Parental Perspective of Behavior Management Techniques in Dental Treatment for Their Pre-school Children.

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Objective : To evaluate parents' knowledge, acceptance and perceptions towards passive restraint, active restraint, parents separation, voice-control, tell-show-do, conscious sedation, and general anesthesia on their child during dental treatment as one of behavior management techniques in dentistry. **Methods :** A 32–items questionnaires constructed with seven set videos of selected behavior management techniques were developed and validated. Data were analyzed using SPSS version 22. **Results :** Fifty-five parents recruited. The sample consists of parents with children aged 3 – 5 years old. 98% of the parents are married and 2% are single parent. Most of the parents are degree holder. 42% of parents stated that they assist their children in tooth brushing and imply good oral home care practice. More than half of the parents have a substantial awareness of oral care as 60% of parents bring their children to the dentist. Tell-Show-Do (TSD) is the most accepted technique by the parents in dental treatment. The least accepted is General Anaesthesia. **Conclusion :** The parental knowledge and perception of suggested behavior management techniques are above average. Proper explanation and clarification of the technique will improve acceptance and lessen the parents' concern about their children dental treatment.

1. Introduction

The foundation for practicing dentistry for children is built on the ability to guide them through their dental experience. Although some children are relaxed and cooperative in the dental treatment environment, some demonstrate disruptive behaviors that make treatment more difficult. According to Wright (1975), children can be generally classified in one of the three ways: cooperative, lacking the cooperative ability or potentially cooperative (1). Dental treatment for children usually requires the use of behavioral management techniques (BMTs). Behavioral dentistry is an interdisciplinary science which to develop in a dental practitioner an understanding of the interpersonal social force that influences a patient's behavior. This ability is a prerequisite to provide their immediate dental needs. The concept of treating the patient and not just the tooth should be the operative with all patients but is essential with a child patient. The objectives of behavior management are to reduce anxiety and fear in children, gain an understanding of the parental attitude and establish better dentist-parent communication, parent education and childcare (2). To accomplish treatment successfully, dentists use a variety of techniques to manage, modify and shape the undesirable to more appropriate behavior in order to achieve high-quality comprehensive care. Managing uncooperative children is an important part of the practice of pediatric dentistry and the dentist must occasionally rely on other BMTs as alternatives or adjuncts to communicative management (2).

Basic behavior guidance includes tell-show-do, voice control, direct observation, pre-visit imagenary, distraction and parents separation. Meanwhile, advanced behavior guidance includes protective stabilization, sedation and general anaesthesia (2). On the other note, The European Academy of Pediatric Dentistry divided BMTs as pharmacological and non-pharmocological behavior management (2, 3). Behavior Management Technique cannot be evaluated on an individual basis as to the validity but must be evaluated within the context of the child's total dental experience

2. Methodology

Through convenient sample, this study conducted in Faculty of Dentistry and Faculty of Medicine Universiti Teknologi MARA and Hospital Sungai Buloh, Ministry of Health. The sample size calculated using the Explanatory Factor Analysis (EFA). The inclusion criteria include parents that can read and understand the language of conduct, parents with pre-schooler age group children (3 – 5 years old) and their children must be fit and healthy but show uncooperative or disruptive behavior toward dental treatment. The exclusion criteria are parents with children with any kind of special needs condition. Ten (10) patients recruited as pilot-study. Ethics obtained from the Research Ethics Committee Universiti Teknologi MARA with reference number: REC/115/17 dated 9 May 2017.

2.1 Vignettes development.

Seven types of BMTs were chosen; which are passive restraint, active restraint, parent separation, voice control, tell-show-do, conscious sedation, and general anesthesia. Every vignette was prepared according to a real situation in a dental office prior to dental treatment. Each vignette takes about 1.5 minutes to 2 minutes. The language is English with Bahasa Malaysia subtitle to maximize comprehension of the content.

2.2 Questionnaire construction.

A 32-items questionnaires were constructed in four domains; demographic, knowledge, perception and acceptance. The acceptance domains was assessed using these questions:
  i.   Do you think this techniques is effective?

  ii. Would you permit us to use the technique for your child?

  iii. Are you worried about your child's treatment?

A 100mm horizontal visual analog scale (H-VAS) is used to assess the acceptance of each BMTs This straight line ranked from the left end as "totally disagree' and far right as "totally agree'. Respondents are advised to place a vertical line anywhere on the horizontal scale that represents their acceptance of the BMTs using the formulated questions. The questionnaire was assessed by three experts, which are Pediatric Specialist, Dental Public Health Specialist, and Language Specialist.

2.3 Face validity

Ten subjects used for this stage. In this part, the questionnaire was performed on one-to-one approach. They were instructed to answer section one and two before video viewing. Section three was answered after the video shows. Comments and feedback from the group were critically assessed. Constructive criticism and opinion positively amended. Each vignette is shortened into one minute or less. The questionnaires amended into bilingual.

2.4 Data Analysis

Analysis of data included tabulation of frequency distributions for sociodemographic information obtained. All the statistical analysis were done with the SPSS version 25 software program and a priori level for acceptance of statistical significance was set at $P \le 0.05$. To compare the level of acceptability, the mean rating for each of the 7 behavior management techniques was determined using Pairwise Comparison. Descriptive statistic was calculated for all the demographic. The mean gender level of the subject was compared using an independent T-test. The age, ethnicity, marital status, level of education, occupation and income were analyzed using one-way ANOVA. The correlation between the 7 BMT with oral home care practices, children who had received treatment before and the awareness of oral care was analyzed using Pearson Correlation. Bonferroni was used to compare between two domains.

3. Result

Fifty-five of respondents with 8 young parents, 35 middle age parents, and 12 older age parents were recruited. The data consist of 25 males and 30 females. Table 1 shows most accepted to least accepted BMT. Most of the respondents are Malays by 89%. Majority of the respondents are from a higher education background with 45.5%. 40% of the respondents are working in a government sector, 30.9% in the private sector, 18.2% in domestic and 10.9% own their business.

For oral health care awareness and knowledge, 43.6% of the respondent's child had received treatment in the dental clinic while 9.1% of them never had treatment before. 21 parents have a lack of oral home care practices while only 3 parents have adequate oral home care practices. A one-way ANOVA test revelead revealed that there was a significant difference between BMT and age (p=0.001). Further analysis using post-hoc Bonferroni test suggested that all possible pairs of mean age were significantly different. We observed that those with middle age parents had higher mean compare to others. There is a significant linear correlation between a child who received treatment and active restraint with p=0.01. There is also a significant linear correlation between a child who received treatment and TSD with p=0.022 (Table 2). The significant difference of mean for each behavioral management technique acceptance was set at (p>0.05). Pairwise comparison with confidence interval adjustment was performed. The result in table 4 showed that there were significant differences in the comparison of certain BMTs. The significant differences are between Tell-Show-Do technique with Parents Separation, Passive Restraint, Conscious Sedation, Active Restraint, and General Anesthesia. There is also a significant difference between Voice Control with General Anesthesia.

Table 1: Rating means for all BMT

Techniques	Mean
Tell-show-do	23.598
Voice control	21.564
Parents separation	20.304
Conscious sedation	20.146
Passive restraint	19.257
Active restraint	19.246
General anaesthesia	17.004

4. Discussion

A balanced number of respondents between sexes where the female has 5 respondents more compare to male. This may due to, mothers are more aware of their children behavior comparing to fathers as agreed in a paper by Grietens at el, 2003 (4).

43.6% of the total respondents are aware of the need for their children to get dental treatment. Whilst, 9.1% of the respondent exhibits a lack of awareness in taking their child for dental treatment. Parent's knowledge highlighted on the optimum time in starting to brush the children teeth, bringing children regularly for dental visits as well as children's dental pain experience and reasons. Kaur 2009, found that parents are more interested in child's diet, snacking and brushing habits with a subsequent complaint of children eating more sugary snacks followed by inadequate oral hygiene practices (5).

Variable	BMT	N	Acceptance Mean (SD)	P-value
Receiving Treatment	Active Restrain	55	19.25 (17.38 , 21.10)	0.01
	Tell-Show-Do	55	23.6 (22.44 , 24.7)	0.022

Table 2: The relationship between significant methods with a child that had received treatment.

General anaesthesia is the least accepted technique as its emply medication and the need for hospital management is seen as intimidating by most of the respondents. This technique also is considered as the last resort ans seen as unnecessary for dental treatment. Other authors have emphasized that general anesthesia is the alternative management after another method has failed (6, 7, 8). As proved by other study done by Oliver et al, restraint technique including active and passive are following general anesthesia in the least accepted technique (8).

	BMT	N	Mean Difference	P-Value
Tell-show-do	Parents separation	55	4.341 (0.654, 8.028)	0.009
	Passive restraint	55	3.295 (0.065, 6.524)	0.041
	Conscious sedation	55	3.452 (0.216, 6.688)	0.027
	Active restraint	55	4.352 (1.213, 7.490)	0.001
	General Anaesthesia	55	6.595 (3.049, 10.140)	0.000
Voice control	General Anaesthesia	55	0.012 (0.0597, 8.525)	0.012

Table 3: Correlations between behavioural management techniques

There was a statistically significant relationship between the age and the tell-show-do technique (p=0.001). Middle age parents are seemed to agree more on tell-show-do technique to imply on their children. Adequate exposure of the technique, sufficient explanation and demonstration, as well as practice of the procedure to the child seen as factors for acceptance of BMTs. Following the pairwise comparison, there were also statistically significant between tell-show-do technique with parent's separation, passive restraint, active restraint, conscious sedation, and general anesthesia. We can assume that most of the dentist in Malaysia used these two techniques during dental treatment at its best that making the parents believed and trust these techniques are suitable for their children

5. Conclusion

The least aggressive techniques are more acceptable and parents reported a significant preference of that instead of pharmacological technique and restraint. . The most accepted technique is tell-show-do and the least accepted technique is general anaesthesia.

6. References

1. Kiran S, Bhatt R, Patel M, Shah N. Pattern and Knowledge of Wright's Modification of Frankl's Behavior Rating Scale Followed among Postgraduate Students of Pediatric Dentistry in Ahmedabad City–A Survey. Advances In Human Biology. 2015 Apr 30;5(1):39-42.
2. American Academy of Pediatric Dentistry Council on Clinical Affairs. Guideline on behavior guidance for the pediatric dental patient. Pediatric dentistry. 2008;30(7 Suppl):125.
3 Roberts JF, Curzon ME, Koch G, Martens LC. Review: behaviour management techniques in paediatric dentistry.Eur Arch Paediatr Dent. 2010 Aug;11(4):166-74.
4. Hellinckx W. Journal of Psychopathology and Behavioral Assessment; Comparison of Mothers', Fathers' and Teachers' Reports on Problem Behavior in 5 to 6-year-old Children. June 2004 Vol. 26, No. 2, (137-146)
5. 27. Kaur B. Indian Journal of Dental Research; Evaluation of oral health awareness in parents of preschool children. 2009 20;4 (463-465)
6. Wright GZ: Behavior Management in Dentistry for Children. Philadephia; WB Saunders Co, 1975
7. Chambers DW: Managing the anxieties in young dental patients. J Dent Child 27:363-74, 1970
8. Oliver K., Manton D. J. Journal of Dentistry for Children; Contemporary Behavior Management Techniques in Clinical Pediatric Dentistry: Out with the Old and in with the New? March 27, 2014 82:1 (22-28).