

# ASSOCIATION OF PARENTING STYLE WITH THE BEHAVIOUR AND CARIES PREVALENCE OF PRESCHOOL CHILDREN

Beatriz Fernandes **Arrepia**<sup>1</sup>, Jéssica Aparecida **da Silva**<sup>1,2</sup>, Paula Maciel **Pires**<sup>1</sup>, Maysa Lannes **Duarte**<sup>1,3</sup>, Laura Guimarães **Primo**<sup>1</sup>, Andréa **Fonseca-Gonçalves**<sup>1</sup>

<sup>1</sup>Department of Paediatric Dentistry and Orthodontics, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil.

<sup>2</sup>Department of Paediatric Dentistry and Orthodontics, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil.

<sup>3</sup>School of Dentistry, Health Institute of Nova Friburgo, Universidade Federal Fluminense, Nova Friburgo, RJ, Brazil.

**Palavras-chave:** Estilos parentais, cárie dentária, comportamento, pré-escolares

## RESUMO

**Objetivo:** Objetivou-se associar os estilos parentais (democrático, autoritário e permissivo) com o comportamento e a prevalência de lesões de cárie de pré-escolares submetidos ao atendimento odontológico. **Métodos:** Em consulta inicial, pré-escolares (n=67), de 2 a 6 anos de idade, foram avaliados quanto ao comportamento, através da escala de Frankl. Os estilos parentais de seus responsáveis foram averiguados através do Questionário de Estilos e Dimensões Parentais – Versão Reduzida (PSDQ) e a prevalência de lesões de cárie através do índice ceod. Foram coletados dados sociodemográficos e econômicos. Utilizou-se o teste do Qui-quadrado para associação entre os estilos parentais, o índice ceod, tipo de comportamento (dicotomizado em positivo e negativo) e as variáveis independentes: nível socioeconômico, ser filho único, frequentar escola e nível educacional do responsável. ANOVA seguido de Tukey foi utilizado para comparar as médias ceod e os estilos parentais. **Resultados:** A maioria dos pré-escolares apresentaram comportamento positivo (83,6%) e a média do ceod da população estudada foi 4,76 (± 3,43). Do total dos responsáveis, 49,3% eram democráticos, 44,8% permissivos e 6% autoritários. Não houve associação entre os estilos parentais e todas as variáveis investigadas (p > 0,05). **Conclusão:** Diante dos resultados, pode-se observar que não houve associação entre os estilos parentais avaliados, prevalência de cárie e comportamento dos pré-escolares em consulta odontológica inicial.

**Keywords:** parenting styles, dental caries, behaviour, preschoolers

## ABSTRACT

**Objective:** This study aimed to associate parenting styles (democratic, authoritarian, and permissive) with the behaviour, and prevalence of caries lesions among preschool children submitted to dental care. **Methods:** At the initial consultation, preschool children (n = 67), from two to six years of age, were evaluated for behaviour through the Frankl scale. The parenting styles were investigated through the Parenting Styles and Dimensions Questionnaire - Reduced Version (PSDQ) and the prevalence of caries lesions through the dmft index. Sociodemographic and economic data were collected. The chi-squared test was used for association among parenting styles, dmft index, type of behaviour (dichotomised as positive and negative), and the following independent variables: socioeconomic level, single child, school attendance, and educational level of the person in charge. ANOVA followed by the Tukey test were used to compare the mean dmft and parenting styles. **Results:** The majority of preschoolers presented positive behaviour (83.6%), and the dmft mean was 4.76 (± 3.43). Of the total, 49.3% were democratic, 44.8% were permissive, and 6% were authoritarian. There was no association between parenting styles and all variables investigated (p > 0.05). **Conclusion:** Considering the results, it can be observed that there was no association among parenting styles, caries prevalence, and behaviour of the preschool children in an initial dental consultation.

Submitted: January 12, 2020

Modification: January 9, 2020

Accepted: January 9, 2020

### \*Correspondence to:

Andréa Fonseca-Gonçalves

Address: Rua Rodolpho Paulo Rocco, 325 –  
Cidade Universitária

Ilha do Fundão, Rio de Janeiro, RJ, Brazil.

Zip code: 21941-913

Telephone number: (55) 21 3938-2098

E-mail: andrea.goncalves@odonto.ufrj.br

## INTRODUCTION

The behaviour of a child may hinder effective dental treatment. This is one of the greatest challenges faced by paediatric dentists,<sup>1,2</sup> since it is known that behaviour can be influenced by health, culture, age, cognitive level, anxiety and fear, reaction to strangers, social expectations, and temperaments.<sup>3</sup> Parenting styles were defined by Baumrind (1966, 1971)<sup>4,5</sup> as a set of attitudes and practices related to the issues of power, hierarchy, emotional support, and encouragement for autonomy that parents experience with their children and that reflect the values considered important to be transmitted to the child through his or her educational practices. Thus, parents play an important role in the development of their child's current and future emotional health, personality, character, well-being, social and cognitive development, and academic development.<sup>6,7</sup>

Considering that parents play a fundamental role in the way a child behaves in dental practice, especially when they have had negative experiences, an evaluation of the parenting styles by the paediatric dentist becomes important to realise which educational practices are performed by these parents,<sup>1,8</sup> since an anxious or fearful parent may negatively affect the child's behaviour in the dental office.<sup>9,10</sup>

The Parenting Styles and Dimensions Questionnaire - Short Form (PSDQ),<sup>11</sup> validated for the Portuguese language,<sup>12,13</sup> evaluates three parenting styles: authoritarian, democratic, and permissive. The authoritarian style is characterised by high control and little affection, the democratic style by high control and a lot of affection, and the permissive style by low control and very much affection.<sup>12,13,14</sup>

Regarding child behaviour, several strategies have been proposed to evaluate the emotional state and classify it in the dental environment, such as the behaviour assessment using the Frankl behaviour evaluation scale,<sup>15</sup> considered the gold standard. This scale divides the behaviours observed during the appointment into four categories: definitely negative (- -), when the child refuses to accept treatment; negative (-), when referring to the patient with resistance to accept the treatment; positive (+) for patients who accept the treatment; and the definitive positive (+ +) for patients with total affinity with the dental surgeon.<sup>15</sup>

Sugar consumption is increasing among children, which is a concern for the general and oral health of these individuals,<sup>16,17,18</sup> and in Brazil, dental caries, a biofilm sugar-dependent disease, are one of the most important public health problems, where a mean of decayed, lost, and restored teeth was observed in the last national epidemiological survey (dmft index) of 2.3<sup>19</sup> in children at five years of age; therefore,

it is suggested that there is an association among parenting styles, the prevalence of caries lesions, and the behaviour of preschool children in the dental environment, as well as the behaviour of the children.<sup>16,17,20</sup> Thus, the objective of the present study was to investigate a possible association among parenting styles, behaviour, and the prevalence of caries lesions among preschool children submitted to dental care at the Baby Clinic of the School of Dentistry of the Federal University of Rio de Janeiro (UFRJ).

## MATERIALS AND METHODS

### Study design and sample participation

The present cross-sectional observational study evaluated the following variables: the behaviour of preschoolers from two to six years of age, using the Frankl behaviour evaluation scale,<sup>15</sup> the parenting styles of their parents, before applying the PSDQ,<sup>12</sup> and the prevalence of caries lesions through examination of decayed, missing, and filled teeth (dmft index)<sup>21</sup> of these children, attended at the Baby Clinic of the Dental School of UFRJ. Participants were selected for convenience after a thorough anamnesis and clinical exams by trained and calibrated examiners for the purpose of observing their dental condition and medical and dental history. Thus, preschool children (n = 74) with good general health who sought care between April 2017 and November 2018 at the Baby Clinic of the Dental School of UFRJ were included in the study. Children with systemic alterations, syndromes, cleft lip and palate, or any other developmental anomaly were excluded. Children accompanied by someone other than their parents/guardians or whose parents/guardians had special needs (psychological, psychiatric, or neurological changes) that could make their responses unfeasible through the PSDQ were also excluded.

This study was approved by the Ethics Committee of UFRJ - University Hospital Clementino Fraga Filho (protocol no. 2.425.896/2017). Those responsible for the children were informed about the research and agreed to participate.

### Training and calibration exercise

The calibration exercise was carried out through two steps (theoretical and clinical). The theoretical step consisted of a discussion of the criteria for behavior classification (Frankl behaviour evaluation scale) and the diagnosis of dental caries (dmft index)<sup>19</sup> among two professors of pediatric dentistry and two specialist examiners. The clinical step was performed with 10 children between two and six years of age, who were not part of the main sample, in order to register their behaviour and dmft index during the appointment.

For behaviour, each dentist (the specialists) examined

the selected 10 children and wrote down their behaviour after the consultation, independently. Thus, the inter-rater agreement (Kappa = 0.766) was ascertained for the Frankl scale. For caries lesions, the 10 non-participants of the final sample were submitted to evaluation through the dmft index in a dental office by two examiners independently, where inter-rater agreement (Kappa=0.943) was reached.

The Portuguese version of the PSDQ that used to be based on the European Portuguese,<sup>12</sup> was the instrument used in the present research. However, with the most recently version based and also validated to be used in Brazil,<sup>13</sup> 10 other children were submitted to comparison evaluation by average of the parenting styles resulting from both questionnaires (in European Portuguese and in Portuguese from Brazil), and the similarity between them was checked.

A test-retest of the instrument of evaluation of the parenting style with the same parents of the 10 children was also carried out, following an interval of seven days between the applications, to verify the stability of the instrument used. Thus, adequate stability of the PSDQ was observed using the intraclass correlation coefficient (ICC = 0.858).

## Data collection and instrument use

The general data were collected through anamnesis with those responsible for the preschool children. Thus, sociodemographic information, such as gender, age, educational level of the head of the family, birth order, whether enrolled in school/nursery, and birth order, were obtained. Data on the socioeconomic level of the family were also collected.<sup>22</sup>

In order to record the behaviour of the preschoolers, the two examiners, previously trained and calibrated, were responsible for observing the reactions of each patient from the beginning to the end of a clinical examination visit with prophylaxis, performed by multiple operators, students of the specialisation courses and master's degree in Paediatric Dentistry of UFRJ, who were not aware of the purpose of this study. Thus, at the end of the examination, the behaviour of the children was classified through the Frankl behaviour scale.<sup>15</sup> The examiners, who were responsible for observing and recording the behavioural reactions of the participants, were not aware of the purpose of this study and performed independent (blinded) evaluations of the reactions presented by the children.

The PSDQ includes 32 items, where the parents indicate how often they act in a certain way with their child. A five-point Likert scale is used (1 = never, 2 = few times, 3 = sometimes, 4 = often, and 5 = always) for each of the answers, evaluating three parenting styles: democratic, authoritarian, and permissive. The democratic style includes characteristics

of support and affection (five items, e.g., 'I praise my child when he behaves or does something well'), regulation (five items, e.g., 'I stress the reasons for the rules I establish'), and autonomy (five items, e.g., 'I encourage my child to express himself freely, even when he does not agree with me'). The authoritarian style includes features of physical pressure (four items, e.g., 'I slap my child when he misbehaves'), verbal hostility (four items, e.g., 'I scream or speak loudly when my child misbehaves'), and punishment (four items, e.g., 'I punish my child by withdrawing privileges with little or no explanation'). The permissive style consists of the single characteristic of indulgence (five items, e.g., 'I more often threaten to punish than really punish him'). Briefly, the 32 items can be grouped into three parenting styles and seven dimensions. Thus, the democratic parenting style includes 15 items that are divided into three dimensions: support and affection, regulation, and autonomy. The authoritarian style has 12 items and consists of three dimensions: physical coercion, hostility, and punishment. The permissive style consists of one dimension, indulgence, which is composed of five items.

Parenting dimensions were calculated by the arithmetic mean of scale items and parenting styles across the arithmetic mean of their dimensions. Therefore, the higher the scores found, the greater the use of their dimensions or styles.<sup>13</sup>

## Data analysis

Data were stored and analysed using SPSS software version 21.0 (SPSS Inc., Chicago, IL, USA). Sociodemographic and economic characteristics (dichotomised in the middle class [B and C] and low class [D and E])<sup>23</sup> were the variables analysed descriptively. The behaviour of the children was dichotomised as positive or negative, and the results associated with the parenting style were obtained through the chi-square test. In addition, an association between parenting styles and sociodemographic and economic characteristics was also achieved using the chi-square test for the categorical variables: educational level of the parents (dichotomised in "the average school level and < the average school level), enrolled in school, single child, and socio-economic level. ANOVA followed by the Tukey test were used for numerical variables (age of the parents and dmft index).

For the comparison between the means of the parenting styles obtained with the validated questionnaire in Portuguese<sup>12</sup> and the same questionnaire validated for use in Brazil,<sup>13</sup> the T test for paired samples was employed. In addition, a correlation test (Cronbach's alpha =  $\alpha$ ) among the types of parenting styles obtained through the application of each instrument (Portugal and Brazil) was also added. A 95% confidence interval was adopted for all statistical analyses described, with a significance level of 5%.

## RESULTS

Results were obtained from 67 pairs of parents/children, considering that seven patients did not allow care. The mean age of preschoolers was 4.06 years ( $\pm 1.08$  years). The mother was the most prevalent respondent (85%); in nine cases, the father (9%) was the interviewee; and in 6% of the total sample, the respondent was not the father or mother. The socioeconomic level was classified as medium in 58.2% of the sample and low in 28 families (42.8%). Table 1 shows the sociodemographic distribution collected.

The majority of preschoolers presented positive behaviour (83.6%), and the mean of the dmft of the study population was 4.76 ( $\pm 3.43$ ). Of the total sample of those responsible, 49.3% represented democratic parents, 44.8% permissive parents, and 6% authoritarian parents. There was no statistical difference between the dmft index of preschoolers and the parenting style ( $p=0.814$ ) (Figure 1). It was observed

that a large part of the sample showed positive behaviour, and of the total number of children with negative behaviour ( $n = 11$ ), seven belonged to the permissive parenting group, four preschoolers were considered as democratic, and no children ( $n=4$ ) belonging to the group of authoritarian parents presented negative behaviour ( $p = 0.321$ ) (Table 2).

Table 2 shows that there was no association between parenting styles and the parents' socioeconomic level ( $p = 0.126$ ), the educational level of the person in charge ( $p=0.162$ ), whether enrolled in school/nursery care ( $p=0.480$ ), or a single child ( $p=0.939$ ). The age of the guardian also had no influence on parenting style, considering both mothers ( $p=0.361$ ) and fathers ( $p=0.581$ ). When comparing the results obtained by applying validated questionnaires for Portugal and Brazil ( $\alpha=0.899$ ), no difference was observed among the means obtained from the democratic ( $p = 0.943$ ), authoritarian ( $p = 0.660$ ), and permissive ( $p = 0.087$ ) parenting styles between the instruments (Table 3).

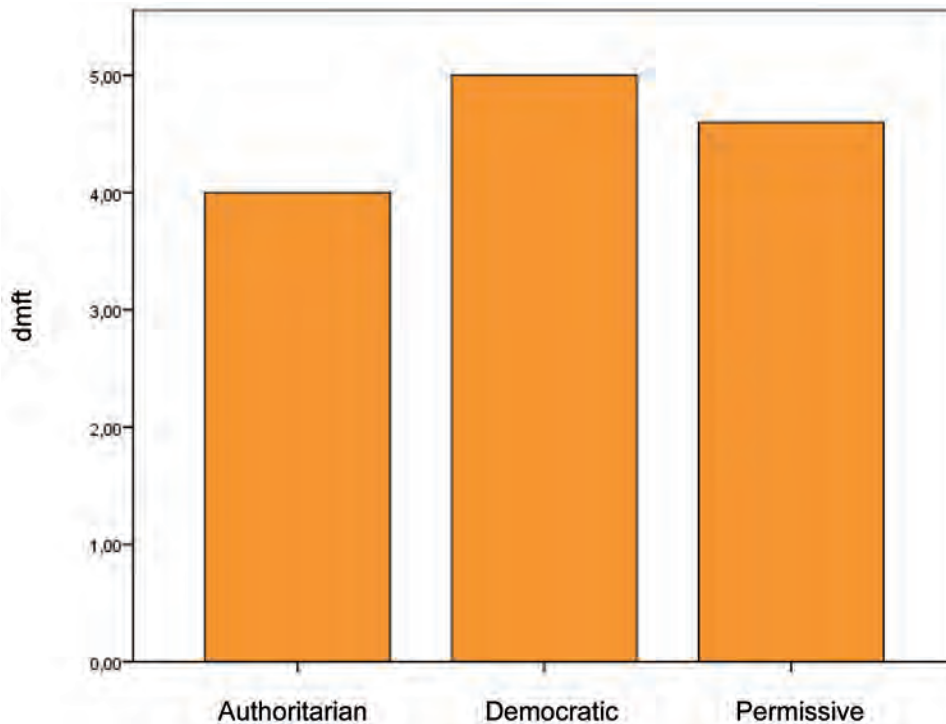


Figure 1: Association between dmft index and parenting styles of preschoolers ( $n = 67$ ).

**Table 1:** Characteristics of preschoolers and guardians (n = 67).

Variables	N	%
<b>Preschoolers Gender</b>		
Boys	34	50.7
Girls	33	49.3
<b>Presence of caries</b>		
Yes	55	82.1
No	12	17.9
<b>Only child</b>		
Yes	19	28.4
No	48	71.6
<b>School / daycare enrollment</b>		
Yes	51	76.1
No	16	23.9
<b>Preschoolers' behavior classification</b>		
Positive	56	83.6
Negative	11	16.4
<b>Types of Responsible</b>		
Mother	57	85.0
Dad	6	9.0
Other	4	6.0
<b>Parenting Styles</b>		
Democratic	33	49.2
Authoritarian	4	6.0
Permissive	30	44.8
<b>Educational level of the person in charge</b>		
≥ than high school	37	61.7
<that high school	23	38.3
<b>Socioeconomic level of responsible</b>		
Medium	39	58.2
Low	28	41.8
<b>Mean age (years ± SD) of preschoolers</b>		
4.06 (± 1,08)		
<b>Mean age (years ± SD) of mothers</b>		
32.51 (±6,67)		
<b>Parental mean age (years ± SD)</b>		
36.32 (±8,23)		
<b>dmft (± SD)</b>		
4.76 (±3,43)		

**Table 2:** Association between parenting styles with behavior, whether or not to be an only child, attending school and the socioeconomic and cultural level of guardians.

Variables	Democratic		Authoritarian		Permissive		P valor
	N	(%)	N	(%)	N	(%)	
<b>Behavior</b>							0.321
Positive	29	51.8	4	7.1	23	41.1	
Negative	4	36.4	0	0.0	7	63.6	
<b>Only child</b>							0.939
Yes	10	52.6	1	5.3	8	42.1	
No	23	47.9	3	6.3	22	45.8	
<b>School / daycare enrollment</b>							0.480
Yes	24	47.1	4	7.8	23	45.1	
No	9	56.3	0	0.0	7	43.8	
<b>Socioeconomic level</b>							0.126
Medium	17	43.6	1	2.6	21	53.8	
Low	16	49.3	3	10.7	9	32.1	
<b>Educational level of guardian</b>							0.162
≥ that the high school level	20	54.1	1	2.7	16	43.2	
<that the high school level	8	34.8	3	13.0	12	52.2	

**Table 3:** Comparison of parenting styles means obtained through the application of validated PSDQ questionnaires for Portugal and Brazil.

Parental Style	Portugal(mean ± SD)	Brazil(mean ± SD)	P value
Democratic	4.17±0.57	4.18±0.26	0.943
Authoritarian	2.35±0.53	2.46±0.50	0.660
Permissive	2.77±0.80	2.33±0.75	0.087

## DISCUSSION

Several factors affect a child's personality and behaviour, and the family environment is decisive in the development and behaviour of children.<sup>3,8</sup> Considering that parenting styles may influence the health<sup>16,17</sup> and behaviour of children<sup>20</sup> and that caries disease control is not limited to mechanical removal of dental plaque, but also an approach to social and behavioural factors related to the disease,<sup>24</sup> investigations about the behaviour of preschoolers, parenting styles, and dental caries are perfectly justifiable.

In the present research, the PSDQ was used as an instrument for data collection, since it evaluates three parenting styles defined by Baumrind<sup>25</sup>: authoritarian, democratic, and permissive. This instrument, consisting of 32 questions, was validated for the Portuguese language to be used in Portugal,<sup>12</sup> and, more recently, it was validated

for Brazil.<sup>13</sup> In the data collection period of this study (April 2017 to November 2018), we used the form validated for Portuguese, but used in Portugal. This fact represents a limitation of the present work. However, it is worth mentioning that the authors were careful to compare the instrument validated for Portugal with the same validated questionnaire for Brazil, both of which were applied to the parents of 10 children, with a one-week application interval between both, where it was verified that there was no difference in the averages regarding the democratic, authoritarian, and permissive styles presented by the evaluated sample.

Interest in evaluating parenting styles, especially with the PSDQ,<sup>11</sup> has been growing in recent years.<sup>1,12,13</sup> This instrument, used all over the world, allows multiple perceptions of the same parenting style and different uses, which brings us to diverse associations, increasing validity.<sup>26</sup> In the United States, a 2015 study revealed that the

democratic parenting style was associated with a lower prevalence of caries lesions and better behaviour in children during their first dental appointment.<sup>1</sup> As far as the authors are aware, the present study is the first to investigate the same association in a Brazilian population. However, unlike the results found by the American group, no positive association was observed in the present study among the variables investigated. The authors suggest that such a difference of results may have occurred mainly because a small sample was studied here, since the same order pattern of parenting styles was observed in both studies: democratic, followed by permissive and authoritarian.

Permissive parents allow their child to make decisions, regardless of the degree of complexity involved, in order to keep the child happy.<sup>5</sup> According to Aminabadi and Farahani,<sup>2</sup> the permissive parenting style results in poorer child behaviour during a dental visit.<sup>2</sup> It was observed that of the total sample investigated, 30 children (44.8%) had parents with the permissive style; however, only seven of them had negative behaviour. The authors suggest that although the preschoolers are evaluated during a consultation of only clinical exam procedure, many belong to families already accustomed to the environment and the dynamics of paediatric dentistry clinics at UFRJ, having already seen their siblings examined (most were not an only child: 71.6%), making these children more cooperative, besides the type of consultation (prophylaxis) and the professional (paediatric dentist). This fact can be seen with the large percentage of positive behaviour (83.6%). Our research did not indicate an association between any of the parenting styles with caries lesions in preschool children, nor with the socioeconomic level of the families investigated. This is not consistent with another study,<sup>1</sup> because the authors of this study found that democratic parenting results in more cooperative behaviour of preschoolers and fewer caries lesions in such a population. This study also showed that those with private health insurance (hypothetically higher income) presented better behaviour and fewer caries lesions compared to others who did not have private health insurance.

Although the preschool children were attended by different dentists, which could be viewed as a bias, all patients were submitted to a clinical examination visit with prophylaxis, which means that they were submitted to the same procedure. Moreover, the dentists were postgraduate students from UFRJ, that are trained by the same professors.

In view of the results found, in which no positive association was observed, future studies with a larger population are necessary in order to further investigate the relationship among parenting styles, child behaviour, and dental caries in the paediatric dental environment.

## ACKNOWLEDGEMENT

The authors acknowledge the financial support from Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ).

## REFERENCES

- 1- Dr Jeff Howenstein, DMD, MS1; Dr Ashok Kumar, DDS, MS2; Dr Paul S. Casamassimo, DDS, MS3; Dr Dennis McTigue, DDS, MS4; Dr Daniel Coury, MD5; and Dr Han Yin, PhD6, published in final edited form as: *Pediatr Dent*. 2015;37(1):59–64.
- 2- Aminabadi NA, Farahani RM. Correlation of parenting style and pediatric behavior guidance strategies in the dental setting: preliminary findings. *Acta Odontol Scand*. 2008;66:99–104. [PubMed: 18446551].
- 3- Allen KD, Hutfless S, Larzelere R. Evaluation of two predictors of child disruptive behavior during restorative dental treatment. *J Dent Child*. 2003;70:221–5.
- 4- Baumrind, D. Effects of authoritative parental control on child behavior. *Child Development* 1966;37:255–72.
- 5- Baumrind D. Current patterns of parental authority. *Dev Psychol Monogr*. 1971;4:1–103.
- 6- Baumrind D. Parental disciplinary patterns and social competence in children. *Youth Soc*. 1978;9:239–51.
- 7- Devore, Elise R, Ginsburg, Kenneth R. The protective effects of good parenting on adolescents. *Current Opinion in Pediatrics* 2005;17:460–5.
- 8- Darling N, Steinberg L. Parenting style as context: An integrative model. *Psychological Bulletin* 1993;113(3):487–96.
- 9- Baier K, Milgrom P, Russell S, Mancl L, Yoshida T. Children's fear and behavior in private pediatric dentistry practices. *Pediatr Dent*. 2004;26:316–21. [PubMed:15344624].
- 10- Brill WA. The effect of restorative treatment on children's behavior at the first recall visit in a private pediatric dental practice. *J Clin Pediatr Dent*. 2002;26:389–93. [PubMed:12175134].
- 11- Robinson C, Mandleco B. Authoritative, authoritarian, and permissive parenting practices: development of a new measure. *Psychol Rep*. 1995;77:1.
- 12- Miguel I, Valentim JP, Carugati F. Questionário de estilos e dimensões parentais – versão reduzida: adaptação portuguesa do Parenting Styles and Dimensions Questionnaire – Short Form. *Psychologica* 2009;51:169–88.
- 13- Oliveira TD, Costa SD, Albuquerque MR, Malloy-Diniz LF, Miranda DM, Paula JJ. Cross-cultural adaptation, validity, and reliability of the Parenting Styles and Dimensions Questionnaire – Short Version (PSDQ) for in Brazil. *Psychiatry* 2018;40:410–9.
- 14- Querido JG, Warner TD, Eyberg SM. Parenting styles and child behavior in African American families of preschool children. *J Clin Child Adolesc Psychol*. 2002;31:272–7. [PubMed: 12056110].

- 15- Frankl SN, Shiere FR, Fogels HR. Should the parent remain with the child in the dental operator? *J Dent Child* 1962;29(2):150-63.
- 16- O'Connor TM, Yang SJ, Nicklas TA. Beverage intake among preschool children and its effect on weight status. *Pediatrics* 2006;118:e1010-8. [PubMed: 17015497].
- 17- Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999-2004. *JAMA* 2006;295:1549-55. [PubMed: 16595758].
- 18- Johnson R, Welk G, Saint-Maurice PF, Ihmels M. Parenting styles and home obesogenic environments. *Int J Environ Res Public Health* 2012;9:1411-26. [PubMed: 22690202].
- 19- Brasil MS/SAS. SB Brasil 2010. Pesquisa Nacional de Saúde Bucal. Disponível em: [www.saúde.gov.br](http://www.saúde.gov.br). 2010.
- 20- Tsoi AK, Wilson S, Thikkurissy S. A study of the relationship of parenting styles, child temperament, and operator behavior in healthy children. *J Clin Pediatr Dent* 2018;42(4):273-8.
- 21- WHO. WHO expert consultation on public health intervention against early childhood caries: report of a meeting, Bangkok, Thailand, 26-28 January 2016. Geneva: World Health Organization, 2017 (WHO/NMH/PND/17.1). Licence: CC BY-NC-SA 3.0 IGO.
- 22- ABEP, Associação Brasileira de Empresas de Pesquisa. Disponível em: [www.abep.org](http://www.abep.org).2010.
- 23- Vollú AL, Da Costa MEPR, Maia LC, Fonseca-Gonçalves A. Evaluation of oral health-related quality of life to assess dental treatment in preschool children with early childhood caries: a preliminary study. *Journal of Clinical Pediatric Dentistry* 2018;42:37-44.
- 24- Seabra LCSR, Melo RR, Gomes VE, Oliveira AC, Ferreira EF. Fatores sociais comportamentais e biológicos associados à presença de placa dentária na superfície oclusal de primeiros molares permanentes. 10.7308/aodontol/2012.48.02.
- 25- Baumrind D. Child care practices anteceding three patterns of pre-school behaviour. *Genetic Psychology Monographs* 1967;75:43-88.
- 26- Olivari MG, Tagliabue S, Confalonieri E. Parenting style and dimensions questionnaire: a review of reliability and validity. *Fog* 2013;49:465-90.