

Parental Preference for Parental Separation and Their Satisfaction Regarding Their Children Dental Treatment in Pediatric Dental Clinics in Saudi Arabia

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ABSTRACT

Aims and Objectives: Behavior management of child dental patients is essential for the provision of high-quality dental care and is influenced by parental preference. Therefore, this cross-sectional study aimed to assess parental satisfaction regarding dental treatment and different behavior management methods used with their children in a pediatric dental specialty setting at King Abdulaziz University Dental Hospital (KAUDH) in Jeddah, Saudi Arabia. In addition, it aimed to assess parental preference for parental separation and factors related to their preference. **Materials and Methods:** All parents of children attending the pediatric dental clinic at KAUDH in Jeddah, Saudi Arabia from September 2017 to June 2018 were included in this study. They were interviewed over the phone and were asked to complete a questionnaire on their acceptance of the behavior management techniques used with their children and their satisfaction with the treatment provided. **Results:** Of 549 parents, 283 agreed to participate (51.5% response rate). In 254 (89.7%) cases communication and communicative guidance were used, whereas 38 (13.4%) cases involved the use of N₂O. Parental separation was preferred by 68 (24%) parents, and not preferred by 215 (76%). No significant relation was anticipated between the covariance and the dependent factor of parental preference ($P > 0.05$). The main reason for parents not preferring parental separation was “safety and protection,” as reported by 106 parents. On the contrary, the main reason for parental preference for separation was to “improve child’s behavior.” **Conclusion:** Parental satisfaction with the treatment outcome and behavior management methods was found to be acceptable. Most parents did not prefer parental separation, primarily because of concerns regarding safety and protection.

KEYWORDS: Behavior management, dental treatment, parental preference, parental separation, satisfaction, Saudi Arabia

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INTRODUCTION

Behavior management of child dental patients is essential, and pediatric dentists use a variety of behavioral and pharmacological techniques.^[1-3] The objectives of behavior guidance techniques, both nonpharmacological and pharmacological, are to alleviate anxiety, nurture positive attitude toward dental care among patients, and provide quality oral

health-care safely and efficiently for infants, children, adolescents, and persons with special health-care needs.^[3,4]

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These techniques undergo reassessment over time and some of them may have already been abandoned. One of the factors most frequently cited for these changes is parental acceptance.^[2-5] This underlines the importance of pediatric dentist's understanding which behavior management techniques are still acceptable to parents.

Various studies conducted over the last few decades have shown how parents may accept one technique more than another. General anesthesia (GA) and physical restraint by means of a papoose board were ranked the lowest acceptable techniques in Murphy *et al.*^[6] In addition, acceptability for pharmacological methods increased in subsequent studies from 2005 till 2015.^[7-10] A recent study reported that the parental acceptance of various behavior management techniques had changed. In addition, the changing trends in parenting styles had influenced the acceptance of behavior management techniques in pediatric dentistry. Although tell-show-do technique was reported to be the most acceptable technique, parents seemed to accept pharmacological methods more than in previous studies.^[11] The recent technologies such as audiovisual aids, videogames, mobile apps, and virtual reality were suggested to be combined with the different behavior techniques.^[12] In Saudi Arabia, several behavioral management techniques were routinely used by pediatric dentists at the King Abdulaziz University Dental Hospital (KAUDH) in Jeddah, Saudi Arabia. However, there has been no research on the satisfaction of Saudi parents regarding these techniques. Accordingly, this cross-sectional study aimed to assess parental satisfaction toward dental treatment and different behavior management methods used with their children in a pediatric dental clinic setting at KAUDH. In addition, it aimed to assess parental preference regarding parental separation and the factors related to their preference.

MATERIALS AND METHODS

SUBJECTS

This cross-sectional study included all parents of children attending the pediatric dental clinic at KAUDH in Jeddah, Saudi Arabia from September 2017 to June 2018. The inclusion criteria of the study included parents of (1) healthy children, (2) presented at least once at the pediatric dental clinics during the period of the study, and (3) speaks Arabic. The exclusion criteria of the study included parents of children receiving (1) no dental treatment (2) dental treatment in clinics other than the pediatric dental clinics at KAUDH or (3) medically compromised children.

METHODS

Ethical approval for this study was obtained from the Research Ethics Committee of King Abdulaziz University, Faculty of Dentistry (Protocol no. 086-10-17). The questionnaire was constructed in Arabic through formulating four constructs, and under each construct there were four items on parental experience and preference. The suggested questions were gathered from previous literature and were reviewed by two experts. Then, it was validated by four experts in the field (content validity) and 20 parents (face validity) and modified accordingly. Cronbach's α was used to assess the reliability of the questionnaire and the correlation of the questionnaire items, which measures parental preference. It was calculated to be 0.77.

The questionnaire included sociodemographic characteristics of the parents and their child, the behavior method used with their child, parental preference regarding parental separation, the reason behind their preference, and if there was improvement in the child's dental outcome. Outcome satisfaction included improvement in eating and sleeping behaviors of children compared to before treatment, and if their overall expectations of the behavior method used with the child and treatment were met. Furthermore, the reviewer explained to the parents the Frankl Behavior Rating Scale, which is one of the more reliable and frequently-used behavior rating systems in both clinical dentistry and research (Wright and Stigers 2011; Klingberg 2007).^[13,14] This scale groups children's behavior into four categories ranging from definitely negative (- -ve) to definitely positive (++ve) (Wright and Stigers 2011; Versloot *et al.* 2004).^[15] Parents were then asked in which category they would classify their child.

Parents were interviewed over the phone by four trained calibrated dental students for 15 min to complete a questionnaire on September 2018. If parents had more than one child attending the clinics, they were only interviewed once.

Statistical analysis

Descriptive statistics were displayed as frequency and percentages for categorical variables or as mean and standard deviation (SD) for continuous variables. The chi-squared test was used to compare categorical variables with a significance level of 0.05. A logistic regression analysis was used to assess the adjusted association between key sociodemographic predictors including parental occupation, parental education, and family income and the dependent factor (parental separation) reported as *P*-value at 95% confidence intervals (CIs).

RESULTS

A total of 549 parents attended the pediatric clinic during the study period. Among them, 283 agreed to participate in the study (51.5% response rate). The mean age of the included children was 8.6 (SD = 2.54) years. Table 1 shows the sociodemographic characteristics of participants. This included 137 (48.4%) paternal responders, and 150 (53%) parents of male children. As for parental educational level, 164 (58%) fathers and 142 (50.2%) mothers were holders of bachelor's or higher degrees. A total of 124 (43.8) had visited a dental clinic before coming to the KAUDH. In addition, 57 (20.1%) of the children were reported by their parents to be definitely positive, 146 (51.6%) to be positive, 34 (12%) negative, and 14 (4.9%) to be definitely negative.

With regard to the behavior technique used, communication and communicative guidance were used with 254 (89.7%) children, and N₂O was used with 38 (13.4%). Other methods were used in less than 2.5% of the cases [Table 1].

A total of 160 (56.5%) parents reported that their expectations were completely met; 144 (50.8%) and 141 (49.8%) children reported no complaints in eating or sleeping, respectively. Experience with the behavior methods used was reported to be totally satisfactory by 152 (53.7%) parents [Table 2].

Parental separation was preferred by 68 (24%) parents and rejected by 215 (76%). No significant relation was anticipated between the covariance and the dependent factor of parental preference ($P > 0.05$) see [Table 3]. However, a higher number of parents with children reported being definitely negative or negative; preferred parental separation (42.9% and 20.6%), as compared to those with positive and definitely positive children (20% and 33.3%) [Table 3]. The main reason for parents not preferring parental separation was "safety and protection," as reported by 106 parents. On the contrary, the main reason for parental preference for separation was to "Improve child's behavior," as reported by 23 parents. See Table 4.

DISCUSSION

This study provides information about parents' satisfaction with the behavior management techniques used and dental treatment provided to their children by pediatric dentists at the KAUDH in Jeddah, Saudi Arabia from September 2017 to June 2018.

Basic behavior guidance techniques such as verbal and nonverbal communication, tell-show-do, and voice

control were most commonly used, and they form the foundation for all management activities provided by the dentist.^[16] At the start of the appointment, interacting with the child can help in establishing trust and rapport with the dentist.^[17] Children, however, occasionally present with behavior considerations that require more advanced techniques. In addition, oral sedative agents were not used due to the unavailability of these agents in the pediatric dental clinic in KAUDH.

Parents' satisfaction becomes a major concern in the treatment delivery system for health providers all over the world.^[18] Measuring parents' satisfaction is a vital and important tool to assess the success and quality of dental care delivered. Parents' satisfaction is complex and is related to the parents' personalities, past experiences, knowledge, expectations, and also to the health-care providers' skills and techniques.^[19-21]

In this study, from the overall score, we found that parents were generally satisfied with the treatment received by their children, with an improvement in children's eating and sleeping. They were also satisfied with the behavior modification methods used [Table 2]. This result is similar to other previous studies. Harun *et al.*^[22] found that parents were generally satisfied with the treatment received by their children at the Kulliyah of Dentistry, International Islamic University Malaysia.

Differences between fathers' and mothers' responses in their preference to stay with the child during dental treatments were found to be insignificant. Most parents wanted to be present in the operatory during the treatment of their children, and to be involved more actively. The majority of parents (76%) said they would prefer to be present during their child's dental treatment. Among them, 49.3 % said that the primary reason was that they felt their child would be safer and more protected with their presence. Additional reasons selected from a list included to decrease their child's anxiety, for their child's comfort, and when their child is scared. These results are similar to the survey by Kamp,^[23] who found that 66% of parents wanted to be present in the operatory and 92% of these parents felt that their presence would make the child more comfortable. In addition, Frankel^[24] found that 92% of mothers wanted to be present in the operatory during treatment and 37% of them felt that their child felt secure in their presence. Bauchner *et al.*^[25] found that 78% of parents expressed a preference for being present in a hospital emergency room during medical procedures and 91% of them believed that the child would feel comfortable in their presence.

Table 1: Demographic data and characteristics of the sample (N=283)

Variable		N (%)	
Gender	Male	137 (48.4)	
	Female	146 (51.6)	
Nationality	Saudi	225 (79.5)	
	Non-Saudi	58 (20.5)	
Who answered the questionnaire	Father	150 (53.0)	
	Mother	133 (47.0)	
Father education level	Illiterate	7 (2.5)	
	Primary/intermediate	31 (11.0)	
	High school	81 (28.6)	
	University or higher	164 (58.0)	
Mother age	21–30	67 (25.5)	
	31–40	136 (51.7)	
	41–50	56 (21.3)	
	>50	4 (1.5)	
Father age	21–30	9 (3.4)	
	31–40	123 (46.8)	
	41–50	85 (32.3)	
	>50	46 (14.5)	
Mother education level:	illiterate	5 (1.8)	
	Primary/intermediate	38 (13.4)	
	High school	98 (34.6)	
	University or higher	142 (50.2)	
Father occupation	Not working	3 (1.1)	
	Retired	15 (5.3)	
	Private sector	102 (36.0)	
	Government	83 (29.3)	
	Military	33 (11.7)	
	Medical field	13 (4.6)	
	Teacher	31 (11.0)	
	Dentist	3 (1.1)	
	Mother occupation	Housewife	227 (80.2)
		Retired	3 (1.1)
Private sector		15 (5.3)	
Government		7 (2.5)	
Teacher		22 (7.8)	
Medical field		5 (1.8)	
Dentist		4 (1.4)	
Family income /month		Less than 7000 SAR	77 (27.2)
	8000–10000 SAR	90 (31.8)	
	11000–16000 SAR	69 (24.4)	
	More than 16000	47 (16.6)	
How many children do you have?	1–2 children	61 (21.6)	
	3–4 children	139 (49.1)	
	More than 5	83 (29.3)	
Did your child receive any dental treatment before coming to the pediatric specialty clinic?	Yes	124 (43.8)	
	No	159 (56.2)	
Number of treatment session:	1	25 (8.8)	
	2	20 (7.1)	
	3	41 (14.5)	
	4	42 (14.8)	
	More than 4	155 (54.8)	
Child cooperation	--ve	14 (5.3)	
	-ve	34 (12.9)	
	+ve	146 (55.5)	
	++ve	57 (21.7)	

Table 1: Continue

Variable		N (%)
Behavior technique used	Communication and communicative guidance	254 (89.7)
	restrain	4(1.4)
	N ₂ O	38(13.4)
	Papoose	7(2.5)
	Hand-over-the-mouth	1(0.3)
	GA	6(2.1)
	Parental separation	5(1.8)

Table 2: Parental satisfaction regarding their children's dental treatment (N=283)

Improvement in:	Totally-yes	Somewhat-yes	Somewhat-no	Totally-no
Eating	144(50.8)	53(18.7)	33(11.7)	29(10.2)
Sleeping	141(49.8)	48(16.9)	39(13.8)	31(11.0)
Treatment Expectation met	160(56.5)	51(18)	28(9.9)	20(7.1)
Experience with the behavior method used was satisfactory	152(53.7)	53(18.7)	33(11.7)	21(7.4)

On the contrary, parents who accepted parental separation were fewer (24%). The primary reason for this preference among parents who accepted parental separation was to improve their children's behavior. In a study by Boj and Azanza,^[26] parents were asked about their child's behavior in their presence, and 60% of the parents predicted that their children would behave better when they were present in the operatory; however, 90% responded that they would not mind waiting outside. Moreover, Ahuja *et al.*^[27] reported no statistically significant difference in child's behavior with parents' presence or absence.

The effects of parent characteristics such as parental age, gender, educational level, occupation, income, and number of siblings were also explored in this study. These variables were found to be not significantly related to parents' desire to be present during dental procedures. This finding is inconsistent with previous findings showing that the parents' age was related to the parents' desire to accompany their child, although no relation was found with parents' gender. The older the parents were, the more they wanted to accompany the child into the operatory.^[28] Shroff *et al.*^[29] also found that parents with an education level of high school and greater were more likely to want to be present.

One limitation of this study is that it did not consider the type of dental treatment provided. A future study could assess parental satisfaction in different types of situations, such as during emergency, maintenance, or operative appointments. However, most of the patients were seen more than four times, which indicates a high likelihood that they may have received local anesthesia

and at least one type of restoration. Nevertheless, this limitation could potentially have affected this study's results and should be considered in future studies.

Although this study was the first of its kind to be conducted in KAUDH, parents' satisfaction with the behavior management techniques used for their children during dental treatment is complicated and may need further research. In addition, one of the strengths of this study is that it enriches the current literature on parental perception of dental parental separation. Only few recent studies were found in the literature on such topic. Moreover, research suggested a current change in parental perception on dental behavior techniques, thus recommending the need for new studies.^[10]

On the contrary, another limitation of this study is that the sample size was not large enough to subgroup and evaluate different behavior methods such as N₂O and the use of restrain. Therefore, a future study that focus on each behavior technique is required. In addition, a prospective or cohort study that follows the child's dental treatment from the first dental visit and compares the child's behavior before and after his dental treatment would be advisable. Future research could also investigate children's satisfaction to dental treatment and behavior technique methods used.

CONCLUSION

Parental satisfaction with the treatment outcome and behavior management methods was found to be acceptable. Most parents did not prefer parental separation, primarily because of safety and protection.

Table 3: Distribution of the sample according to parental preference for parent-child separation during procedures in relation to their demographic data, socio-economic factors, child's cooperation, and number of siblings

Variable		Parental preference		P value OR and 95% CI
		Yes (%)	No (%)	
Gender	Male	26 (21.8)	93 (78.2)	0.51
	Female	36 (25.4)	106 (74.6)	
Who answered the questionnaire	Father	30 (21.7)	108 (78.3)	0.42
	Mother	31 (26.1)	88 (73.9)	
Father age	21–30	2 (22.2)	7 (77.8)	0.715
	31–40	28(22.8)	95 (77)	
	41–50	24(28.2)	61 (71.8)	
	>50	7 (19.4)	29 (80.6)	
Mother age	21–30	13 (22.8)	44 (77.2)	0.431
	31–40	37 (27.2)	99 (72.8)	
	41–50	9(16.1)	47 (83.9)	
	>50	1(25)	3 (75)	
Father education level	Illiterate	1 (25.0)	3 (75.0)	0.81
	Primary/intermediate	10 (31.2)	22 (68.8)	
	High school	16 (22.9)	54 (77.1)	
	University or higher	36 (23.7)	116 (76.3)	
Mother education level:	illiterate	1 (33.3)	2 (66.7)	0.36
	Primary/intermediate	9 (25.7)	26 (74.3)	
	High school	17 (18.1)	77 (81.9)	
	University or higher	89 (71.8)	89 (71.8)	
Father occupation	Not working	1 (50.0)	1(50.0)	0.67
	Retired	4 (28.6)	10 (71.4)	
	Private sector	22 (23.9)	70 (76.1)	
	Government	21 (26.9)	57 (73.1)	
	Military	5 (15.6)	27 (84.4)	
	Medical field	1 (7.7)	12 (92.3)	
	Teacher	7 (29.2)	17 (70.8)	
	Dentist	1 (33.3)	2 (66.7)	
Mother occupation	Housewife	49 (23.6)	159 (76.4)	0.18
	Retired	0 (0.0)	1 (100.0)	
	Private sector	3 (21.4)	11 (78.6)	
	Government	5 (50.0)	5 (50.0)	
	Teacher	2 (11.1)	16 (88.9)	
	Medical field	2 (33.3)	4 (66.7)	
	Dentist	2 (66.7)	1 (33.3)	
Family income /month	Less than 7000 SAR	17 (25.4)	50 (74.6)	0.88
	8000–10000 SAR	20 (23.0)	67 (77.0)	
	11000–16000 SAR	14 (22.2)	49 (77.8)	
	More than 16000	12 (28.6)	30 (71.4)	
How many children do you have?	1–2 children	14 (25.5)	41 (74.5)	0.96
	3–4 children	31 (24.4)	96 (75.6)	
	More than 5	18 (23.4)	59 (76.6)	
Child's cooperation	--ve	6 (42.9)	8 (57.1)	0.08
	-ve	7 (20.6)	27 (79.4)	
	+ve	29 (20.0)	116 (80.0)	
	++ve	19 (33.3)	38 (66.7)	

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CONFLICTS OF INTEREST

There are no conflicts of interest.

Table 4: Distribution of parents according to the reason behind their preference for parental acceptance (68/283 (24%)) or rejection (215/283 (76%)) of parental separation

Parental preference to parental separation	N=68 a	Parental rejection to parental separation	N=215 b
Child get to understand the procedure and build a relation with the dentist	10	Parents get to understand the procedure&build a relation with the dentist	9
Help the child	0	Help the child	2
Child's wish	2	Child's wish	9
Child's scared	2	Child is scared	28
Child's comfort	2	For child's comfort	37
Doctor comfort and support dental management	4	For doctor's comfort	
Support dental management	9		
Safety and protection	3	Safety & protection	106
Help the child be independent	4	Decrease child's anxiety	61
Improve child's behavior	23	Improve child's behavior	7
Speed	3		
Parents do not prefer to watch	3		
Parental interference	3		
No need for parental presence	9		
Child's self Confidence	2		

a Percentage is calculated in relation to the total number of parents who accepted parental separation (68 parents).

b Percentage is calculated in relation to the total number of parents who did not accept parental separation (215 parents). Parents could have stated more than one reason.

AUTHOR CONTRIBUTIONS

Heba Sabbagh contributed on study conception, data collection, data acquisition and analysis, data interpretation, manuscript writing. Ohoud Sijini contributed on data collection, data interpretation, manuscript writing.

ETHICAL POLICY AND INSTITUTIONAL REVIEW BOARD STATEMENT

Ethical approval for this study was obtained from the ethics committee of KAUFU (Protocol no. 086-10-17).

PATIENT DECLARATION OF CONSENT

Ethical approval was obtained from the ethics committee of KAUFU (086-10-17) for this study. In addition, written informed consent was obtained from all participants. Parents received an Arabic consent and a letter explaining the aim, design, and methodology of the study.

DATA AVAILABILITY STATEMENT

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

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