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Risk of pediatric eating disorders in preschoolers born prematurely

Risco de distúrbio alimentar Pediátrico em pré-escolares nascidos prematuros

Manoela Gomes[1], *Claudiane Bottoli*[2], *Bianca Nunes Pimentel*[2], *Camila Lenhardt Vargas*[2], *Raquel Coube de Carvalho Yamamoto*[3], *Angela Regina Meciel Weinmann*[4], *Geovana de Paula Bolzan*[5]

ABSTRACT

Purpose: To verify the risk of pediatric eating disorders in preschoolers who were born prematurely and relate it to neonatal aspects, breastfeeding and oral habits. **Methods:** Descriptive and longitudinal study. The sample was made up of preschoolers who were born prematurely and who were followed up until 24 months of corrected age. Data collection consisted of analysis of medical records, interviews and application of the Brazilian Infant Feeding Scale (EBAI). **Results:** 19 preschoolers participated, with a mean age of 5.11±0.51, born prematurely (gestational age of 32.05 ± 3.26 weeks), healthy and with normal oral motor function at 2 years of corrected age. The application of the EBAI made it possible to identify the risk of pediatric eating disorders in 31.57% of the sample. There was no difference between the groups with and without risk of pediatric eating disorders regarding neonatal variables, breastfeeding and oral habits. Only the variable feeding time during the neonatal hospitalization period showed a difference between the groups, being higher in children who were not at risk for pediatric eating disorders. **Conclusion:** The risk of pediatric eating disorders occurred in almost a third of pre-school-age premature infants. The dietary transition time during the neonatal hospitalization period was the only variable that showed a difference between the groups with and without risk of pediatric eating disorders. Thus, one may consider that, the moment of introduction of oral feeding and the way in which the diet progresses until the full oral route, during neonatal hospitalization, may be related to eating behavior in other phases of child development.

Keywords: Premature; Feeding behavior; Preschool child; Children; Food selectivity

RESUMO

Objetivo: verificar o risco de distúrbio alimentar pediátrico em pré-escolares que nasceram prematuros e relacionar com os aspectos neonatais, de aleitamento materno e de hábitos orais. **Métodos**: estudo descritivo e longitudinal. A amostra foi composta por pré-escolares que nasceram prematuros e que foram acompanhados até os 24 meses de idade corrigida. A coleta de dados consistiu em análise de prontuários, entrevista e aplicação da Escala Brasileira de Alimentação Infantil. **Resultados**: participaram 19 pré-escolares, com média de idade de 5 anos e 1 mês, nascidos prematuros (idade gestacional de 32 semanas), saudáveis e com função motora oral normal aos 2 anos de idade corrigida. A aplicação da escala permitiu identificar risco de distúrbio alimentar pediátrico em 31,57% da amostra. Não houve diferença entre os grupos com e sem risco do distúrbio quanto às variáveis neonatais, de aleitamento materno e de hábitos orais. Apenas a variável tempo de transição alimentar no período de internação neonatal apresentou diferença entre os grupos, sendo maior em crianças que não apresentaram risco para o distúrbio. **Conclusão**: O risco de distúrbio alimentar pediátrico ocorreu em quase um terço dos prematuros em idade pré-escolar. O tempo de transição alimentar no período de internação neonatal foi a única variável que apresentou diferença entre os grupos com e sem risco para o distúrbio. Assim, pode-se refletir que o momento de introdução da alimentação oral e a forma de progressão da dieta até a via oral plena na internação neonatal podem ter relação com o comportamento alimentar em outras fases do desenvolvimento infantil.

Palavras-chave: Prematuridade; Comportamento alimentar; Pré-escolar; Crianças; Seletividade alimentar

Study carried out at Universidade Federal de Santa Maria – UFSM – Santa Maria (RS), Brasil.
[1]Curso de Fonoaudiologia, Universidade Federal de Santa Maria – UFSM – Santa Maria (RS), Brasil.
[2]Programa de Pós-graduação em Distúrbios da Comunicação Humana, Universidade Federal de Santa Maria – UFSM – Santa Maria (RS), Brasil.
[3]Departamento de Fonoaudiologia, Universidade Federal do Rio Grande do Norte – UFRN – Natal (RN), Brasil.
[4]Universidade Franciscana – UFN - Santa Maria (RS), Brasil.
[5]Departamento de Fonoaudiologia, Universidade Federal de Santa Maria – UFSM – Santa Maria (RS), Brasil.
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Corresponding author: Claudiane Bottoli. E-mail: claudianeureab@gmail.com
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INTRODUCTION

The number of preterm births has increased significantly in recent decades. In Brazil, 11.7% of births occur before 37 weeks of gestation[1]. This amounts to approximately 360 thousand preterm births every year or nearly one thousand a day. Preterm birth can have both immediate and long-term effects on newborns, including altered growth patterns, as well as delays in sensory, motor, or cognitive development, or a combination of these events[2,3].

Healthy full-term newborns repeatedly engage in a sophisticated set of oral reflexes and movements to coordinate the functions of sucking, swallowing, and breathing. Preterm infants, due to their overall immaturity, may require parenteral and/or enteral nutrition through a gastric tube until they achieve full oral feeding, which is required for hospital discharge[4,5]. These early feeding difficulties, coupled with invasive oral procedures during neonatal hospitalization, can have a negative impact on feeding, especially among infants with prolonged hospitalizations[6].

Preterm newborns can display behaviors such as food refusal, vomiting, nausea, crying, irritation, choking and coughing, delayed feeding skills, and difficulty chewing[7-9]. Additionally, poor and inadequate nutrition among preterm newborns due to factors such as a short duration of exclusive breastmilk feeding, early introduction of complementary foods, and a poor quality diet contribute to an increased likelihood of chronic illnesses in adulthood. Long-term follow-up of nutritional outcomes after discharge from a Neonatal Intensive Care Unit (NICU) is therefore crucial[10].

In 2019, researchers[11] coined the term ”pediatric feeding disorder” (PFD) to describe the presence of poor oral intake that is not age-appropriate and interferes with development. According to these researchers, the causes of PFD include medical, nutritional, feeding skills, and/or social dysfunction. The condition can occur at any stage of childhood, though its prevalence is highest between 6 months and 4 years of age. It is a complex and multifactorial disorder, and as such, a multi-professional team is required to ensure its early detection, as well as its adequate treatment and follow-up[11,12].

Since preterm infants are especially susceptible to eating problems and timely detection and intervention can improve prognosis, this study aimed to examine the risk of PFD in preterm-born preschool children and its relationship to neonatal variables, breastfeeding, and oral habits.

METHODS

This descriptive longitudinal study was approved by the Research Ethics Committee of the institution where it was conducted under protocol number 187.634. The guardians of all participants signed the Informed Consent Form (ICF).

Sample

This study involved a convenience sample of 19 children aged 4 to 5 years of age.

Inclusion criteria were: prematurity requiring NICU hospitalization; regular attendance at premature follow-up outpatient clinic at hospital of birth until 24 months corrected age; normal oral motor function as assessed at 24 months corrected age; absence of neonatal diagnosis of neurological abnormalities, genetic syndromes, head and/or neck malformations, neonatal asphyxia (5-minute Apgar ≤5), bilirubin encephalopathy, grade III and IV intraventricular hemorrhage, and bronchopulmonary dysplasia.

Exclusion criteria were the inability to contact families at the current stage of the research and a diagnosis of autism spectrum disorder (ASD) during development[13]. Forty children were eligible for the study. However, we could not reach 19 families and two children were excluded due to a diagnosis of ASD, resulting in a final sample of 19 children.

During the feeding transition period in the NICU, all children in the study remained in a conventional intermediate care unit (except for Kangaroo care) and received speech therapy using the *Premature Infant Oral Motor Intervention* (PIOMI)[14] protocol for oral sensorimotor stimulation. Stimulation was performed throughout the feeding transition period, once a day, six days a week, according to the unit’s routine practice. Newborns were breast- and bottle-fed depending on their mothers’ availability and presence in the NICU.

Procedures

Initially, patient records from the preterm outpatient follow-up unit were reviewed as part of a previous research project to select participants according to pre-established eligibility criteria. Once eligible preschool children were identified, their families were contacted by phone and invited to participate in this stage of the study. Data collection involved an updated medical history, including information on the child’s general health, possible diagnoses, the occurrence of choking and gastroesophageal reflux, oral habits such as pacifier use and bottle feeding, and completion of the Brazilian Child Feeding Questionnaire (*Escala Brasileira de Alimentação Infantil*; EBAI)[15]. The following information was then collected from the outpatient follow-up database: gestational age at birth; adequacy of intrauterine growth per Fenton curves[16], classified as follows: small for gestational age (SGA), adequate for gestational age (AGA), and large for gestational age (LGA); use of mechanical ventilation; duration of neonatal hospitalization and transition to full oral feeding, duration of breastfeeding, type of feeding at 6 months corrected gestational age and age of solid food introduction in months.

Data were collected from September 2019 to November 2019. Seven attempts were made to call each telephone number on different days and times, and children whose families could not be reached were excluded from participation. The feeding questionnaire was also answered by all families contacted.

The aim of the EBAI is to identify the risk of PFD in children aged 6 months to 6 years 11 months, based on parental observation. The instrument has been validated for use in Brazilian Portuguese and can be administered by different health professionals[15].

The scale contains 14 questions on the following issues: parental feeding practices, child’s eating behavior, and oral-motor performance. Feeding difficulties were classified by severity into the following categories: mild (61- 65), moderate (66-70), severe (over 70), or no difficulty (35-60)[15].

Data analysis

Data were entered into an Excel spreadsheet and analyzed in Statistica 9.1 using descriptive and inferential statistics. Continuous variables were expressed as means, standard deviations, and minimum/maximum values, while categorical variables were expressed as percentages. Groups were compared using Mann-Whitney U tests, while categorical variables were analyzed using Pearson's Chi-Square or Fisher's Exact test when $n<5$. Results were considered significant at $p<0.05$.

RESULTS

The mean gestational age at birth in the sample was 32 weeks. Most infants were female and classified as having a very low birth weight. The neonatal characteristics of the sample are shown in Table 1.

Results regarding breastfeeding and the introduction of solid foods showed that at 6 months corrected age, most of the sample (78.94%) no longer received breastmilk and that complementary feeding was introduced prematurely, at approximately 3 months and 16 days corrected gestational age (Table 2).

The analysis of participant characteristics and risk of PFD at the time of data collection revealed that participants had a mean age of 5 years and 1 month and the risk of PFD was present in 31.58% of the sample, with varying degrees of severity (Table 3).

The comparison between children with and without risk of PFD revealed no significant differences in gestational age at birth, adequacy of intrauterine growth, use of mechanical ventilation, duration of neonatal hospitalization, age of introduction of complementary feeding, and the oral habits of pacifier use and bottle feeding. Only the duration of oral feeding transition in the neonatal period differed between groups: children without risk of PFD showed a significantly longer transition period than those at risk for PFD (Table 4).

Table 1. Neonatal characteristics of study participants

Variables	n (%)	
Gender		
Female	13 (68.43)	
Male	6 (31.57)	
Adequacy of IUG		
SGA	9 (47.37)	
AGA	10 (52.63)	
Weight classification		
Extremely low weight	2 (10.52)	
Very low weight	9 (47.37)	
Low weight	6 (31.58)	
Adequate weight	2 (10.53)	
Use of MV		
Yes	6 (31.57)	
No	13 (68.43)	
Variables	**Mean ± SD**	**Minimum/Maximum**
GA at birth (weeks)	32.05 ± 3.26	28-35
APGAR		
1 minute	6.84 ± 2.24	2-8
5 minute	6.78 ± 0.91	7-10
Weight at birth (g)	1560 ± 528	800-2580
Duration of transition to full OF (days)	17.05 ± 9.74	3-31
Duration of hospitalization (days)	31.55 ± 18.13	9-75

Values expressed as frequencies (n) and percentages (%), mean and standard deviation, minimum and maximum values; Percentiles classified according to Fenton[16] growth curves

Subtitle: SD = standard deviation; IUG = intrauterine growth; GA = gestational age; SGA = small for gestational age; AGA = adequate for gestational age; APGAR = score describing the condition of newborns immediately after birth; OF = oral feeding; MV = mechanical ventilation; g = grams

DISCUSSION

This study was prompted by the need to improve our comprehension of the association between preterm birth and the risk of PFD, an issue that still poses a challenge for professional practice and family life. The early identification of feeding disorders by health care practitioners allows for the implementation of timely interventions through team-based treatment planning and improved quality of life for the infant and their family.

The EBAI revealed a risk of PFD in 31.58% of the children investigated. Despite the need for NICU admission, participants did not display any of the impairments associated with preterm birth cited in the exclusion criteria of the original study, which were used as inclusion criteria for the present investigation. Studies show that a lower gestational age at birth is associated with an increased risk of complications and illnesses, as well as a higher risk of early weaning and introduction of complementary feeding[10,17], which can lead to nutritional difficulties in children, resulting in maternal emotional distress[18].

The manipulation of the oral cavity of preterm newborns through devices like catheters and feeding tubes during NICU stays can also contribute to the risk of difficulties in the feeding transition period. Excessive manipulation of the oral cavity can generate negative sensory experiences and a risk for PFD. In a previous study, 18% of preterm infants were found to have

Table 2. Sample characteristics regarding breastfeeding and introduction of complementary feeding

Variables	n (%)	
Exclusive breastfeeding at 6 months	2 (10.53)	
Any breastfeeding at 6 months	2 (10.53)	
Other milk at 6 months	15 (78.94)	
Variables	**Mean ± SD**	**Minimum/ Maximum**
Chronological age of introduction of complementary feeding (months)	5.47 ± 1.61	3-8
Corrected age of introduction of complementary feeding (months)	3.52 ± 1.54	1-6

Values shown as absolute numbers (n) and percentages (%), mean and standard deviation

Subtitle: SD = standard deviation

feeding behavior issues in their early years, including food selectivity, refusal, and tantrums[9].

Though preterm infants in the present study were not at high risk of developmental impairments, the prevalence of risk for PFD observed can be considered high in light of the age of participants. Much like the present investigation, a previous study found feeding difficulties to be highly prevalent (42%) in children younger than 4 years of age who were born preterm (< 37 weeks gestation)[10].

During neonatal hospitalization, preterm infants in the present study were evaluated to determine oral feeding readiness at approximately 34 weeks corrected gestational age, at which point they were believed to be sufficiently mature for the introduction of oral feeding. Infants with poor oral feeding skills as determined by this assessment received oral sensory-motor stimulation until achieving full oral feeding, approximately 17 days after the introduction of oral feeding.

The analysis of associations between PFD and neonatal variables revealed that children with no risk of PFD had a significantly longer feeding transition period than those with such a risk. This was an unexpected finding, as we believed that children with a longer feeding transition period, that is, with more difficulty achieving full oral feeding in the neonatal period and a longer duration of tube feeding (by approximately 8 days), would have more significant feeding difficulties in the long term. This result may be explained by the large number of factors that lead to feeding difficulties, some of which extend beyond the neonatal period [19]. It is also likely that the longer transition period allowed the healthcare team to spend more time attending to the infant's feeding skills and may have had more opportunities to provide orientations to the family. This could have resulted in greater adherence to feeding recommendations by the infant's caregivers. The longer feeding transition period may have also resulted from instability during feeding and a lack of coordination between sucking, swallowing, and breathing functions, which would have led to fewer attempts to establish

Table 3. Risk of pediatric feeding disorder and oral habits (pacifier use and bottle-feeding) at the time of data collection

Variables	n (%)
Risk of PFD	
Absent	13(68.42%)
Mild	1(5.26%)
Moderate	2(10.53%)
Severe	3(15.79%)
Pacifier use	
Yes	7(36.84%)
No	12(63.16%)
Bottle feeding	
Yes	5(26.32%)
No	14(73.68%)
Reports of choking	
Yes	0
No	19(100%)
Reports of gastroesophageal reflux	
Yes	0
No	19(100%)

Values shown as absolute numbers (n) and percentages (%), mean and standard deviation.
Subtitle: PFD = pediatric feeding disorder.

Table 4. Comparison of participants with and without risk of pediatric feeding disorder

	Risk of PFD		
	Yes (n=6)	No (n=13)	p-value
GA at birth (weeks)	30.50 ± 5.36	32.77 ± 1.74	0.58[1]
Adequacy of IUG			
SGA	2 (33.33)	7 (53.85)	
AGA	4 (66.67)	6 (46.15)	0.37[2]
Use of MV			
Yes	2 (33.33)	4 (30.77)	
No	4 (66.67)	9 (69.23)	0.65[2]
Duration of hospitalization (days)	35.17 ± 17.77	38.46 ± 19.71	0.79[1]
Duration of FT (days)	11 ± 6.57	19.85 ± 9.88	0.02[1]
BF at 6 months			
Yes	3 (50.00)	1 (7.69)	0.07[2]
No	3 (50.00)	12 (92.31)	
Duration of any or exclusive BF (months)	2.83 ± 2.04	1.69 ± 1.49	0.20[1]
Bottle feeding			
Yes	1 (16.67)	4 (30.77)	0.48[2]
No	5 (83.33)	9 (69.23)	
Pacifier use			
Yes	3 (50.00)	9 (69.23)	0.38[2]
No	3 (50.00)	4 (30.77)	

Values expressed as frequencies (n) and percentages (%) or mean and standard deviation. [1]Mann-Whitney U Test (p< 0.05); [2]Chi-Square or Fisher's Exact Test (p< 0.05); Percentiles classified according to Fenton[16] growth curves.
Subtitle: PFD = pediatric feeding disorder; GA = gestational age; IUG = intrauterine growth; SGA = small for gestational age; AGA = adequate for gestational age; MV = mechanical ventilation; FT = feeding transition; BF = breastfeeding

oral feeding and a lower frequency of invasive oral procedures during feeding.

Similarly, we expected to observe an association between mechanical ventilation in the neonatal period and the risk of PFD. This is because mechanical ventilation can contribute to greater difficulty in the acquisition of full oral feeding in preterm newborns, possibly due to invasive routine procedures and manipulation such as orotracheal tubes and airway suctioning[20]. In a recent study[21], 78% of newborns who required orotracheal intubation displayed oral-motor dysfunction when semi-solid foods were introduced at 6 months corrected gestational age. However, oral-motor dysfunction alone may not predispose children to PFD in later stages of development, as observed in this study.

Results regarding breastfeeding revealed that rates of any or exclusive breastfeeding were low in this sample. At 6 months of age, 78.94% of preterm infants were no longer being breastfed. Rates of breastfeeding at 6 months and total duration of breastfeeding did not differ between infants with and without risk of PFD.

Breastfeeding may be a protective factor against PFD. The fact that this was not observed in the present study may be due to the low rates of breastfeeding in both participant groups. Our findings in this regard were similar to those of other studies that found similarly low rates of exclusive breastfeeding at 6 months corrected gestational age in preterm newborns[17,22,23].

In addition to the factors related to neonatal immaturity, which lead to delayed breastfeeding initiation and the risk of early weaning, postpartum women may also be afraid to breastfeed given the prematurity of infants, lack of encouragement, and social attitudes. All of these factors increase the likelihood of breastfeeding cessation before 6 months corrected gestational age or lead to the introduction of other types of milk to complement breastfeeding, which may impact the overall duration of breastfeeding and the early introduction of complementary feeding[17,24].

In the present study, complementary feeding was introduced early for most participants, at approximately 3 months and 16 days corrected age, contrary to current recommendations[22,25]. No differences were observed between infants with and without risk of PFD regarding the age of introduction of complementary feeding.

The lack of an association between feeding difficulties and variables related to the neonatal period, breastfeeding, and the introduction of solid foods underscores the importance of alertness to the possibility of feeding difficulties in all infants, regardless of preterm delivery, since it is not always possible to identify a clear cause of feeding difficulties. Nevertheless, it has been demonstrated that procedures and treatments performed in the neonatal period for infants born preterm or who required neonatal hospitalization could predispose them to feeding difficulties[19,26].

Childhood follow-up programs for preterm infants may be crucial to support and encourage the initiation and maintenance of breastfeeding after NICU discharge. The contribution of breastfeeding to the oral sensorimotor development of preterm infants and its benefits to both the infant and mother are well established in the scientific literature; furthermore, breastfeeding meets the baby's need for sucking and positive oral experiences[27].

Several other health promotion strategies could be developed for this population, such as preventing the establishment of deleterious oral habits or removing them early if they are already present. Families can also be given orientations and support throughout the infant's development, with encouragement to stimulate the oral cavity with the infant's own hands, or using toys and utensils that are pleasurable and promote the development of oral skills, preparing the infant for complementary feeding and minimizing the sensory deprivations imposed during the neonatal period.

Our results showed that complementary feeding was introduced early for most participants. This issue could be addressed by specialized teams that help plan and guide strategies for solid food introduction based on the infant's corrected age and readiness for complementary feeding, thereby reducing the risk of choking, discomfort, and negative feeding experiences, all of which are associated with the early introduction of complementary feeding.

Additionally, systematic nutritional follow-up programs provide an opportunity for healthcare teams to help families adopt choices and attitudes that promote an association between feeding and pleasurable learning experiences during the acquisition of feeding skills. Encouraging parental participation in feeding and helping parents recognize and respect signs of hunger and satiety may contribute to a more pleasurable feeding experience [28,29].

According to a previous study[9], therapists who treat feeding difficulties should improve the infant's relationship with their mouth and food, as well as that of parents with children during meal times. All recommendations made by the author could be implemented for preventive purposes through initiatives that aim to promote adequate, pleasurable, and safe feeding experiences from early childhood onward. Involving health care teams in initiatives that encourage children and their families to develop a positive relationship with feeding, and families to infants' developmental stages could protect preterm children from developing feeding difficulties and several associated health issues, since this population is at high risk of developing feeding difficulties, despite the absence of clear predictors in the present study.

Limitations of this study include the small sample, the inclusion of healthy infants only, the lack of stratification by gestational age at birth, and the absence of a control group of full-term infants with no history of NICU admission. The lack of information regarding children's medical history and feeding habits between 2 years corrected age and the time of data collection may also constitute a limitation: though we received no reports of choking or gastroesophageal reflux in any participating children, other clinical conditions that occurred during this period could be related to current eating habits.

Future studies should examine these issues, ideally through the longitudinal follow-up of infants and their families. We must identify the factors associated with preterm birth that can increase the risk of feeding difficulties in childhood, and develop a better understanding of caregivers' approach to feeding and the development of oral skills from an early age.

Additionally, in clinical practice, the continued nutritional follow-up of preterm infants by health professionals could help with the prevention or early identification of PFDs. The EBAI can be used for this purpose by any member of the health care team as it has proven to be an accurate and validated instrument for data collection[15]. It is important to note that feeding difficulties can occur later in development and usually have a negative impact on the child's nutrition, as well as on their quality of life and that of their families.

CONCLUSION

Nearly one-third of the preterm-born preschoolers assessed in this study were at risk of PFD. The duration of the feeding transition period during neonatal hospitalization was the only variable that differed between infants with and without a risk of PFD. It is therefore possible that the time of introduction of complementary feeding and the nature of the progression to full oral feeding during neonatal hospitalization could be related to feeding behaviors at other stages of child development.

REFERENCES

1. Aguiar LCS, Vigo PDS, Christoffel MM, Machado RCM, Pacheco STA. Perfil alimentar de recém-nascidos prematuros internados na unidade neonatal. Rev Recien. 2022;12(37):424-3. http://doi.org/10.24276/rrecien2022.12.37.424-434.
2. Florêncio GF, Vicente KM, Vogt C, Freita GVL, Felippi JMM. Nursing care for premature newborns in a specialized center: experience report. Res Soc Dev. 2020;9(11):e639119539. https://doi.org/10.33448/rsd-v9i11.9539.
3. Adriano APS, Souta ES, Lopes LS, Santos MLS, Lobato MV, Sanches RP, et al. Neonatal mortality related to prematurity. Res Soc Dev. 2022;11(4):e27511421565. http://doi.org/10.33448/rsd-v11i4.21565.
4. Swiader N, Hasenstab KA, Yildiz VO, Jadcherla SR. Characterization of esophageal and sphincter reflexes across maturation in dysphagic infants with oral feeding success vs infants requiring gastrostomy. Dysphagia. 2022;37(1):148-57. http://doi.org/10.1007/s00455-021-10258-8. PMid:33576892.
5. Calado DFB, Souza R. Intervenção fonoaudiológica em recém-nascido pré-termo: estimulação oro-motora e sucção não-nutritiva. Rev CEFAC. 2012;14(1):176-81. http://doi.org/10.1590/S1516-18462011005000015.
6. Kamity R, Kapavarapu PK, Chandel A. Feeding problems and long-term outcomes in preterm infants: a systematic approach to evaluation and management. Children (Basel). 2021;8(12):1158. http://doi.org/10.3390/children8121158. PMid:34943354.
7. Pados BF, Hill RR, Yamasaki JT, Litt JS, Lee CS. Prevalence of problematic feeding in young children born prematurely: a meta-analysis. BMC Pediatr. 2021 Mar 6;21(1):110. http://doi.org/10.1186/s12887-021-02574-7. PMid:33676453.
8. Brusco RT, Delgado ES. Caracterização do desenvolvimento da alimentação de crianças nascidas pré-termo entre três e 12 meses. Rev CEFAC. 2014;16(3):917-28. http://doi.org/10.1590/1982-021620145313.
9. Diniz PB. Recusa alimentar na infância- o que a fonoaudiologia tem a dizer e a contribuir. In: Levy DS, Almeida ST. Disfagia infantil. Rio de Janeiro: Thieme Revinter Publicações; 2018. p. 85-91.
10. Walton K, Daniel AI, Mahood Q, Vaz S, Law N, Unger SL, et al. Eating behaviors, caregiver feeding interactions, and dietary patterns of children born preterm: a systematic review and meta-analysis. Adv Nutr. 2022 Jun 1;13(3):875-912. http://doi.org/10.1093/advances/nmac017. PMid:35157009.
11. Goday PS, Huh SY, Silverman A, Lukens CT, Dodrill P, Cohen SS, et al. Pediatric feeding disorder: consensus definition and conceptual framework. J Pediatr Gastroenterol Nutr. 2019 Jan;68(1):124-9. http://doi.org/10.1097/MPG.0000000000002188. PMid:30358739.
12. Dutra AKF, Levi DS, Felix GB, Junqueira P, Meira, RRS. Diretrizes sobre a atuação fonoaudiológica nos distúrbios alimentares pediátricos resolução CFFa Nº 659, de 30 de Março de 2022. Brasília: CFFa; 2022.
13. Lázaro CP, Siquara GM, Pondé MP. Escala de Avaliação do Comportamento Alimentar no Transtorno do Espectro Autista: estudo de validação. J Bras Psiquiatr. 2019;68(4):191-9. http://doi.org/10.1590/0047-2085000000246.
14. Lessen BS. Effect of the premature infant oral motor intervention on feeding progression and length of stay in preterm infants. Adv Neonatal Care. 2011;11(2):129-39. http://doi.org/10.1097/ANC.0b013e3182115a2a. PMid:21730902.
15. Diniz PB, Fagondes SC, Ramsay M. Cross-cultural adaptation and validation of the montreal children's hospital feeding scale into brazilian portuguese. Rev Paul Pediatr. 2021;39:39. http://doi.org/10.1590/1984-0462/2021/39/2019377. PMid:33656142.
16. Fenton TR, Kim JH. A systematic review and meta-analysis to revise the Fenton growth chart for preterm infants. BMC Pediatr. 2013;13:59. http://doi.org/10.1186/1471-2431-13-59. PMid:23601190.
17. Freitas BAC, Lima LM, Carlos CFLV, Priore SE, Franceschini SCC. Duração do aleitamento materno em prematuros acompanhados em serviço de referência secundário. Rev Paul Pediatr. 2016;34(2):189-96. http://doi.org/10.1016/j.rpped.2015.10.005. PMid:26614258.
18. Duran S, Duran R, Acunaş B, Cesur G, Çiftdemir NA. Eating behaviors of late and moderately preterm infants at two years of age and Their Associations With Mothers' Mental Health. J Pediatr Gastroenterol Nutr. 2021 Fev 1;72(2):311-5. http://doi.org/10.1097/MPG.0000000000002947. PMid:32960828.
19. Kerzner B, Milano K, MacLean WC Jr, Berall G, Stuart S, Chatoor I. A practical approach to classifying and managing feeding difficulties. Pediatrics. 2015;135(2):344-53. http://doi.org/10.1542/peds.2014-1630. PMid:25560449.
20. Antunes VP, Berwig LC, Steidl EMS, Weinmann ARM. Efeitos do tuboorotraqueal sobre a performance alimentar e sinais de estresse em recém-nascidos pré-termo. Distúrb Comun. 2014;26(3):569-75.
21. Pagliaro CL, Bühler KE, Ibidi SM, Limongi SC. Dietary transition difficulties in preterm infants: critical literaturereview. J Pediatr (Rio J). 2016;92(1):7-14. http://doi.org/10.1016/j.jped.2015.05.004. PMid:26481169.
22. Czechowski AE, Fujinaga CI. Seguimento ambulatorial de prematuros e a prevalência do aleitamento. Rev Soc Bras Fonoaudiol. 2010;15(4):572-7. http://doi.org/10.1590/S1516-80342010000400016.
23. Sociedade Brasileira de Pediatria. Departamento em Nutrologia. Manual de orientação para a alimentação do lactente, do pré-escolar, do escolar, do adolescente e na escola. Rio de Janeiro: Departamento Científico de Nutrologia, Sociedade Brasileira de Pediatria; 2018.
24. Méio MDBB, Villela LD, Gomes SCS Jr, Tovar CM, Moreira MEL. Aleitamento materno de recém-nascidos pré-termo após alta hospitalar: seguimento no primeiro ano de vida. Ciênc Saúde Col. 2018;23(7):2403-12. https://doi.org/10.1590/1413-81232018237.15742016.
25. Brasil. Ministério da Saúde. Secretaria de Atenção Primaria à Saúde. Departamento de Promoção da Saúde. Guia alimentar para crianças brasileiras menores de 2 anos. Brasília: Ministério da Saúde; 2019.
26. Junqueira P. Relações cognitivas com o alimento na infância. São Paulo: ILSI Brasil international life sciences institute do Brasil; 2017.
27. Carvalho FM, Rocha L, Nogueira JAS, Lobo PLD, Pimentel FLDS, Sacchetto MSLS, et al. Relationship between breastfeeding, deleteric bucal habits and malocclusions in the childhood. J Young Pharm. 2022;14(1):25-9. http://doi.org/10.5530/jyp.2022.14.5.

28. WHO: World Health Organization. Infant and young child feeding counselling: an integrated course. Trainer's guide. 2nd ed. Geneva: WHO; 2021.

29. Departamento Científico de Nutrologia. A Alimentação Complementar e o Método BLW (Baby-Led Weaning). São Paulo: Departamento Científico de Nutrologia, Sociedade Brasileira de Pediatria; 2017.