



Feeding Practices of Potential Risk to Dental Caries in Early Childhood and its Relationship with Sociodemographic Variables and Prematurity


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Academic Editors: Alessandro Leite Cavalcanti and Wilton Wilney Nascimento Padilha

Received: 13 November 2018 / Accepted: 17 April 2019 / Published: 08 May 2019

Abstract

Objective: To verify the relationship of feeding practices of potential risk to dental caries in early childhood with sociodemographic variables, prematurity and Neonatal Intensive Care Unit admission (NICU). **Material and Methods:** Data from medical records of infants and preschool children, including feeding practices (breastfeeding, bottle feeding, feeding during sleep, introduction and frequency of sugar use), sociodemographic variables, prematurity and NICU admission were collected. Chi-square, Fisher and Maximum Likelihood Ratio tests were used. **Results:** The number of medical records was 222 in the age group of 01-45 months. Breastfeeding was not present in 66.7% of preterm infants ($p=0.003$) and 66.1% of infants admitted at NICU ($p=0.011$). The use of feeding bottle occurred in 58.4% of infants whose mothers work / study; 58.4% of preterm infants and 60.9% of children admitted at NICU ($p<0.001$). Feeding during sleep occurred in 70.5% of infants aged 1-24 months ($p<0.001$); 51.4% were single children ($p=0.010$) and 76.7% did not attend daycare centers ($p=0.003$). The introduction of sugar occurred in 60.6% in the age group of 01-24 months. The use of sugar more than 3x / day occurred in 52.6% of infants aged 25-45 months ($p=0.003$) and; 51.8% with mothers whose schooling corresponded to elementary school ($p=0.039$). **Conclusion:** Among caries-risk feeding practices, there was relationship between breastfeeding and prematurity and NICU admission; use of feeding bottle and mothers who worked and / or studied, prematurity and NICU admission; feeding during sleep and younger children, single child and those who did not attend daycare centers; and higher frequency of sugar use and older infants, and maternal schooling corresponding to elementary school.

Keywords: Infant, Premature; Breast Feeding; Bottle Feeding; Diet, Cariogenic.

Introduction

Healthy eating is critical to ensure health, growth and development of children and to prevent diseases and nutritional deficiencies [1]. Diet plays an important role in the etiology and pathogenesis of dental caries. Fermentable carbohydrates, after being hydrolyzed by salivary amylase, provide substrate for the metabolism of bacteria, which produce acids as final product, which lower biofilm and saliva pH, promoting enamel demineralization. Many factors, other than sugars, affect the caries process, including food form and consistency, exposure duration, nutrient composition, ingestion frequency, oral hygiene, saliva flow and buffer capacity [2].

Inadequate feeding practices are likely to compromise the health of children in the short and long term [3], and are risk factors for severe and early childhood caries [4]. In infants, feeding practices considered as high-risk caries factors have been associated with high sugar density (proportions greater than 50% of simple carbohydrates in 100g of foods such as sweets, soft drinks, sugar and honey), to the frequent ingestion of foods, prolonged and high-frequency breastfeeding, inadequate bottle feeding, with emphasis on nighttime use and with sweetened liquids [5].

In some contexts, very prolonged and frequent breastfeeding may increase the risk of caries [6]. Breastfeeding lasting ≥ 12 months was associated with higher risk for early childhood caries in children aged 3-6 years [7], and prolongation for ≥ 24 months increased the risk for severe childhood caries [6,8]. Regarding the use of feeding bottle, the frequency and length of time were also positively related to the prevalence of caries [9].

Exclusive breastfeeding has been recommended as a means of postponing the introduction of high-sugar foods [5], especially liquids and sweets that may compromise the child's health [3]. The addition of sugar contributes to diet high in energy but poor in nutrients, and increases the risk of developing obesity, cardiovascular disease, hypertension, cancer, and dental caries [1]. Dietary practices with emphasis on the consumption of refined carbohydrates represented a fundamental variable in the etiology of dental caries [5]. High feeding frequency at 12 months of age is positively associated with higher prevalence of dental caries at the age of three years [4]. Lower occurrence of caries was observed when the free sugar intake was less than 10%. Limiting sugar consumption to less than 5% showed benefits and minimized the risk of lifetime caries [10].

Preterm newborns (<37 weeks), those with low birth weight and who had complications at birth may present difficulties in establishing breastfeeding and, thus, may be associated with the introduction of mixed feeding [11]. Preterm and low-birth weight infants are more susceptible to dental caries than those born full term when breastfed for longer period (7-12 months) and with feeding practices such as bottle feeding and sticky foods [12].

There is shortage of oral health-related studies that include full term and preterm infants as variables in the sample design. The fact that the latter may present greater risk of dental caries justify the performance of studies aimed at elucidating factors of relevance for health promotion in this population. Thus, the aim of this study was to verify the relationship between feeding practices and risk of early childhood caries and sociodemographic variables, prematurity and Neonatal Intensive Care Unit admission (NICU).

Material and Methods

Study Design and Sample

This is a cross-sectional study based on the collection of secondary data originating from the filling of dental records of infants and preschool children attended at the "Oral Health Promotion Strategies for Infants" Extension Project linked to the Pediatric Dentistry discipline of the Federal University of Espírito Santo.

The project includes full term and preterm infants within the age group corresponding to early childhood. Inclusion criteria included records from March 2013 to July 2017 and, as exclusion criterion, records whose items were not completely filled in more than five fields of the anamnesis form, which presents a total of 34 items. The information considered for data collection was related to responses recorded at the initial date of admission in the project.

Data Collection

Data for the analysis of this study were obtained through responses provided by mothers in medical records. The clinical file presents a consent form for dental care signed by parents / guardians for authorization for the scientific publication of information recorded.

The following items that compose categorical variables were extracted from the anamnesis form: age group, gender, full term or preterm birth and history of NICU admission; and the following sociodemographic data: paternal schooling, maternal schooling, maternal work / study, family income, number of children and frequency of attendance in daycare centers. Paternal and maternal schooling was grouped into categories corresponding to elementary school, high school and higher education, which are part of the Brazilian education system [13]. Family income assessment was based on the Brazilian government's minimum wage in Reais (Brazilian currency) for each study year: R\$ 678,00 (2013); R\$ 724,00 (2014); R\$ 788,00 (2015); R\$ 880,00 (2016); R\$ 937,00 (2017); minimum wage value in Brazil (converted into dollars): US\$ 333.99 (2013); US\$ 303.94 (2014); US\$ 299.16 (2015); US\$ 217.06 (2016) and US\$ 293.08 (2017). The item on the number of children was analyzed in relation to whether or not the child is single child, constituting the single child variable (yes / no).

The feeding practices evaluated in the anamnesis form were the following: breastfeeding, bottle feeding, feeding during sleep, sugar use introduction and frequency. For the breastfeeding evaluation, records referring to this practice were included, exclusively or not, if they continued or if they had already been interrupted; in the same way, data on the use of feeding bottle considered the introduction of this practice, regardless of whether it was exclusive, if mixed feeding (maternal and bottle feeding) occurred, whether the use had already been interrupted or if it still persisted; feeding during sleep considered referred to the practice of breastfeeding and / or bottle feeding, occurred in the present and / or past. Introduction of sugar considered for the "yes" option was the use of any type of food containing sugar (for sweetening, cookies, sweets, etc); to evaluate the sugar use frequency, the options available in records were "none", "up to three times", and "more than three times a day".

Data Analysis

For data tabulation, the SPSS (Statistical Package for the Social Sciences) software version 21.0 was used. Analysis was performed by descriptive statistics procedures and comparisons were performed by the Chi-square test and Fisher's exact test for two-category exposure variables and Maximum Likelihood Ratio for more than two categories in order to verify the relationship between feeding practices and other categorical variables. The significance level adopted was 5%.

Ethical Aspects

The project was submitted to the Ethics Research Committee for approval, and received favorable opinion (Protocol No. 2.186.306).

Results

The total number of records analyzed was 222. The age of children ranged from 1 to 45 months (22.72 ± 10.93), and 61.7% ($n = 137$) aged 1-24 months and 38.3 % ($n = 85$) aged 25-45 months. Regarding distribution by gender, 57.7% ($n = 128$) were males. The other sociodemographic variables are presented in Table 1.

Table 1. Distribution of parents according to sociodemographic characteristics.

Sociodemographic Variables*	N	%
Paternal Schooling		
Illiterate	01	0.5
Elementary School	63	30.6
High School	111	53.9
Higher Education	31	15.0
Maternal Schooling		
Illiterate	57	26.3
Elementary School	120	55.3
High School	40	18.4
Maternal Work / Study		
Yes (Work or Study)	107	49.5
No	109	50.5
Family Income in Minimum Wages (Brazil)**		
Up to 1 Minimum Wage	69	33.2
From 1 to 3 Minimum Wages	103	49.5
More Than 3 Minimum Wages	36	17.3
Single Child		
Yes	97	45.3
No	117	54.7
Frequency of Daycare Attendance		
Yes	64	29.2
No	155	70.8

*There were no records in 16 medical records in item related to paternal schooling, 05 in maternal schooling, 06 in maternal work / study, 14 in family income, 08 in single child and 03 in daycare attendance; **Minimum wage value in Brazil (in Reais): R\$ 678,00 (2013); R\$ 724,00 (2014); R\$ 788,00 (2015); R\$ 880,00 (2016); R\$ 937,00 (2017); minimum wage value in Brazil (converted into dollars): US\$ 333.99 (2013); US\$ 303.94 (2014); US\$ 299.16 (2015); US\$ 217.06 (2016) and US\$ 293.08 (2017).

In the prematurity assessment, it was observed that 50% (n = 111) of children were born preterm and the other 50% (n = 111) were born full term. Regarding the history of NICU admission, there were no records in three medical records, and 52.1% (n = 114) of children were admitted at NICU, while 47.9% (n = 105) were not.

The feeding practices evaluated in this study were: breastfeeding, bottle-feeding, feeding during sleep, introduction of sugar and sugar use frequency. Data are presented in Table 2.

Table 2. Feeding practices of potential risk to early childhood caries recorded in medical records of children aged 1-45 months.

Feeding Practices	N	%
Feeding Type		
Breastfeeding	67	30.2
Bottle Feeding	58	26.1
Mixed Feeding	97	43.7
Breastfeeding		
Not Breastfed	57	25.7
Had Already Stopped Breastfeeding	109	49.1
Still Breastfed	56	25.2
Bottle Use		
No Use of Bottle	68	30.6
Had Already Stopped Using	38	17.1
Still Bottle Fed	116	52.3
Feeding During Sleep*		
Yes	149	68.0
Not	70	32.0
Sugar Introduction*		
Yes	147	66.8
Not	73	33.2
Sugar Use Frequency*		
Does Not Use Sugar	73	33.2
Use of Sugar up to 3 Times a Day	71	32.3
Use of Sugar More Than 3 Times a Day	76	34.5

*There was no record in 03 medical records of the Feeding During Sleep item and in 02 medical records of Sugar Introduction and Sugar Use Frequency items.

Feeding practices were statistically compared with sociodemographic variables and prematurity. Table 3 presents the results of comparison tests between breastfeeding and study variables.

Table 3. Breastfeeding data distribution compared with sociodemographic variables, prematurity and NICU admission.

Variables	Breastfeeding				p-value
	N	Yes %	No N	%	
Age Group					0.232*
1 - 24 Months	99	60.0	38	66.7	
25 - 45 Months	66	40.0	19	33.3	
Gender					0.335*
Male	97	58.8	31	54.4	
Female	68	41.2	26	45.6	

Paternal Schooling					0.492**
Elementary School / Illiterate	51	32.5	13	26.5	
High School	81	51.6	30	61.2	
Higher Education	25	15.9	6	12.3	
Maternal Schooling					0.865**
Elementary School / Illiterate	44	26.8	13	24.5	
High School	89	54.3	31	58.5	
Higher Education	31	18.9	9	17.0	
Maternal Work / Study					0.291*
Yes	78	48.1	29	53.7	
No	84	51.9	25	46.3	
Family Income					0.161**
Up to 1 Minimum Wage***	55	35.0	14	27.5	
From 1 to 3 Minimum Wages	72	45.9	31	60.8	
More Than 3 Minimum Wages	30	19.1	6	11.7	
Single Child					0.104*
Yes	69	42.6	28	53.8	
No	93	57.4	24	46.2	
Frequency of Daycare Attendance					0.466*
Yes	49	29.7	15	27.8	
No	116	70.3	39	72.2	
Prematurity					0.003*
Full Term	92	55.8	19	33.3	
Preterm	73	44.2	38	66.7	
NICU Admission					0.011*
Yes	77	47.2	37	66.1	
No	86	52.8	19	33.9	

*Fisher exact test; **Maximum Likelihood Ratio; ***Minimum wage value in Brazil (converted into dollars): US\$ 333.99 (2013); US\$ 303.94 (2014); US\$ 299.16 (2015); US\$ 217.06 (2016) and US\$ 293.08 (2017).

Table 4 presents the bottle use results for variables maternal work / study, prematurity and NICU admission.

Table 4. Distribution of bottle feeding data compared to variables maternal work / study, prematurity and NICU admission.

Variables	Bottle Feeding				p-value
	Yes	No			
	N	%	N	%	
Maternal Work / Study					<0.001*
Yes	87	58.4	20	29.9	
No	62	41.6	47	70.1	
Prematurity					<0.001*
Full Term	64	41.6	47	69.1	
Preterm	90	58.4	21	30.9	
NICU Admission					<0.001*
Yes	92	60.9	22	32.4	
No	59	39.1	46	67.6	

*Chi-square test.

Feeding during sleep evaluation with variables age, single child and daycare attendance are presented in Table 5. Variables gender (p=0.197), prematurity (p=0.166), NICU admission (p=0.408), and age (p=0.654), maternal schooling (p=0.839), maternal work / study (p=0.350) and family income (p=0.993) showed no statistically significant differences.

Table 5. Distribution of feeding during sleep data compared to age, single child, and daycare attendance.

Variables		Feeding During Sleep				p-value
		Yes		No		
	N	%	N	%		
Age Group						<0.001*
1 - 24 Months	105	70.5	31	44.3		
25 - 45 Months	44	29.5	39	55.7		
Single Child						0.013*
Yes	73	51.4	23	33.3		
No	69	48.6	46	66.7		
Daycare						0.003*
Yes	34	23.3	30	42.9		
No	112	76.7	40	57.1		

*Chi-square test.

When analyzing sugar introduction, it was observed that 60.6% (n = 83) of medical records of children aged 01-24 months contained information that the child was already using sugar; while in the age group of 25-45 months, 77.1% (n = 64) used sugar. The introduction of sugar was compared with the study variables and no statistically significant differences were observed.

The frequency of daily sugar use was also not significant when compared to variables gender (p=0.464), paternal schooling (p=0.315), maternal work / study (p=0.714), family income (p=0.349), single child (p=0.246), frequency of daycare attendance (p=0.442), prematurity (p=0.157) and NICU admission (p=0.050). The results of the daily frequency of sugar use for variable age group obtained relevant statistical results (Table 6). Analyzing through variable maternal schooling, significant relationship was observed with daily frequency of sugar use; 51.8% of cases in which maternal schooling corresponded to elementary school, the use of sugar was more than three times a day, while the percentage was 31.1% for high school and 25% for higher education cases (p=0.039).

Table 6. Distribution of the sugar use frequency compared to the age group of children.

Age Group	Sugar Use Frequency						p-value
	No Sugar Use		Sugar up to 3 Times /Day		Sugar > 3 Times /Day		
	N	%	N	%	N	%	
1 - 24 Months	54	74.0	47	66.2	36	47.4	0.003**
25-45 Months	19	26.0	24	33.8	40	52.6	

**Maximum Likelihood Ratio.

Discussion

The feeding practices that may constitute a risk for dental caries and that could be evaluated in this study considering data filled in the medical records of children aged 1-45 months were: breastfeeding, bottle feeding, feeding during sleep, sugar introduction and frequency. It is noteworthy that one or more of these practices have been related in literature with the development of caries in children [1,4-10,12,14-17]. In a study with children aged 6-60 months with high prevalence of dental caries, the main factors associated with caries development were: age, frequency of consumption and time of bottle use and unsatisfactory oral hygiene [9]. In another study with

high prevalence of severe early childhood caries in preschool children, the risk factors identified were: environmental factors such as public water supply fluoridation below recommended levels, low maternal schooling, male gender, and behavioral factors such as bottle feeding at 30 months of age [14]. Social and economic vulnerability has also been cited in literature as a strong risk factor for caries in children younger than two years [16].

Regarding the type of feeding in early infancy, it was found in the present study that 30.2% of infants received exclusive breastfeeding without the use of bottle, 43.7% used mixed feeding and 26.1 were fed exclusively through bottle. Unlike data found, exclusive breastfeeding up to six months was the most prevalent feeding practice in another study, being performed in 46.2% of cases, while bottle feeding was introduced together with breastfeeding from birth in 38.5% and exclusive bottle feeding in 15.3% of cases [18]. This difference is due to the characteristic of the sample. In the present study, 50% of medical records evaluated refer to children born preterm, which majority was admitted at NICUs, so that comparisons with literature data regarding the general population of children who did not present intercurrents at birth are discrepant. It should be emphasized that, in another sample of preterm infants, there was no predominance of exclusive breastfeeding, which was associated by the authors with health problems at birth, especially respiratory difficulties [11].

Most medical records reported that children had presented or still present the practice of bottle feeding. A similar result was observed in literature regarding the high frequency of this practice (58%) and the early introduction of artificial feeding with powder or cow milk [19]. A cross-sectional study with 305 infants aged 0-36 months corroborates these results, in which it was observed that the most prevalent feeding type was artificial feeding (70.2%) and that the diet of 82.6% of these infants contained sugar, and artificial feeding was introduced from the first month of life and lasted until the age of three years [18]. In fact, the use of artificial feeding is common in society, since mothers and people near them consider bottle feeding as an act of the everyday life [20]. In addition, prolonged use of bottle in early childhood is a recurrent practice among preterm infants [12].

To analyze the potential risk of these feeding practices in the development of caries in childhood, it was observed that there are divergences in literature regarding breastfeeding as a risk factor for caries: for some authors, there is a positive association with increased risk of caries when breastfeeding is very prolonged and frequent [5-8,16,21]; while for others, breastfeeding has no relationship with caries [22] and consider it a protective factor due to the delay in the introduction of high-sugar foods [23]. Compared with children who used feeding bottle, a meta-analysis of cross-sectional studies showed that children who were breastfed were less affected by dental caries [24]. Prolonged and high frequency of bottle use was positively associated with dental caries at the age of three years [4]. The high prevalence of bottle use was related to caries prevalence of 28% and early caries of 18% in children aged 12-48 months [19].

In the present study, no significant differences were found when comparing breastfeeding with sociodemographic variables and maternal schooling. However, it was demonstrated that

exclusive breastfeeding was influenced by bottle introduction and maternal schooling; it was found that exclusive breastfeeding was higher in mothers with incomplete high school than in mothers with complete high school and higher education [25]. On the other hand, a meta-analysis concluded that variables related to both mother the child and the family environment contributed to the early interruption of exclusive breastfeeding, and among maternal variables, age less than twenty years, low schooling, primiparity, maternal labor in the puerperium period and low family income stand out [26]. The disagreement found in relation to literature data may be associated with the high number of medical records related to the preterm infants admitted at NICUs in this study, in which factors related to the difficulty of establishing breastfeeding due to precarious general health conditions at birth and restriction of time of maternal presence at NICU may have stood out in relation to the other factors.

It was observed that in the majority of cases in which the child used feeding bottle, mothers studied and / or worked (58.7%). Maternal work can double the risk of early introduction of cow's milk or other foods into the child's diet, which impairs exclusive breastfeeding [26-28]. However, in a study carried out in a small city, maternal work did not interfere with the establishment of exclusive breastfeeding, since the city favored commuting for both mothers and infants [25].

The majority of medical records referred that the child had history or was still fed during sleep (68%) through bottle feeding or breastfeeding, and that the majority was single child and did not attend daycare centers. There is similarity pointed out in literature in a study demonstrating that the majority (52%) of children performed high-frequency nocturnal feeding, showing that only 28% of parents performed oral hygiene of their children at night [19]. The potential risk of caries associated with the prolongation of this feeding practice was evidenced in studies where a significant increase in the prevalence of dental caries was reported in children who were bottle fed at night under free demand [6-9]. Feeding before or during sleep was associated with the incidence of caries in children enrolled in public, private and philanthropic daycare centers [16].

In the present study, 70.5% of children who were fed during sleep were in the age group from 1 to 24 months. It is noteworthy that for the age group over 24 months, data were often retrospective and memory bias should be considered at the moment of filling in the medical record, since some information was related to past behavior and situations. Such assessment was also demonstrated in a study on dietary practices, where researchers needed to rely on the memory of research participants [5].

Regarding prematurity, it was found that among children who did not receive breastfeeding, the majority had history of preterm birth and NICU admission; it was also observed that of children who used feeding bottle, 58.4% were preterm birth and 60.9% had been admitted at NICUs. Consideration should be given to difficulties involved in breastfeeding preterm and low birth weight infants due to various limitations, such as maintenance of maternal lactation through milking and the infants' own restrictions, which may influence the establishment of breastfeeding and contribute as factors discouraging for mothers [29]. In fact, children with low birth weight who used pacifiers were more vulnerable to not being exclusively breastfed [26].

Particular attention should be given to social, economic and cultural conditions of the family, as well as to the clinical demands of preterm newborns for breastfeeding maintenance [30]. The continuity of care to the preterm newborn after hospital discharge is fundamental for breastfeeding maintenance at home, since mothers need the encouragement and support of health professionals to maintain exclusive breastfeeding. To that end, the approach of both public policies and health professionals is necessary not only considering the biological aspects of breastfeeding, but also the emotional, cultural, historical and social aspects involved in this complex process [20].

Regarding sugar introduction, most medical records reported that the child was already using sugar. This result is worrisome due to the low age of children, considering that the Ministry of Health, through the booklet "The Ten Steps for Healthy Eating", indicates that for children under two years of age, the use of sugar is unnecessary [31,32]. Guidelines issued by the World Health Organization in 2015 recommend for both adults and children that the amount of free sugar intake should be less than 10% of the total caloric intake, which corresponds to consumption of $\leq 25\text{g}$ (100 calories or 6 teaspoons) per day and that sugars should be avoided for children under 2 years of age [1].

Regarding the age group of children in the present study, it was verified that 60.6% of children aged 0-24 months and 71.1% in the age group of 25-45 months were already using sugar, which shows that the use of sugar in both age groups is high. The early introduction of sugar was also observed in a study in which the use of sweets occurred for 50% of children at 12 months of age [3]. In another study, the feeding of 82.6% of infants was artificial and milk contained sugar, chocolate, coffee with milk, soft drinks, natural and artificial juices, teas, among others [18].

In the analysis of medical records, it was observed that 34.5% of children had high sugar intake frequency, corresponding to more than three times a day. The high consumption of sweets and beverages increases the risk of developing dental caries [33]. In the present study, of children who used sugar more than three times a day, 52.6% were in the age group of 25-45 months, while those who used sugar up to three times or did not use were in the age group of 1-24 months. Similar result was observed regarding the increase in sugar use by older children, comparing the daily sugar consumption percentage of 35.53% among children aged 6-12 months with 61.25% among children aged 12-24 months [17]. As children get older, the exposure of teeth to cariogenic foods increases, especially the consumption of small snacks between the main meals [22]. This higher sugar consumption may translate into higher risk of caries, with caries lesions being observed in older children [16]. Thus, the importance of the identification of risk indicators related to diet at early age is emphasized, which enables preventing caries through diet modification, being more effective when started before school age [14]. Early counseling of healthy feeding habits reduces the incidence and severity of early childhood caries [23].

In the medical records of this study, it was possible to verify that among lower schooling mothers (elementary school) the majority of children (51.8%) used sugar more frequently (more than three times a day), while among higher schooling mothers, most children did not use sugar.

Undoubtedly, low schooling is an important risk factor for early childhood caries, since mothers directly influence the introduction of healthy eating habits and oral hygiene [14]. In another study, it was observed that maternal schooling was related to the consumption of sandwich cookie, coffee with sugar, soft drink and artificial juice, while family income was related to the consumption of coffee with sugar, yogurt and artificial juice, and yogurt consumption was higher in higher income families [17].

Feeding (breastfeeding and / or bottle feeding) during sleep and the introduction and frequency of sugar use were not related to prematurity and NICU admission. It should be considered that these are food practices introduced after the neonatal period and, as observed in this study, with high frequency in most children, both full term and preterm. However, the literature reported that prematurity and low birth weight increased the risk of developing caries in the deciduous dentition, evidencing the need to propose preventive measures [12].

In view of the above, the need to prioritize activities to promote and improve maternal-child services to change this context is evident [3]. Cultural values, parental attitudes and family interactions regarding the introduction of risk habits to dental caries should be addressed in programs aimed at prevention [34]. The approach in nutritional education activities with parents, children and the general population is suggested in order to provide changes in habits regarding the supply of sugary foods to prevent diseases caused by excessive sugar consumption [17].

It is noteworthy that, in this study, sample composition was proportional between infants and pre-school children born full term and preterm. However, since this is a cross-sectional study, comparative data presented a relation of association with each other rather than a causal relationship, so they should be interpreted with caution. The interpretation of results should consider limitations with data collection, which occurred from medical records filled by trainees of the Extension Project, and not by a single researcher, even though trainees were trained for the correct filling of medical records. The reliability of responses given by parents / guardians of children should be considered, since responses were retrospective. Another study limitation is that the feeding practices evaluated are those addressed in medical records, which showed no details about the types of foods consumed.

Conclusion

Among feeding practices of risk of early childhood caries, relationship was observed between breastfeeding and prematurity and NICU admission; use of bottle and mothers who worked and / or studied and prematurity and NICU admission; feeding during sleep and younger infants (1-24 months) and single child and those who did not attend daycare centers; and higher frequency of sugar use and older infants, and maternal schooling corresponding to elementary school.

Authors' Contributions: IMR, APMG, AMMG, LCS, and ECVD contributed with the project design, data analysis and interpretation, critical content review, and approval of the final version of the manuscript.

Financial Support: None.

Conflict of Interest: The authors declare no conflicts of interest.

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