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Children's and parents' perception towards non-pharmacological behaviour guidance techniques

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Abstract

Objective: Pediatric dentistry understands that the behaviour guidance of the child cannot be separated from the quality of dental work. A child's willingness in accepting dental treatment is as important as the parents', if not more. This study aimed to evaluate the children's and parents' attitude towards different non-pharmacologic behaviour guidance techniques using the line of favour.

Methods: A total of 140 participants, 70 children and 70 parents were selected; from among the ones visiting the Department of Pediatric and Preventive Dentistry, Himachal Dental College, Sunder Nagar, Himachal Pradesh. Each participant was asked to watch 9 videos of non- pharmacologic behaviour guidance techniques which include: tell – show - do, positive reinforcement, distraction, reassuring touch, parental separation, physical restraints, hand-over-mouth-exercise and voice

control. After watching the videos, the participants were asked to express their feeling towards each technique by drawing a line of favour.

Results: In the present study, the gender and age of participants did make a difference in the acceptability of certain techniques, while for some techniques the accept ability was irrespective of the demographic variables. For both the study groups, tell-show-do was found to be the most accepted technique; whereas, hand-over-mouth-exercise was the least accepted by children while physical restraints were least acceptable for the parents' group.

Conclusion: Children's opinion, along with that of the parents, should always be considered as they are the one receiving the treatment.

Keywords: Dental anxiety; Children; Pediatric dentistry; Behaviour, guidance techniques

Introduction

A child's visit to a dental office, particularly the first one, or if his/her parents, have a previous history of a bad experience at the dental office, can evoke strong fear reactions and acute anxiety in some children. Both, children and adults may have similar feelings, but adults are definitely more logical, and hence, they tend to easily cope up with the settings and environment of the dental office. Therefore, it would not be fair that the younger patient simply be treated as a mini version of the older one.

Assessment of children based on their behavior is one of the most important skills for a Pediatric dentist.[1] Behavior management is considered a keystone entity in Pediatric dentistry.[2] The major aspect of child management in the dental care is managing dental anxiety and fear as it is considered to be the main barrier for the successful completion of the dental treatment.[3]

The etiology of dental fear in children is multifactorial.[4] Such fear ranges from fear of needle to fear of bodily harm to a general fear of the unknown.[5] The need of behavior management is hence, as fundamental to the successful treatment of children, as are the hand-piece skills and the knowledge of the dental materials. [6]

Pediatric dentistry understands that a child's behavior management cannot be separated from the quality of dental treatment to be provided. A child's willingness in accepting any dental treatment is equally important as that of the parents, if not more.[7]

The aim of the present study was to evaluate both, the children's as well as parents' attitudes towards the different non – pharma cological behavior management techniques using the Line of Favour (LOF).

Materials and methods

This study was performed after receiving the approval of the Institutional Ethical Committee, Himachal Dental College, Sunder Nagar, Himachal Pradesh, India. The study sample included a total of 140 participants, out of which 70 were children and 70 were parents, who visited the Department of Pediatric and Preventive Dentistry, Himachal Dental College, Sunder Nagar. The participants had no previous dental experience.

Children included in the study were able to watch videotapes and communicate effectively. The sample was equally divided into 2 groups – CG, representing the Children's Group and PG, represented the Parents' group. Parents of selected children were provided by detailed explanation of the aim of the study and their consents for approval that their children would participate in the study were received.

Consents for videotaping and the use of the videotape for the study purpose were also obtained from the parents of the volunteer child shown in the videotape.

Videotapes were filmed using following behavior guidance techniques: Tell-Show-Do (TSD), Live modelling, Distraction, Positive Reinforcement, Parental Separation, Voice Control, Physical Restraints (Protective Stabilization), Hand-Over-Mouth-Exercise and Reassuring Touch (Non-Verbal Communication.

Performance of demonstration videos was carried out by the same dentist with the participation of a 7-year-old volunteer child who had been asked to behave as instructed. All videos were filmed at the Department of Pediatric and Preventive Dentistry, Himachal Dental College, using a digital camera.

Measurement of attitudes

Participants in the study were addressed separately in a private room where they were provided with a brief explanation about the nature of the videos in general that they will watch. They were told to evaluate the behavior guidance technique used by the dentist. The filmed videos were then shown, one video at a time. After watching each video, the technique used in it was explained to the child by using standardized phrases for each technique. Then they were asked to draw a line from the anchor point to the right. The length of the line of favour reflected how much they liked the behavior guidance technique shown.

The maximum length of line of favour is 10 centimeters representing highest acceptance of a technique[8]. While a short line reflected an unfavourable technique by the participant. The line of favour scale was designed to interpret the 'liking' of a child and parent and translate it into a numerical value. A score of:

• 0 to ≤ 3 cm means the participant is not very fond of that technique (N).

• >3 to ≤ 7 cm means the participant is neutral toward that technique(A).

• >7 to ≤ 10 cm means the participant likes that technique very much(P).

Statistical methodology

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0[9]. Qualitative data were described using frequency and percentage. Com parison between different groups regarding categorical variables was tested using Chi-square test.

Results

The total study sample comprised of 140 participants, 50% children (70) and 50% parents (70). Out of 70 children, 54.28% were boys and 45.71% were girls. Out of 70 parents, 60% were females and 40% were males.

For the Children's Group, the acceptance of behavior guidance techniques were in order of TSD (92. 85%), Distraction (71.5%), Positive Rein for cement (70%), Live Modelling (65.71%), Reassuring Touch (37.15%), Parental Separation (0), Voice Control (0), Physical restraints (0) and Hand-Over-Mouth Exercise (0). [Table 1, Figure 1]

Likewise, for Parents 'Group, the decreasing order of preference of various Behavior Management techniques in the current study was as follows – TSD (91.42%), Reassuring Touch (74.06%), Live Modelling (71.42%), Positive Reinforcement (71.42%), Distraction (48.57%), Parental Separation (12.85%), Hand-Over-Mouth-Exercise (9.9%), Voice Control (4.28%) and Physical Restraints (0). [Table 2, Figure 2].

Technique	N	A	P	Chi-square value (χ^2)	p-value
Tell-Show-Do	0	7.142	92.85	150.1852	< 0.0001
Live Modelling	0	34.28	65.71		
Distraction	0	28.5	71.5		

Positive Reinforcement	0	30	70		
Parental Separation	75.71	24.28	0		
Voice Control	87.14	12.85	0		
Physical Restraints	97.14	2.85	0		
Hand-Over-Mouth-Exercise	100	0	0		
Reassuring Touch	10	52.85	37.15		

Table 1: Percentage rating as represented on the Line of Favour for each technique for the Children's Group.

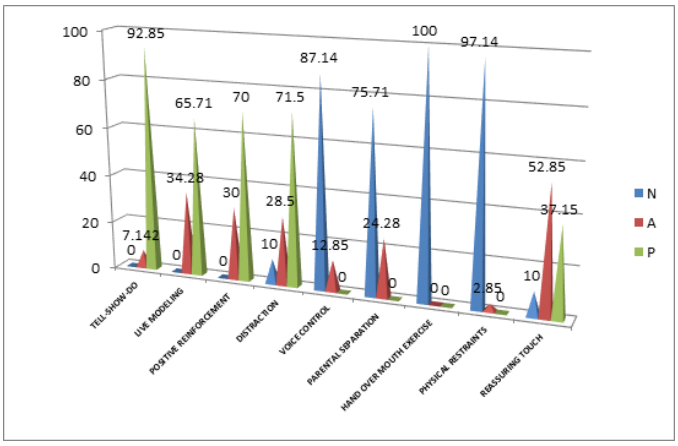

Figure 1: Graphic representation of the ratings for each technique for the Children's Group

Technique	N	A	P	Chi-square value (χ^2)	p-value
Tell-Show-Do	0	8.571	91.42	188.46	< 0.00001
Live Modelling	0	28.57	71.42		

Distraction	14.28	37.14	48.57		
Positive Reinforcement	11.42	17.142	71.42		
Parental Separation	32.85	54.28	12.85		
Voice Control	57.1	38.57	4.28		
Physical Restraints	90	10	0		
Hand-Over-Mouth-Exercise	35.60	54.50	09.90		
Reassuring Touch	0	25.94	74.06		

Table 2: Percentage rating as represented on the Line of Favour for each technique for the Parents' Group.

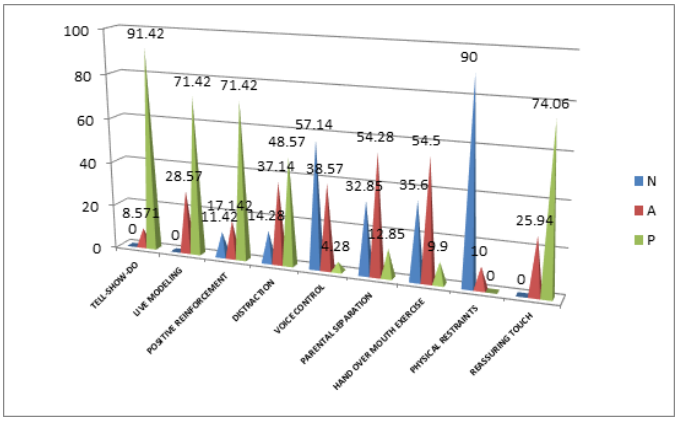

Figure 2: Graphic representation of the ratings for each technique for the Parents' Group

Discussion

The position of children in society has changed with increasing emphasis on children's rights[10]. Parental acceptance of behavior guidance techniques was also greatly considered in numerous studies[11,12,13].

Disregarding the opinion of children, Marshman et al. found that most of the researches were conducted on

children rather than with children[14]. They recommended that future research should be involving children as much as possible. As the dentist-child patient relationship seemed to move from an authoritative to a supporting position giving children a right to be involved in their treatment options[10], this study aimed to evaluate the children's as well as the parents' attitude towards different non pharmacological behavior guidance techniques adopted by the AAPD.

Abushal and Adenubi, Paryab et al. and Elango et al. studied various demographics on parents' acceptability ratings of behavior management techniques[12,15,16]. They suggested that income and education clearly influenced parental acceptance of those techniques. Based on this, the participants selected for this study belonged to varied socioeconomic status.

In both study groups, the gender and age affected the selection of certain behavior guidance techniques (Reassuring Touch was not much preferred by females and Live Modelling had a lesser liking by the boys of the age group of 11-12 years).

It was also noticed that female children preferred the parental presence more than the Reassuring Touch (non-verbal communication) while for. This finding was probably due to higher anxiety among females[17]. Also the male children that did not prefer the parental presence, may have thought they look stronger if they underwent their dental treatment without their mothers.

The present study revealed a statistically significant difference among acceptability ratings of different behavior guidance techniques between the two study groups.

Davies and Buchanan found that positive reinforcement was highly perceived by children in their study and suggested that it may enhance positive dental attitudes as well as promote future attendance[17]. Tell-Show-Do was considered most acceptable by children as well as parents included in the study. As reported by Davies and Buchanan, TSD was found to be only moderately accepted by children in their study[17]. Nevertheless, it remained highly accepted in our study. Likewise Kantaputra et al. found it to be the most popular behavior guidance technique among children[8].

Younger children most probably viewed the scenes differently from the older ones. This limitation, the wide age range, could be a point of interest for future research. Aitken et al. in their study found that distraction didn't reduce the anxiety, pain or un cooperative behavior

of young children[18]. Furthermore, Davies and Buchanan in their work considered distraction to be highly accepted by old age children[17]. Working on wide age range (6-12 years old), Singh et al. reported better Pediatric patient compliance when distraction was used[19].

Non-verbal communication, although comprises lots of factors such as facial expressions, speaking tone, body language and even dentist's attire[20], it was represented in this study in the form of reassuring touch on the shoulder. Results revealed that this technique was greatly accepted by children who explained that reassuring touch made them see the dentist as a kind and lovable person. On the other hand, some girls from the age group of 11-12 years and also their mothers did not like being touched again and again, giving it an average rating.

Likewise, Davies and Buchanan found that children greatly valued the friendly communication style of their dentists[17]. This was also consistent with the results of the study conducted by Greenbaum et al. which revealed that physical contact with the child dental patient through a reassuring touch reduced anxiety and resulted

in improved behavior[21]. Additionally, results showed that voice control, protective stabilization and HOME were significantly less accepted by children as well as parents.

Regarding Parental Separation technique no statistically significant difference has been found between the two study groups. A number of children as well as parents did not prefer Parental Separation as they explained that it may lead them to be anxious.

Among many studies parents were more comfortable to accompany their children to the dental operatory[13,22,23].

Obviously, in the present study communicating with the children and the parents, where the objective of each given technique was clearly explained, had made a positive impact of the participant's understanding of the situation. Children appeared more likely to justify the use of some unlikeable techniques if they received a logic explanation of the dentist's point of view.

Conclusions

Children's opinion should always be considered along with that of the parents, as they are the ones receiving the treatment. Tell-Show-Do was the most accepted technique by both children as well as parents, while Physical Restraints was the least accepted technique by the children and HOME was least accepted by parents.

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