are favored by parents, particularly in situations necessitating local anesthesia or emergency treatment.¹¹ However the present study did not consider the responses under such circumstances. It is noteworthy that the type and urgency of treatment influence both the selection of a particular technique and parental acceptance of that technique as well. There have been studies that show that the children do not remember the use of HOME or any restraints used by the dentists and therefore their use does not affect the future behavior.¹⁷ Nevertheless, the use of HOME has been very controversial and is not included in the AAPD guidelines anymore.¹

In our study, when the parents were asked how they would proceed if the child failed to cooperate during the procedure, only 3.8% of the participants reported getting the treatment done under general anesthesia. Dental treatment under general anesthesia is carried out on anxious children who fail to cooperate using communicative means of behavior management as the child is put to sleep and all of the dental treatment is completed in one visit without any stress on the child.¹⁸ Opting for dental treatment under general anesthesia can be a challenging decision for parents, primarily due to concerns about the risks associated with general anesthesia. Parents may be apprehensive about potential complications or worried about the overall safety and well-being of their child during the procedure. Balancing the perceived benefits of general anesthesia with these concerns requires careful discussion with the parents to facilitate their decision. Therefore dentists should demonstrate sensitivity to parental apprehensions regarding dental treatment under general anesthesia and address their concerns.

An astonishing number (30.1%) of parents reported deferring the dental treatment if the child fails to cooperate. This highlights the lack of oral health education and negligence related to the treatment of primary teeth in children and underscores the need for targeted efforts to enhance oral health literacy to improve oral health in children. A cross-sectional study conducted in Iran revealed an association

between inadequate oral health literacy and elevated caries prevalence in children, accompanied by a lower utilization of dental treatments.¹⁹

The current study revealed that 86.5% of parents expressed a desire to be present with their child during dental treatment. This is in agreement with studies by Shroff et al.²⁰ and Hamzah et al.²¹ where most of the parents wanted to accompany their child in the dental clinic. The presence of parents during the treatment of the child has been a controversial issue in the practice of pediatric dentistry.²² While some dentists may or may not be comfortable with the presence of parents, it is always cited as a matter of personal preference. The AAPD advocates considering parents' preferences in this regard as their involvement should be seen as the natural parental instinct to be protective of their children.¹

In our study, no association of acceptance of BMTs with the age and gender of the child was found. Similar results were reported in a study by Shukla et al.²³

Contrary to the expectations, no association between the education level of the parents and the acceptance of the technique was found. Al Zhobi et al.¹³ also reported mixed results in their study comprising two populations. This unexpected finding challenges conventional assumptions that higher education correlates with open-mindedness to accept advanced behavior management techniques like sedation and general anesthesia for dental treatment of children. Possible explanations could be varying individual beliefs, unique family dynamics, or perhaps a shared understanding and acceptance of dental care practices across different educational backgrounds. The absence of a clear association underscores the complexity of parental attitudes toward behavior management techniques, suggesting that factors beyond educational levels play a pivotal role in shaping these perspectives.

The study was constrained by its limitations, notably a modest sample size and its single-center nature. Additionally, the socioeconomic status of parents, a crucial factor influencing their ability to consider diverse dental care options, particularly general anesthesia, was not explored during the study.

CONCLUSION

Parents prefer the use of less aggressive techniques like Tell-Show-Do, modeling and positive reinforcement while techniques like voice control and physical restraints are less accepted. The majority of the parents want to accompany the child during the treatment. Dental treatment under general anesthesia is the least accepted technique by the parents. A thorough understanding of their desires by the dentist

facilitates the establishment of a healthy dentist-parent relationship, enhancing the provision of dental care to children. Dentists who can adapt behavior management techniques to meet each child's individual needs may be particularly valued by parents, fostering a sense of personalized care.

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CONFLICT OF INTEREST

None

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