

Original Article

Prevalence of Parenting Style in a Group of Children with Primary Dentition in Their First Dental Visit: A Cross-Sectional Study

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Abstract

Aim: This study aims to calculate the prevalence of parenting style in a group of children with primary dentition in their first dental visit. **Materials and methods:** This study was performed on 180 parents and their children who attended the diagnostic dental clinic in Pediatric Dentistry and Dental Public Health Department, Faculty of Dentistry, Cairo University, Egypt. Each parent filled out the Parenting style and dimension questionnaire (PSDQ). Each child was video recorded during his first dental visit and later on, these videos were rated by two different examiners to determine their behavior according to Frankl scale. **Results:** From a group of parents with preschool children with a mean age of (4.43 ± 1.23) years, 121(67.2%) parents exhibited the authoritative parenting style, 53(29.4%) parents exhibited the permissive parenting style, and 6(3.3%) parents exhibited authoritarian parenting style. 52(43%) kids with authoritative parents showed definitely positive behavior while 27(50.9%) kids with permissive parents showed positive behavior. **Conclusion:** The prevalence of the authoritative parenting style was the highest while the authoritarian was the lowest. There was a significant influence of parenting style on child behavior in the dental office but there's no significant influence of parenting style on caries experience.

Keywords: Parenting Style, First Dental Visit, Child Behavior, Caries.

I. INTRODUCTION

It is known that a child's behavior during dental treatment can be influenced by a number of many factors, including stress, fear, personality features, and the child's mental state; yet, the role of the parent continues to be the

single most important factor (Aminabadi *et al.*, 2015). Family well-being and child oral health are intricately connected; therefore, it is crucial to understand how children's oral health issues can

contribute to family stress and tension (Aurlene *et al.*, 2022).

A child's capacity to cope with stressful situations has a major impact on how they respond to dentists and other dental professionals. Children's reactions to dental appointments are influenced by a wide range of factors, including health, culture, parenting styles, age, cognitive level, anxiety and fear, sensitivity to strangers, pathology, social expectations, and temperament (AAPD (American Academy of Pediatric Dentistry), 2008; Allen *et al.*, 2003; Baier *et al.*, 2004; Gustafsson *et al.*, 2010).

Parenting behaviors that are effective, such as parental support, have a favorable correlation with the coping methods that children use. Parenting styles can have a significant impact on a child's coping mechanisms as well as the way they engage with other adults. The manner in which a parent raises their child can also have an effect on the child's general and dental health (Gaylord-Harden *et al.*, 2010).

Pediatric dentists face various difficulties when communicating with children and it becomes critical to highlight how important it is to be familiar with the various parenting styles so that one may gain a deeper knowledge of the child and provide appropriate treatment as well as behavior control (Saadia and Valencia, 2015). Different from one another, the effects of the four parenting styles—authoritative, authoritarian, permissive, and neglectful—on a child can be significant (Aminabadi and Farahani, 2008; Law, 2007). Parenting styles have recently become particularly intriguing because parents are the primary caregivers and have a significant impact on the child's psychological and emotional development (Howenstein *et al.*, 2015).

Oral health education is one of the main goals of the first dental visit which includes teaching parents how to care for their children's teeth and gums, how to teach their children to care for their own teeth and gums, how to correct their children's poor eating and drinking habits, how to

prevent their children from developing dental caries and malocclusions, and how to use preventive dental applications, teething management techniques, oral habits, and prevent accidents that could result in damage to their teeth and jaws (AAPD (American Academy of Pediatric Dentistry), 2014).

Nevertheless, easy and rapid treatment is sought by every parent for their children, but in case the child shows uncooperative behavior therefore will need several dental appointments, as well as more expenses or he/she might undergo general anesthesia that have more costs. In addition to that, the relationship between the parents and their children is profoundly fundamental, as bad relationship can result in lack of self-confidence and trust, insecurities, leading to irresponsible and fearful man/woman in the future.

II. SUBJECTS AND METHODS

The present investigation was a cross-sectional study in which children attended the diagnostic clinic, Pediatric Dentistry and Dental Public Health Department, Faculty of Dentistry, Cairo University, Egypt, were examined for their chief complaints. The study was conducted on 176 parents and child, 4 extra parents and child were added to the sample size, so the total is 180, and the sample size was calculated based on similar data collected by **Howenstein et al.**, (Howenstein *et al.*, 2015).

Inclusion traits involved: children with primary dentition, before the eruption of permanent molar, first dental visit, both genders, and children attending Pediatric Dentistry Department - Cairo University. Exclusion criteria comprised the children with systemic diseases or congenital problems, and parents who refused to participate in the study.

Children who were part of this study were preschoolers; their age ranges from 3 to 6 years with primary dentition during their first dental visit with no previous dental experience in order

to leave a positive first impression about dentists to achieve easier and faster further dental visits for both dentist and child. As well as an early introduction to dental surroundings helps children to adapt and develop accustomed to them, possibly increasing the chances of better behavior and tolerance with subsequent dental treatment according to Hussein et al., (Hussein et al., 2013).

A specially designed diagnostic chart was utilized for each patient, which comprised five sections, personal history, medical history, dental history, clinical examination, and radiographic examination. Parents or caregivers were asked to fill a questionnaire that's divided into two parts; the first part is the primary caregivers' practices report-shortened version questionnaire (PCPR) which is a short, simple, and validated questionnaire to assess the different types of parenting styles based on their behavior towards their children according to Baumrind (Baumrind, 1971), Robinson et al., (Robinson et al., 1995) and Howenstein et al., (Howenstein et al., 2015).

The second part consists of questions concerning the socio-demographic data of parents. The original questionnaire was translated into Arabic and some questions were updated to fit the Egyptian population and it was also validated. Examination of children was performed by a single examiner following the Tell-show-do technique because it's commonly used during the first dental visit to familiarize the children with the dental setting. While the behavior of children was assessed by two examiners due to subjectivity by watching the videotapes separately based on the Frankl rating scale which is a frequently used, reliable, and easy rating scale. The caries experience was recorded using the dmf score; primary caries index according to the WHO it's used in preschool children under 6 years.

III. RESULTS

Statistical analysis was performed with SPSS 20, Graph Pad Prism and Microsoft Excel 2016. Categorical data were presented as frequencies (n) and percentages (%) and were analyzed using chi square test. Numerical data were analyzed for normality using Shapiro-Wilk test and Kolmogorov-Smirnov test. Ordinal data were compared between three different groups using Kruskal-Wallis test. Spearman's correlation coefficient correlation was used to study the correlation between ordinal variables. Inter-examiner reliability was analyzed using Cohen's kappa coefficient test. The significance level was set at $p \leq 0.05$ within all tests.

Table 1 shows that Out of 180 children who visited the diagnostic clinic, 94 (52.2%) of them were females while 86 (47.8%) were males. And 86(47.8%) of them were from 3-4 years, 53(29.4%) from <4-5 years, and 41(22.8%) were from <5-6 years. Table 2 shows the prevalence of different parenting styles, which revealed that from 180 parents, 121(67.2%) represented the authoritative style, 53(29.4%) represented the permissive style and 6(3.3%) were authoritarian style.

Frequency and percentages of different child behavior according to Frankl scale were illustrated in Table 3 which showed that child behavior using Frankl scale: 149(83%) of children showed a positive behavior; 75(41.7%) of which were positive (scale 4) behavior and 74(41.1%) were positive behavior (scale 3) while 31(17%) of children showed a negative behavior; 19(10.6%) of which were negative (scale 2) and 12(6.7%) were negative (scale 1).

Distribution of parenting style among child behavior was demonstrated in Table 4: Comparison between different Frankl rating scales within each parenting style was performed by using Chi-square test which revealed that in Authoritative parents there was a significant difference between all scales as $P < 0.0001^*$, 52(43%) kids showed positive positive (scale 4)

behavior which was significantly the highest, while 9(7.4%) kids showed negative negative (scale 1) behavior which was significantly the lowest. In Authoritarian parents there was an insignificant difference between all scales as $P=0.14$. In Permissive parents there was a significant difference between all scales as $P<0.0001^*$, 27(50.9%) kids showed positive (scale 3) behavior which was significantly the highest, while 2(3.8%) kids showed negative

(scale 2) behavior which was significantly the lowest. Table 5 shows the Distribution of parenting style among caries experience by measuring the relation between the mean and standard deviation of dmf score for different parenting styles which was performed by using Kruskal's Wills test which revealed an insignificant difference between them as $P=0.07$.

Table (1): Mean and standard deviation of child age, frequency, and percentages of gender distribution in children.

		N	%
Age	3-4 years	86	47.8%
	>4-5 years	53	29.4%
	>5-6 years	41	22.8%
Gender	Male	86	47.8
	Female	94	52.2

Table (2): Frequency and percentages of different parenting styles.

	N	%	<i>p-value</i>
Authoritative	121	67.2	
Authoritarian	6	3.3	<0.0001*
Permissive	53	29.4	
Total number of parents (N)	180	100	

N: count, %: percentage, P: probability level which is significant at $p\leq 0.05$

Table (3): Frequency and percentages of different Frankl scales.

Rating scale	N	%	<i>p-value</i>	
Negative	(1)	12	6.7	
	(2)	19	10.6	
	Total	31	17	<0.0001* 100.0
Positive	(3)	74	41.1	
	(4)	75	41.7	
	Total	149	83	
Total N	180	100		

Table (4): Distribution of child behavior (Frankl scale) among different parenting styles.

Parenting Style	N (180)	Frankl rating scale								P value
		Negative 31 (17.2%)				Positive 149 (82.7%)				
		(1)		(2)		(3)		(4)		
		N	%	N	%	N	%	N	%	
Authoritative	121	9	7.4%	15	12.4%	45	37.2%	52	43.0%	<0.0001*
Authoritarian	6	0	0.0%	2	33.3%	2	33.3%	2	33.3%	0.14
Permissive	53	3	5.7%	2	3.8%	27	50.9%	21	39.6%	<0.0001*

N: count, %: percentage, p: probability level which is significant at $p \leq 0.05$

Table (5): Mean and standard deviation of caries experience (dmf) among different parenting styles.

Parenting Style	N (180)	dmf		p-value
		Mean±	Standard Deviation	
Authoritative	121	8.31 ^a	4.66	0.07
Authoritarian	6	4.50 ^a	2.88	
Permissive	53	7.18 ^a	4.96	

M: mean, SD: standard deviation, p: probability level which is significant at $p \leq 0.05$

Counts with the same superscript letters were insignificantly different as $p > 0.05$

Counts with different superscript letters were significantly different as $p < 0.05$

IV. DISCUSSION

Parents and parenting styles have a significant impact on the temperament and personality development of their children as well as their health habits that can affect their caries experience. Therefore, if parenting styles are known beforehand, the child's behavior at the dental operatory can be predicted, and the behavior management for the required treatment plan can be adjusted to the child's specific needs.

Few Studies have demonstrated that parent-child attachment and their interdependence can predict their child's behavior, and that this behavior can cause a change in the dentist-patient relationship (Nimbulkar *et al.*, 2020). In Egypt, up to our knowledge, there was only one paper discussing the definitely negative behavior of children with parenting styles, and no one assessed different parenting styles and their effect on child behavior and child's caries experience (Awad and Saber, 2018).

From the collected data, it was found that the number of female and male children was nearly close, and they were categorized into 3 age groups from 3-4, >4-5 years, and >5-6 years with a mean \pm standard deviation of age 4.43 ± 1.23 . Similar to the mean \pm standard deviation of age in (Howenstein *et al.*, 2015) which was 4.75, and in (Arrepi *et al.*, 2019), which was 4.06 years \pm 1.08 years while the mean age in (Aminabadi and Farahani, 2008) was of 5.12 years.

In the present study, the prevalence of parenting style revealed that the highest percentage of parents were authoritative, followed by the permissive and the lowest were authoritarian. These findings are similar to (Howenstein *et al.*, 2015). While these findings showed a higher prevalence in the authoritative style than what was found by (Aminabadi and Farahani, 2008) in Iran, (Arrepi *et al.*, 2019) in Brazil, and (Nimbulkar *et al.*, 2020) in India. On the other hand, the prevalence of permissive and authoritarian styles in our study was lower than

what was found by (Aminabadi and Farahani, 2008), and (Arrepi *et al.*, 2019).

On the contrary, the results of our study revealed a lower prevalence of authoritative parents than what was found by (Lee *et al.*, 2020) in South Korea and by (Alagla *et al.*, 2021) in Saudi Arabia, where the authoritative parenting style was dominating, while the prevalence of permissive and authoritarian parents was higher in our study than what was found by (Lee *et al.*, 2020) where they have very low rates of permissive and authoritarian parents. However, in Saudi Arabia the authoritarian style didn't exist they only have two parenting styles and this might be because of the shift in parenting styles worldwide as denoted by (Alagla *et al.*, 2021).

Regarding child behavior, results showed that according to Frankl behavior rating scale, the definitely positive behavior (scale 4) was significantly the highest while the definitely negative behavior (scale 1) was significantly the lowest. Most of the children exhibited positive behaviour throughout their first dentist visit. This could be explained by the fact that this is a non-invasive dental visit as well as the presence of parents according to (Howenstein *et al.*, 2015).

Regarding parenting style and child behavior, it was found that the authoritative parenting style has a significant positive impact on children which was the highest, children showed a definitely positive behavior while children with permissive parents showed a positive behavior. This is consistent with (Aminabadi and Farahani, 2008), and (Howenstein *et al.*, 2015) who found that the best behavior of a child was that of an authoritative parenting style but this contradicts (Nimbulkar *et al.*, 2020), and (Alagla *et al.*, 2021) who agreed that there was no significant correlation between parenting style and child behavior.

On the contrary, in this study, children with a permissive parenting style showed a significantly higher percentage of positive behavior which contradicts the findings of (Aminabadi and

Farahani, 2008), and (Howenstein *et al.*, 2015) who found that the worst behavior is related to the permissive parenting style.

Regarding parenting style and its effect on children's caries experience, our results showed that there was no significant relation between them as in (Arrepi *et al.*, 2019) and (Lee *et al.*, 2020). The non-significant association between dental caries and family impacts in our study could be explained by the low number of children suffering from severe dental caries. According to the little evidence, positive parenting practices promote the most desirable oral hygiene behaviors in children and lead to better oral health outcomes according to (Howenstein *et al.*, 2015), (Viswanath *et al.*, 2020), and (Quek *et al.*, 2021).

Regarding the prevalence of parenting style among living areas, it was found that the authoritative parenting style is significantly the highest percentage in urban areas, and the permissive style was higher in rural areas while the authoritarian parenting style is significantly the lowest in both. The Current trends indicate that families are becoming more democratic, and children can outmaneuver their parents due to advancements of parenting styles as noted by (Nimbulkar *et al.*, 2020) which indicates parenting awareness. In the current study, the results revealed that there was an insignificant correlation between the caries experience in children and their age range. Finally, intra-examiner reliability was calculated and revealed a strong reliability.

Study limitations

- It was an interview-based questionnaire because mostly the parents were ignorant and didn't even understand the questions, so we had to explain the questions without guiding them to answer.
- Parents frequently exhibit different aspects of different parenting style. Moreover, parents frequently adapt their parenting style according on the circumstances.

- There are numerous confounding variables that may influence the child's behavior: time of day, operator social stress, parent-child relationships, anxiety, health, culture, parenting, child age and cognitive level, fear, reaction to strangers, pathology, social expectations, temperament, emotional climate of the family, and many others.

V. CONCLUSIONS

From the results of the study, the following is concluded:

1. Most caregivers were housewives' mothers.
2. Authoritative parenting style is the highest while the authoritarian is the lowest.
3. Parenting style influence child behavior in dental office.
4. Parenting style didn't affect caries experience.
5. Frankl scale is not related to gender.

Conflict of Interest:

The authors declare no conflict of interest.

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Ethics:

This study protocol was approved by the ethical committee of the faculty of dentistry- Cairo university on: 31/3/2020, approval number: 1320.

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