

Assessment of Parental Presence in the Dental Clinic on Their Children Behavior

Omayma M. ElSabbagh¹, Ashraf Y. Alhosainy², Salwa M. Awad³

Abstract:

Objective: 1- Assessment of modified parental presence as a behavior management technique in a certain age group of children in Pediatric Dental Clinics of Faculty of Dentistry, Mansoura University, Egypt. 2- Evaluation of the parent's attitude toward this behavior management technique. **Materials and Methods:** Sixty children, 3-4 years old categorized as uncooperative, coming for their first dental visit and indicated for single visit dental treatment were selected. A small transparent wall next to the dental chair was used and the parent was seated near the child. If the child continued to be non-cooperative, the parent was asked to stand behind the wall. According to the child's promise, the parent was allowed to return to the operatory and this was repeated until an acceptable behavior was obtained. Children's behavior was evaluated through Frankel behavior rating scale (FBRS). **Results:** When comparing children behavior before and after parent in /out technique during examination, local anesthesia and during cavity preparation, there was a statistically significant difference ($p \leq 0.001$) which means that children behavior improved after application of this technique. Attitude of 65% of parents toward this technique at the end of the dental visit was good, 28.3% of parent's attitude toward this technique was excellent and only 4% of parents don't like this technique. **Conclusion:** 1- The parental presence / absence technique is effective in improving young children behavior without causing psychological trauma to the child. 2- It is accepted by the parents more than complete separation.

Introduction:

Children usually experience reactions of strong fear and acute anxiety when visiting the dental office and in response to their fear and anxiety about dental procedures; they are more likely to exhibit a wide range of negative attitudes and behaviors¹. Therefore, a diversity of behavior management techniques (BMTs) are used for children during dental procedures to alleviate their fear and anxiety, promote their positive attitude and deliver good relationship between the child and the dental team².

Parental presence/absence is one of the non-pharmacological BMTs. In this technique, the parental presence is used to manage the child's negative behavior as complete parental separation might cause emotional trauma to the child³. Also, some parents would not agree on their children being out of sight, which will complicate this technique. Parental presence/absence in the dental operatory (also called: Parent-in-parent-out technique) is an extremely controversial aspect of the non-pharmacological BMTs.⁴⁻⁷

The presence or absence of the parent sometimes can be used to gain cooperation for treatment. A wide diversity exists in practitioner philosophy and parental attitude regarding parents' presence or absence during pediatric dental treatment. As establishment of a dental home by 12 months of age continues to grow in acceptance, parents will expect to be with their infants and young children during examinations as well as during treatment. Parental involvement especially in their children's health care, has changed dramatically in recent years^{8,9}.

Parents could give appropriate support, particularly for very young children in challenging and new situations¹⁰.

The parental presence may be important to the feelings of well-being of certain children especially the very young patients³. Therefore, this study was conducted for assessment of modified parental presence as a behavior management technique in a certain age group of children, in pediatric dental clinic in Mansoura University in Egypt and to evaluate the parents' attitude toward this BMT.

Materials and Methods:

Materials:

- 1- Informed written consent in Arabic language.
- 2- Data collection sheet: A designed paper sheet with the following information: (A) The demographic and socio-economic data, (B) Questionnaire for parents about his/her child behavior at home, expectation of this technique on his/her child behavior and how acceptable this technique was, (C) The behavior of the child at the dental clinic before and after application of this BMT by (FBRS) and (D) the attitude of parent toward this technique.
- 3- Transparent wall or barrier.

Subjects:

This study was conducted on a sample of sixty children (29 males and 31 females) ranged from 36 to 48 months old chosen from 349 child attending to the pediatric dental clinic, the Faculty of Dentistry, Mansoura University. The calculated sample size was 60 participants at 5% level of significance and 80% power of the study.

Ethical consideration:

The protocol of the clinical trial was approved by ethical committee of Faculty of Dentistry, Mansoura University. (Approval code: (A07120520) date: May 2020). Parents of the children received information about the aims of the study and the research protocol and were asked to sign a written informed consent.

Inclusion criteria:

-The following criteria were considered for subjects' inclusion in this study:

¹Postgraduate MSc student, Department of Pediatric, Faculty of Dentistry, Mansoura University, Egypt. dentist.omayma@gmail.com

²Lecturer, Department of Pediatric, Faculty of Dentistry, Mansoura University, Egypt.

³Professor, Department of Pediatric, Faculty of Dentistry, Mansoura University, Egypt.



1-The selected children age from 3-4 years old, coming for the first dental visits and showing uncooperative behavior during dental examination (score 1 or 2 using FBRS).

2- Each child had at least one tooth with a carious lesion that could be restored in a single visit.

3- No history of previous dental clinic visits.

4- No history of chronic medical or mental diseases.

Clinical Procedures:

1- Prior to any treatment, parents were asked to sign written consent for themselves and their children to be included in this study after explanation of the study's purpose and their expectation of their children behavior using this technique.

2- Transparent barrier next to the dental chair was used in the study.

3- The parent was seated near the child without disrupting the interaction between the dentist and the child. If the child continued to be non-cooperative, the parent was asked to stand behind the wall in an attempt to have an effect on the child and make him/her think about the seriousness of losing the privilege of being next to the parent. According to the child's promise, the parent was then allowed to return to the operatory. This was repeated until an acceptable behavior obtained and the child was able to communicate and cooperate.

4- Children's behavior was evaluated through (FBRS) I- at the dental chair prior to any procedure, II-during intra oral examination before separation of parents and after separation of parents, III-during administration of local anesthesia before separation and after separation of parents, IV-during cavity preparation of the tooth before and after separation.

5-The evaluation of sixty children was done by two examiners for reliability.

6- Tooth restoration was carried out according to the standard techniques.

7-At the end of the dental visit the parent was asked about his/her opinion toward this BMT.

Statistical analysis and data interpretation:

Data were analyzed using (SPSS) program for Windows (Standard version 21). The normality of data was first tested with one-sample Kolmogorov-Smirnov test.

Continuous variables were presented as mean ± SD (standard deviation). Before and after techniques were tested by paired t test while independent groups were compared by student t test. Repeated measured ANOVA test was used to compare means at different follow up periods. Spearman correlations were used to correlate data.

Results:

Regarding FBRS, before any dental treatment, the mean value of the children behavior was (1.73±0.44) as FBRS scores ranged from 1(definitely negative) to 4 (definitely positive). In comparison of children behavior before and after parent in /out technique during examination, L.A and during cavity preparation, there was statistically significant difference (p≤0.001) which means that behavior of the children improved after application of the technique in all stages (Table 1).

- 65% of parent's attitude toward this technique at the end of the dental visit was good, 28.3% of parent's attitude toward this technique was excellent and only 4% of parents don't like this technique (Table 2).

Table (1): Behavior evaluation based on FBRS

FBRS	Before parent in/out tech	After application of tech.	Paired t-test	P value
FBRS baseline	1.73±0.44	-	-	-
During examination	1.83±0.37	2.95±0.72	14.1	≤0.001*
During local anesthesia	1.67±0.51	2.90±0.63	19.1	≤0.001*
During cavity preparation	2.20±0.48	3.57±0.56	19.2	≤0.001*

*significant p≤0.05

Table (2): Parent's expectation and Parent's acceptance of this technique.

Parent's expectation, acceptance and attitude	Patients group (n=60)
Parent's expectation about his /her child of using this tech.	
It won't affect his/ her behavior	44 (73.3%)
It will get worsen	11 (18.3%)
The behavior will be improved	5 (8.3%)
Parent's acceptance of this tech.	
I prefer stay with my child	14 (23.3%)
Prefer it more than complete separation	45 (75.0%)
I prefer complete separation and to wait outside dental clinic	1 (1.7%)
Parents attitude at end of dental treatment	
I don't like it	4 (6.7%)
Good	39 (65.0%)
Excellent	17 (28.3%)

Discussion:

This clinical study aimed to evaluate the effect of parental presence/ absence on the child behavior in the dental office and to evaluate the attitude of the parents toward this behavior management technique.

All children were selected from Faculty of Dentistry, Mansoura University to make sample of the study more homogenous in cultural and sociodemographic factors. They were aged from 3 – 4 years old because at the preschool age, children are greatly influenced by their parents and look up to parents as role models on how to behave. Also, all steps of the dental treatment were performed by the same operator in order to control operator-related variables such as gender, technical expertise and previous experience.

Children behavior and anxiety in the current study were assessed using Frankl Behavior Rating Scale (FBRS) which was used in many studies¹¹⁻¹⁴. It's the most commonly used research tool as it has three criteria that are necessary for a successful investigation (this scale is reliable, functional (it has been demonstrated through repeated usage) and quantifiable (it has four numerical values)).

Children showing uncooperative behavior (score 1 or 2 according to FBRS) were selected for this study to evaluate whether the parental presence / absence technique would improve their behavior during dental treatment to become more cooperative or not.

This study was designed to be a crossover study as each child was evaluated three times through the entire treatment visit before and after application of the technique to achieve truly quantitative measurement and evaluation of the child behavior change in the painful procedures than before. Children have different anxiety levels, so they would be compared with themselves in the three stages (the examination stage, local anesthetic administration stage and the restorative stage) which came in agreement with Vishwakarma et al.¹⁵ and Shah et al.¹⁶.

In this study, all children had at least one tooth with carious lesion that can be restored in one visit so the same dental procedure is done for all children to standardize the data and decrease the variables.

The results of the present study showed that by comparing of children behavior before and after parent in /out technique during examination, L.A and during cavity preparation, there was statistically significant difference ($p \leq 0.001$) which means that behavior of the children improved after application of the technique in all stages using FBRS. This finding is consistent with Riba H. et al.¹⁷ and Acharya S et al.¹⁸ who emphasize on the importance of parental presence to gain emotional support and avoid the effect of traumatic separation, especially in younger children and the parent can be a valuable aid in establishing rapport between the young child and dentist, if he/she is properly instructed and motivated.

Before applying the technique, most of the parents preferred this technique more than complete separation. This finding come in accordance with results reported by

Desai S et al.¹⁹ who concluded that parents wanted to be involved actively during their child`s dental treatment and they were more accepting of techniques involving a communicative management, such as tell show do, positive reinforcement and live modeling. Also, our results came in agreement with Sabbagh H and Sijini O.²⁰ who confirmed that most parents did not prefer parental separation, primarily because of concerns regarding safety and protection.

Limitations:

- Difficulty in persuading participating parents to be separated from their children at these young ages.
- Inclusion of only children whose tooth can be restored in one visit for standardization. So, children who needed two visits or who had inflamed pulp were excluded.
- Inclusion of only uncooperative children. So, the finding of the present study can't be generalized to children with cooperative behavior.

Conclusion:

- Parent in/ out technique remodels the child behavior and decrease its anxiety and fear and it turned its behavior into cooperativeness in all stage.
- The children behaviors showed the best improvement during cavity preparation after application of parent in /out technique.
- Parents accept this technique and prefer it more than complete separation.

References:

1. Kantaputra PN, Chiewcharnvalijkit K, Wairatpanich K, Malikaew P, Aramrattana A. Children's attitudes toward behavior management techniques used by dentists. *J Dent Child (Chic)* 2007 Jan-Apr;74(1):4-9.
2. Wright GZ, Kupietzky A. Behavior management in dentistry for children. 2nd ed. Ames, Iowa : John Wiley & Sons Inc.; 2014. 248p.
3. Casamassimo PS, Wilson S, Gross L. Effects of changing US parenting styles on dental practice: perceptions of diplomates of the American Board of Pediatric Dentistry. *Pediatr Dent.* 2002;24(1):18-22.
4. Adair SM. Behavior management conference panel I report- Rationale for behavior management techniques in pediatric dentistry. *Pediatr Dent.* 2004;26(2):167-170.
5. American Academy on Pediatric Dentistry Clinical Affairs Committee-Behavior Management Subcommittee, American Academy on Pediatric Dentistry Council on Clinical Affairs. Guideline on behavior guidance for the pediatric dental patient. *Pediatr Dent.* 2008-2009;30(7 Suppl):125-133.
6. Roberts JF, Curzon ME, Koch G, Martens LC. Review: Behaviour management techniques in pediatric dentistry. *Eur Arch Pediatr Dent.* 2010;11(4):166-174.
7. Kuhn BR, Allen KD. Expanding child behavior management technology in pediatric dentistry: A

- behavioral science perspective. *Pediatr Dent.* 1994;16(1):13-17.
8. Feigal RJ. Guiding and managing the child dental patient: A fresh look at old pedagogy. *J Dent Educ.* 2001;65(12):1369-1377.
 9. American Academy of Pediatric Dentistry. Policy on the dental home. *Pediatr Dent.* 2015;37(special issue):24-25.
 10. Wilson S, Antalis D, McTigue DJ. Group effect on parental rating of acceptability of behavioral management techniques used in pediatric dentistry. *Pediatr Dent.* 1991;13(4): 200-203
 11. Sullivan C, Schneider PE, Musselman RJ, Dummett JC, Gardiner D. The effect of virtual reality during dental treatment on child anxiety and behavior. *J. Dent. Res.* 2000;67(3):193-196, 160-161.
 12. Sharma A, Tyagi R. Behavior assessment of children in dental settings: A retrospective study. *Int. J Clin Pediatr Dent.* 2011;4(1):35-39.
 13. Serriah HM, El-Kalla IH, Awad SM, Shalan HM. Relation Between Child Body Movements and His Behavior During Dental Treatment [master's thesis]. Mansoura (EG): Faculty of Dentistry, Mansoura University; 2016.
 14. Amer DMS, Elagamy RAI, Awad SM. Evaluation of Children's Anxiety Using Different Behavior Management Techniques [master's thesis]. Mansoura(EG): Faulty of Dentistry, Mansoura university;2019.
 15. Vishwakarma AP, Bondarde PA, Patil SB, Dodamani AS, Vishwakarma PY, Mujawar SA. Effectiveness of two different behavioral modification techniques among 5–7-year-old children: A randomized controlled trial. *J Indian Soc Pedo Prev Dent.* 2017;135:143.
 16. Shah U, Bhatia R. Effectiveness of Audiovisual Distraction Eyeglass Method Compared to Tell-Play-do Technique among 4–7-year-old Children: A Randomized Controlled Trial. *Int J Oral Care Res.* 2018;6:1-7
 17. Riba H, Al-shahrani A, Alghutaimel H, Al-otaibi A, Al-kahtani S. Parental Presence / Absence in the Dental operatory as a Behavior Mangement technique. *J of contemporary dental practice ;* 2018; 19(2):237-241
 18. Acharya S, Jena P, Acharya Sh. Parental Presence in Dental Operatory as a Behaviour Management Tool on Children in Bhubaneswar, Odisha, India. *Odontopediatria e Clínica Integrada.* 2019; 19 (1):1-6
 19. Desai S, Shah P, Jajoo S, Smita P. Assessment of parental attitude toward different behavior management techniques used in pediatric dentistry. *JISPPD.* 2019; 37 (4):350-359
 20. Sabbagh H, Sijini O. Parental Preference for Parental Separation and Their Satisfaction Regarding Their Children Dental Treatment in Pediatric Dental Clinics in Saudi Arabia. *JISPCD.* 2020; 10 (1):116-123 (3):151-156.