

EVALUATION OF AGE, GENDER AND PARENTAL FACTORS AFFECTING CHILD BEHAVIOR IN THE DENTAL SURGERY

Muhammad Kamran, Fahad Qiam, Hasham Khan

Department of Paediatric Dentistry, Khyber College of Dentistry, Peshawar

ABSTRACT

Objectives: *The aim of this study was to know the effect of gender, age, parental education (literacy) and parental socioeconomic status on child behavior in dental surgery.*

Methodology: *One hundred and twenty six children who reported to Department of Paedodontics, Khyber College of Dentistry, Peshawar for various dental problems were included in this study. A specially designed proforma was used to collect information from parents on age, gender, parental education (literacy), socioeconomic status. Frankel behavior rating scale was used to record child behavior in dental surgery. The data was then subjected to statistical analysis using SPSS version 16.*

Results: *Majority of the children (44.4%) belonged to low socio-economic group followed by middle (29.4%) and high (26.2%) socio-economic groups. The parents of 55 children (43.7%) had college/ university education followed by 39 parents (31%) having up to high school education. Thirty two parents (25.4%) were uneducated. According to Frankel behavior rating scale, majority of the children (34.1%) showed definitely positive behavior followed by positive behavior (31.7%) and negative behavior (25.4%). Only a few children (8.7%) exhibited definitely negative behavior. The effect of all the study variables on child behavior was not significant except age ($p = 0.033$). However, there were trends showing more children from higher socioeconomic group and those belonging to parents with college/ university education behaving positively.*

Conclusions: *Parental literacy, Socio-economic status and Gender of the child did not affect child behavior significantly. The age of the child was significantly related to the behavior of the child. Therefore more negative behavior should be expected from younger children. Each and every child should be assessed and managed individually and no generalizations should be made.*

Keywords: *Child behavior, Parental education, Socioeconomic status.*

INTRODUCTION

Dentistry provokes apprehension in children. One of the most challenging moments for a dentist is dealing with children in the dental surgery. Recent studies show that up to 8% of child population presents with fear in dental clinic.^{1,2} Every child needs to be assessed and managed individually as children are stubbornly individualistic. Every child presents with different behavior in the dental surgery and various factors such as age, gender, personality, parental anxiety, and socioeconomic status might affect child behavior.^{3,4}

Correspondence:

Dr. Muhammad Kamran

Khyber College of Dentistry,

Peshawar, Pakistan.

Phone: 0333-9321974

Email: kamran_917@yahoo.com

General fear and previous dental experience are also thought to be contributing factors towards behavior management problems experienced by Paediatric dentists worldwide.⁵ Other small but significant factors are the attitude of the dentist and invasiveness of dental the procedure itself.⁶

Young children^{3,4,5} and those belonging to families of low socioeconomic status^{4,8} have been documented in literature to present with negative behavior. On the contrary, the results of other studies reveal no significant relationship between socioeconomic status and child behavior pattern.^{9,10,11} Other factors such as family life, child education and religious beliefs might affect child behavior in the dental surgery.⁹ Parental education (literacy) has significant relationship with child oral health status¹², yet its effect on

child behavior has to be evaluated. This study aims to establish the effect of gender, age and parental factors such as parental education (literacy) and socio-economic status on child behavior in the dental surgery in a segment of a Pakistani population in Khyber Pakhtunkhwa.

the study. Special children were also excluded. The study subjects were attended by two dentists working in the same setup. They were trained and calibrated. The data were analyzed using SPSS version 16 and the Pearson Chi-square test was applied to assess the significance of these factors on child behavior.

MATERIALS AND METHODS

RESULTS

One hundred and twenty six children in the age range of 3-16 years, who reported to the Department of Paedodontics, Khyber College of Dentistry, Peshawar for their dental problems were included in the study. A specially developed proforma was used to obtain information regarding child age, gender, parental education and socio-economic status and to record the behavior of the child in the dental surgery using Frankl Behavior Rating Scale (FBRS)¹³. The scale classifies child behavior as Category # 1 (Definitely negative), Category # 2 (Negative), Category # 3 (Positive) and Category # 4 (Definitely positive). The characteristics of each category are given in Table 1.

One hundred and twenty six children participated in the study. Out of 126 children 76 were male (60.3%) and 50 were female (39.7%) with a male to female ratio of 1.52:1. Male patients reported the highest number of Definitely Negative behavior (5.6%), Negative behavior (15.1%), Positive (19%) and Definitely Positive behavior (20.6%) than female patients. However this difference was not statistically significance (p = 0.996). The detail distribution of behavior by gender is given in Table 2.

Management Guidelines

In this study, 7-10 year age group accounted for the highest number of Definitely Negative behavior (4.8%), Negative behavior (15.1%), Positive behavior (13.5%) and Definitely Positive behavior (15.9%). The details of age related behavior are shown in Table 3. The behavior of children in dental surgery was significantly related to the age of the child (p =0.033),

Children above 16 years and those accompanied by persons other than parents were not included in

Table 1: Frankl Behavior Rating Scale as per Indian Health Service (IHS) Behavior

Frankl Scale	Behavior	
Category # 1	Definitely Negative. Child refuses treatment, cries forcefully, fearfully, or displays any agitated, overt evidence of extreme negativism.	Combative, thrashing, verbal, unable to be restrained, need to terminate procedure.
Category # 2	Negative. Reluctant to accept treatment and some evidence of negative attitude (not pronounced).	Slightly combative, verbal, slightly agitated, able to be restrained, and procedure safely completed.
Category # 3	Positive. The child accepts treatment but may be cautious. The child is willing to comply with the dentist but may have some reservations.	Quiet, not combative, cooperative, non verbal.
Category # 4	Definitely Positive. This child has a good rapport with the dentist and is interested in the dental procedures.	Happy, helpful.

Table 2: Distribution of child behavior by gender

		Frankl Rating				Total
		Definitely Negative	Negative	Positive	Definitely Positive	
Gender	Male	7 (5.6%)	19 (15.1%)	24 (19.0%)	26 (20.6%)	76 (60.3%)
	Female	4 (3.2%)	13 (10.3%)	16 (12.7%)	17 (13.5%)	50 (39.7%)
Total		11 (8.7%)	32 (25.4%)	40 (31.7%)	43 (34.1%)	126 (100.0%)

Table 3: Distribution of child behavior by age

		Frankl Rating				Total
		Definitely Negative	Negative	Positive	Definitely Positive	
Age	3-6	5 (4.0%)	9 (7.1%)	11 (8.7%)	6 (4.8%)	31 (24.6%)
	7-10	6 (4.8%)	19 (15.1%)	17 (13.5%)	20 (15.9%)	62 (49.2%)
	11-16	0 (0%)	4 (3.2%)	12 (9.5%)	17 (13.5%)	33 (26.2%)
Total		11 (8.7%)	32 (25.4%)	40 (31.7%)	43 (34.1%)	126 (100.0%)

Table 4: Distribution of child behavior by socioeconomic status

		Frankl Rating				Total
		Definitely Negative	Negative	Positive	Definitely Positive	
Socioeconomic	< RS.10,000	5 (4.0%)	15 (11.9%)	17 (13.5%)	19 (15.1%)	56 (44.4%)
	Rs. 10,000- RS. 20,000	5 (4.0%)	9 (7.1%)	13 (10.3%)	10 (7.9%)	37 (29.4%)
	> RS. 20,000	1 (.8%)	8 (6.3%)	10 (7.9%)	14 (11.1%)	33 (26.2%)
Total		11 (8.7%)	32 (25.4%)	40 (31.7%)	43 (34.1%)	126 (100.0%)

Table 5: Distribution of child behavior by parental education status

		Frankl Rating				Total
		Definitely Negative	Negative	Positive	Definitely Positive	
Educational Status	Uneducated	3 (2.4%)	8 (6.3%)	11 (8.7%)	10 (7.9%)	32 (25.4%)
	High School	6 (4.8%)	10 (7.9%)	10 (7.9%)	13 (10.3%)	39 (31.0%)
	College/University	2 (1.6%)	14 (11.1%)	19 (15.1%)	20 (15.9%)	55 (43.7%)
Total		11 (8.7%)	32 (25.4%)	40 (31.7%)	43 (34.1%)	126 (100.0%)

hence it was concluded that the younger the age of the child, the more negative behavior should be expected.

Definitely Negative behavior, Negative, Positive and Definitely Positive behavior was seen in majority of children who belonged to families of low socioeconomic status (4.0%, 11.9%, 13.5% and 15.1% respectively). In this study, the effect of parental socioeconomic status on child behavior in the dental surgery was not significant (p =0.720). However, a trend was observed where children of high socio-economic background behaved more positively (Table 4).

The children of parents who were educated till high school level displayed the most number of Defi-

nately Negative (4.8%). The children of parents who were educated till college/university level displayed the highest number of Negative, Positive and Definitely positive behavior (11.1%, 15.1% and 15.9% respectively). The results of this study showed no significant effect of parental education on child behavior in the dental surgery (p = 0.615). However, as for socioeconomic factor, again a general trend was observed where children of parents having college/university education behaved more positively (Table 5).

DISCUSSION

This study was carried out to evaluate the effect of gender, age, parental education (literacy) and socioeconomic status on child behavior in the dental sur-

gery using FBRS.¹³ There are contradictory reports on majority of the factors affecting child behavior pattern.⁸ In this study, more male children (5.6%) showed Definitely Negative behavior than female children (3.2%), but this difference was not statistically significant ($p = 0.996$) which correlates well with studies by Kryitsi³ and Brill et al⁴.

Klingberg², Kyritsi³ and Brill^{4,7} reported that the age of the child is a factor which almost always shows significant relationship with child behavior in the dental surgery. The results of the present study were in agreement with studies conducted by Klingberg², Kyritsi³ and Brill^{4,7} and showed a significant relationship between age and child behavior ($p = 0.033$). This study noted that the older the child, the more positive behavior was exhibited and these findings were well correlated with studies by Green¹⁴, Xia¹⁵ and Klingberg¹⁶. This study also observed that those children belonging to the 7-10 year age group displayed more Negative (4.8%) and Definitely Negative behavior (15.1%) than their 3-6 year age counterparts (4% and 7.1% respectively). This finding can be explained on the basis of small sample size and unequal distribution of the sample amongst the age groups.

Brill⁴ and Wright⁸ have reported a significant relationship between child behavior and socio-economic status of the parents but at the same time an insignificant relationship has been found by many researchers.^{9,10,11,17} The results of this study were in perfect agreement with studies of Dash et al⁷ and Laws¹⁸ who reported an insignificant relationship between parental socioeconomic status and child behavior. This study also found that children belonging to high socioeconomic status families showed the lowest incidence of Negative (6.3%) and Definitely Negative behavior (0.8%) as compared to children belonging to middle (7.1% and 4% respectively) and low socioeconomic status families (11.9% and 4% respectively). The studies conducted by Dash et al⁷ and Laws¹⁸ used the same behavior rating scale and observed a trend where children of high socio-economic background behaved more positively which was consistent with the present study findings.

As children depend on their parents for access to dental health care, low parental literacy has potential detrimental implications for pediatric population. Parental education (literacy) has received little or no attention in regard to its influence on child behavior. Miller¹² conducted a study in which parental literacy

was found to have significant association with child oral health status but no relationship with child behavior. In the present study no significant association was found between parental literacy and child behavior. However, a trend was observed where children of parents having no or education upto high school level showed more Negative (6.3% and 2.4% respectively) and Definitely Negative behavior (7.9% and 4.8% respectively). Another trend observed was that children belonging to college or university educated parents showed the highest number of Positive (15.1%) and Definitely Positive behavior (15.9%) compared to children of uneducated or high school educated parents. One of the reasons for not having significant association between child behavior and parental education and socio-economic status in this part of the world might be that most of the parents with little or no education are economically better than the highly literate ones.¹⁷

CONCLUSION

For this study, it was concluded that:

- 1- Age of the child was significantly related to the behavior of the child. Therefore more negative behavior should be expected from younger children.
- 2- Parental education (literacy), parental socio-economic status and gender of the child did not affect child behavior significantly.
- 3- Every child should be assessed and managed individually and no generalizations should be made.

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