Original Article

Feeding problems in preterm infants: Associations with perinatal risks and development

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ABSTRACT

Objective: This study aimed to examine behavioral feeding difficulties in preterm infants compared with term infants and to explore how perinatal risk factors, birth weight, and developmental outcomes are associated with feeding problems in preterm infants.

Material and Methods: A total of 107 infants aged 18–24 months were included, comprising 60 preterm and 47 term infants. Feeding behavior was assessed using the Behavioral Pediatrics Feeding Assessment Scale (BPFAS), and developmental status was evaluated with the Bayley Scales of Infant and Toddler Development–Third Edition (Bayley-III). Preterm infants were further classified as small (SGA), appropriate (AGA), or large (LGA) for gestational age and perinatal risk levels were based on National Neonatology Association guidelines.

Results: Sociodemographic characteristics were comparable between groups. No significant differences were observed between preterm and term infants across any BPFAS domains, although preterm infants tended to show slightly higher scores. Within the preterm group, Bayley-III composite and subscale scores were not correlated with BPFAS outcomes. However, SGA infants demonstrated significantly higher total frequency, total problem, and poor strategies scores than their AGA and LGA peers (p = 0.021, p=0.023, p=0.032, respectively). BPFAS scores did not differ significantly by perinatal risk classification, though higher values were consistently observed in the high-risk group.

Conclusion: Feeding difficulties in preterm infants likely result from the interplay of biological, developmental, and environmental factors. Within this context, SGA infants may be particularly susceptible, with potential implications for later growth and metabolic health. Early identification and holistic, multidisciplinary follow-up that integrates nutritional, developmental, and family-centered care are essential to support healthy feeding patterns and prevent long-term complications.

Keywords: Feeding behaviors, preterm infant, perinatal period, risk factor

Introduction

Feeding difficulties in early childhood are recognized as complex conditions that arise from interactions between the child and the environment. Feeding is not only a biological function but also a key developmental task, requiring coordinated oral-motor skills, sensory processing, and regulation within the family context (1). Pediatric feeding disorders are viewed as multifactorial, involving medical, nutritional, skill-related, and psychosocial dimensions. According to the World Health Organization's International Classification of Functioning, Disability, and Health (ICF), they are defined as age-inappropriate oral intake associated with functional impairment (2). Globally, there is growing consensus that adequate nutrition in infancy and early childhood is essential for healthy growth, supports cognitive and psychomotor development, and lays the foundation for long-term health and well-being (3).

Preterm infants are particularly vulnerable to feeding difficulties due to cerebral immaturity, neurobehavioral dysfunction, and the invasive interventions frequently required in neonatal intensive care. These factors may interfere with the acquisition of essential oral feeding skills, reduce opportunities for positive feeding experiences, and negatively affect parent–infant interactions (1,4-6). Although several studies suggest that preterm infants experience feeding problems more often than term peers, findings

are not consistent, with some reporting this difference mainly among very preterm infants and others showing no significant disparities (5,7,8). In Türkiye, research on this subject remains limited, yet some evidence indicates that moderate and late preterm infants may also be more likely to encounter feeding difficulties compared to term infants (9).

Feeding difficulties in preterm infants are thought to be influenced by a range of perinatal risk factors such as low birth weight, prolonged respiratory support, congenital malformations, and nasogastric feeding. However, the evidence regarding these associations is somewhat variable, which may be related to methodological heterogeneity (10,11). Additionally, preterm infants are inherently more vulnerable to developmental difficulties; such vulnerabilities may contribute to or exacerbate feeding problems during early childhood (1). The primary aim of this study was to compare behavioral feeding difficulties between preterm and term infants. The secondary aim was to investigate how perinatal risk factors, birth weight, and developmental outcomes are associated with feeding problems in preterm infants.

Materials and Methods

This is a prospective study with a cross-sectional design, conducted at the Division of Developmental Pediatrics, Hacettepe Univercity Faculty of Medicine, and approved by the Institutional Ethics Committee. Patients were recruited between January and June 2023. The study included 60 preterm infants who were followed at the Developmental Pediatrics outpatient clinic. Preterm infants were recruited using a convenience sampling method during routine follow-up visits within the study period, based on the following inclusion criteria: a gestational age of less than 37 weeks, age between 18 and 24 months at the time of assessment (corrected for prematurity), and absence of any major medical conditions, including congenital anomalies, neurological impairments, or genetic disorders. The control group comprised 47 term infants recruited using a convenience sampling method from the general pediatrics outpatient clinic of Hacettepe Univercity Faculty of Medicine. All were born at ≥37 weeks of gestation, assessed between 18 and 24 months of age, and had no history of developmental disorders or chronic medical conditions. These infants were selected from children who presented for minor acute illnesses or routine well-child visits. Exclusion criteria for both groups included any major medical condition, as previously defined, or lack of parental consent. Only children whose parents provided written informed consent were included in the study.

Sociodemographic characteristics of the children and their families were obtained using a structured form developed by the investigators and were either filled out by the parents. Feeding problems of preterm and term infants were evaluated using the Behavioral Pediatrics Feeding Assessment Scale (BPFAS), which was completed by mothers.

As part of the study procedures, all preterm infants underwent developmental evaluation with the Bayley Scales of Infant and Toddler Development, Third Edition (Bayley-III),

administered by the same experienced child development specialist. The small for gestational age (SGA), appropriate for gestational age (AGA), and large for gestational age (LGA) categories were determined based on the Fenton growth charts for preterm infants (12). Bayley-III assessment was not performed in term infants, and all term infants were AGA.

Clinical data of preterm infants were obtained from hospital files and electronic medical records. Information collected included gestational age, birth weight, multiple birth, Apgar scores, duration of Neonatal Intensive Care Unit (NICU) stay, severe hyperbilirubinemia, and classification as SGA or LGA. Additional neonatal morbidities—such as congenital heart disease, metabolic, neurological, or genetic disorders, bronchopulmonary dysplasia (BPD), retinopathy of prematurity (ROP), intraventricular hemorrhage (IVH), periventricular leukomalacia (PVL), respiratory distress syndrome (RDS), necrotizing enterocolitis (NEC), need for mechanical ventilation and its duration, and severe neonatal sepsis—were also reviewed. Based on these parameters, infants' overall health status was categorized as low, moderate, or high risk, according to the criteria of the National Neonatology Association (13).

The Bayley Scales of Infant and Toddler Development, Third Edition (Bayley-III)

The Bayley-III is among the most frequently applied and well-established developmental assessment instruments worldwide. It measures cognitive, language, and motor abilities in children between 1 and 42 months of age. The tool demonstrates adequate psychometric properties, with test–retest reliability coefficients greater than 0.67 and internal consistency values exceeding 0.86. It also shows good concurrent validity when compared with various standardized developmental diagnostic tests used in American populations (14). It is age-normed and has a standard deviation (SD). Each case's distribution for the sum of scaled scores is converted to composite scores (mean=100, SD=15). Because culturally validated normative data for this test are unavailable, only composite scores were analyzed. All assessments were administered by an experienced, certified developmental pediatrician and a child development specialist who were members of the research team.

Behavioral Pediatrics Feeding Assessment Scale (BPFAS)

The BPFAS is a caregiver-report instrument consisting of 35 items rated on a 5-point Likert scale (from never to always) to capture both problematic and adaptive feeding behaviors. The first 25 items address the frequency of child feeding behaviors (e.g., "Whines or cries at mealtimes" and "Gets up from the table during meals"), whereas the remaining 10 items reflect parental perceptions and strategies in response to feeding (e.g., "I feel frustrated or anxious when feeding my child" and "I use threats to encourage my child to eat"). For each item, parents also indicate whether the behavior constitutes a problem by responding "yes" or "no" to the question, "Is this a problem for you?" (15). From parental responses, eight subscales are derived: total frequency, total problem, child frequency, child problem, parent frequency,

parent problem, restriction, and poor strategies. Frequency scores indicate how often behaviors occur, while the problem scores represent the particular items that parents believe to be problematic. No cutoff score was used, as there is no validated threshold for the BPFAS in our country. Total scores were compared between groups and analyzed for associations with clinical factors. Previous research has demonstrated that the BPFAS yields reliable estimates of feeding difficulties (Cronbach's alpha ≥ 0.80) and shows good validity across different pediatric populations (16). The Turkish version of the BPFAS has been shown to have sufficient internal consistency and criterion-related validity (17).

Statistical analysis

Statistical analyses were conducted using IBM SPSS Statistics, Version 22.0 (IBM Corp., Armonk, NY, USA). Continuous variables were summarized as mean and standard deviation (SD) or as median with range (min–max), according to data distribution, while categorical variables were expressed as frequencies and percentages. The distribution of continuous variables was evaluated for normality using both visual inspection (histograms and probability plots) and formal statistical tests (Kolmogorov–Smirnov and Shapiro–Wilk). For comparisons between two groups, either the independent samples t-test or the Mann–Whitney U test was applied. Comparisons across SGA, AGA, and LGA groups were performed using the Kruskal–Wallis test due to non-normal distributions, whereas perinatal risk categories were analyzed using one-way ANOVA. Post-hoc pairwise comparisons with Bonferroni correction were carried out when global tests were significant. The Pearson chi-square test was used for categorical comparisons. Correlations between continuous variables were evaluated using Pearson or Spearman correlation coefficients, depending on distributional assumptions. A two-tailed p-value<0.050 was considered statistically significant.

Results

Sociodemographic characteristics are presented in Table I. The mean ages of preterm and term infants were comparable, and no significant difference was observed between the groups in terms of sex distribution, parental age, education, employment status, or family-related variables (birth order, number of siblings, family size). As expected, preterm infants had significantly lower birth weights and gestational ages than term infants (both p < 0.001). Among the preterm infants (n=60), 71.7% were classified as AGA (n=43), 20.0% as SGA (n=12), and 8.3% as LGA (n=5). Regarding perinatal risk status, 43.3% of infants (n = 26) were categorized as high risk, 35.0% (n=21) as moderate risk, and 21.7% (n=13) as low risk.

Feeding problems, as assessed by the BPFAS, are summarized in Table II. Across all BPFAS domains—including total frequency, total problem, child frequency, child problem, parent frequency, parent problem, restriction, and poor strategies—no statistically significant differences were found between preterm and term infants. Although preterm infants tended to have higher mean scores in several subscales, these differences did not reach statistical significance.

Table I: Sociodemographic characteristics of preterm and term infants

Variable	Preterm infants	Term infants	p
Total number of patients	60	47	-
Age (months)*	19.69±1.37	20.05±1.79	0.250
Gender (male)†	33 (55)	31 (65.96)	0.251
Birth weight (grams)‡	1970 (600-3890)	3340 (2600-4250)	0.001
Gestational age (week)‡	34 (24-34)	39 (38-42)	0.001
Maternal age (year)*	32.01±6.17	31.40±4.98	0.581
Maternal education level (above high school)†	29 (48.3)	26 (55.32)	0.857
Employed mothers†	11 (18.3)	12 (25.53)	0.571
Paternal age (year)*	35.11±5.46	34.10±5.45	0.360
Paternal education level (above high school)†	29 (48.3)	26 (55.32)	0.952
Employed fathers†	53 (88.3)	46 (97.9)	0.470
Birth order‡	2 (1-3)	2 (1-4)	0.491
Number of siblings‡	2 (1-4)	2 (1-4)	0.478
Number of members in the family‡	4 (1-6)	4 (3-6)	0.350

*: mean±SD (Independent samples t-test), †: n(%) (Pearson chi-square test), ‡: median (min-max) (Mann–Whitney U test)

Table II: Comparison of BPFAS scores between preterm and term infants

Variable	Preterm infants*	Term infants*	p†
Total frequency score	62.01±18.10	56.93±9.37	0.376
Total problem score	3.50±6.12	1.48±2.89	0.358
Child frequency score	43.78±12.30	40.38±6.93	0.219
Child problem score	2.38±4.11	1.10±2.09	0.217
Parent frequency score	18.23±6.82	16.55±3.10	0.879
Parent problem score	1.11±2.15	0.38±0.94	0.241
Restriction score	11.40±4.02	11.61±2.80	0.414
Poor strategies	6.48±3.07	6.12±1.75	0.232

*: mean±SD, **BPFAS:** *Behavioral Pediatric Feeding Assessment Scale*, †: *Independent samples t-test*

In the preterm group, no significant correlations were found between Bayley-III composite or subscale scores (cognitive, language, and motor domains) and any of the BPFAS total or subscale scores (Table III). Among preterm infants, comparison of BPFAS scores across growth status categories (SGA, AGA, LGA) revealed several significant differences. Infants born SGA had higher median total frequency and poor strategies scores compared with both AGA and LGA peers, indicating more frequent and problematic feeding behaviors. In addition, SGA infants showed significantly higher total problem scores than AGA infants and higher child frequency scores than LGA infants. Conversely, AGA

Table III: Correlations between Bayley-III composite scores and BPFAS outcomes in the preterm group (n = 60)

Bayley III scores		Total		Child		Parent		Restricted	Poor strategies
		Frequency	Problem	Frequency	Problem	Frequency	Problem		
Cognitive	rho	0.021	0.047	-0.018	0.041	0.059	0.065	-0.130	-0.022
	p*	0.872	0.720	0.893	0.755	0.652	0.620	0.321	0.866
Language	rho	0.105	0.159	0.090	0.161	0.112	0.169	0.023	0.123
	p*	0.424	0.225	0.492	0.220	0.393	0.198	0.863	0.350
Motor	rho	-0.093	0.016	-0.091	0.087	-0.112	-0.071	-0.084	0.047
	p*	0.478	0.906	0.488	0.510	0.396	0.590	0.522	0.719

*: Spearman's correlation, **BPFAS**: Behavioral Pediatrics Feeding Assessment Scale, **Bayley-III**: Bayley Scales of Infant and Toddler Development, Third Edition.

Table IV: Comparison of BPFAS Scores by growth status at birth in preterm infants

BPFAS Scores	SGA*	AGA*	LGA*	p†
Total frequency	64.5 (55.5–88.8)[a]	57.0 (50.0–64.0)[ab]	53.0 (46.0–55.5)[b]	0.021
Total problems	3.5 (1.3–13.3)[a]	1.0 (0.0–2.0)[b]	0.0 (0.0–2.0)[ab]	0.023
Child frequency	44.5 (39.3–59.3)[a]	41.0 (35.0–47.0)[ab]	36.0 (30.0–39.5)[b]	0.024
Child problem	2.0 (0.3–9.8)[ab]	1.0 (0.0–2.0)[a]	0.0 (0.0–1.0)[b]	0.044
Parent frequency	22.0 (15.3–29.5)	15.0 (10.0–20.0)	15.0 (15.0–18.0)	0.069
Parent problem	2.0 (0.3–3.8)	1.0 (0.0–2.0)	0.0 (0.0–1.0)	0.058
Restricted	12.5 (10.3–16.5)	10.0 (10.0–14.0)	9.0 (7.5–14.0)	0.075
Poor strategies	6.5 (5.3–12.0)[a]	5.0 (5.0–8.0)[b]	5.0 (5.0–5.5)[ab]	0.032

*: median (min-max),†: Kruskal–Wallis test, **SGA**: Small for Gestational Age, **AGA**: Appropriate for Gestational Age, **LGA**: Large for Gestational Age, **BPFAS**: Behavioral Pediatrics Feeding Assessment Scale, [ab]: Post-hoc pairwise comparisons were performed using Dunn's test with Bonferroni correction. Values sharing the same superscript letter do not differ significantly

Table V: Comparison of BPFAS Scores by perinatal risk status in preterm infants

BPFAS Scores	Mild risk	Moderate risk	High risk	p†
Total number of patients	13	21	26	-
Total frequency*	57.6±8.8	57.95±15.6	67.5±22.1	0.121
Total problems*	2.46±4.1	1.95±5.1	5.27±7.3	0.144
Child frequency*	41.3±5.8	41.2±10.3	47.1±15.3	0.188
Child problem*	1.85±2.6	1.24±3.2	3.58±5.1	0.133
Parent frequency*	16.4±5.0	16.7±5.9	19.7±7.9	0.100
Parent problem*	0.62±1.7	0.71±1.9	1.69±2.5	0.195
Restricted*	12.5±3.6	9.9±3.5	12.1±4.4	0.089
Poor strategies*	6.2±2.7	5.9±2.6	7.15±3.5	0.364

*: (mean, SD), †: One-way ANOVA, **BPFAS**: Behavioral Pediatrics Feeding Assessment Scale

infants demonstrated higher child problem scores compared with LGA infants. No other significant group differences were observed (Table IV). In preterm infants, BPFAS scores did not differ significantly according to perinatal risk classification; nevertheless, higher values were consistently observed in the high-risk group (Table V).

Discussion

Behavioral feeding problems, as measured by the BPFAS, did not differ significantly between preterm and term infants, although preterm infants tended to show slightly higher scores. Within the preterm group, developmental status assessed by Bayley-III was not associated with feeding outcomes. In

contrast, birth growth status emerged as a key factor: infants born SGA demonstrated more frequent and problematic feeding behaviors compared with AGA and LGA peers. Although perinatal risk classification did not yield statistically significant differences, higher feeding difficulty scores were consistently observed among infants in the high-risk group.

Several studies, including both term and preterm infants, have reported that preterm infants experience more feeding difficulties than their term counterparts, regardless of gestational age (7, 18). In a recent meta-analysis, Walton et al. (5) reported that preterm children showed greater oromotor feeding difficulties and more challenging mealtime behaviors during late infancy and early childhood compared

with term peers, and they emphasized that the overall quality of evidence was low. In contrast, a study using the BPFAS, similar in design to the present research, found no significant differences in feeding problems between preterm and term children aged 3 to 4 years. The authors suggested that this finding may reflect the benefits of high-quality neonatal care, structured follow-up, and consistent parental guidance regarding feeding (8). Consistent with this interpretation, the results of our study may also be related to the comprehensive developmental follow-up, high-quality neonatal care, early physiotherapy interventions, and routine feeding counseling provided to preterm infants and their parents during visits to developmental pediatrics clinics.

In the present study, no significant associations were found between feeding difficulties and cognitive, language, or motor scores in preterm infants. Crapnell et al. (1) found that feeding difficulties were significantly associated with lower cognitive, language, and motor scores at two years of age in infants born before 30 weeks of gestation. In Türkiye, to our knowledge, the only study addressing this issue found that higher levels of feeding problems at ages six to seven were associated with poorer cognitive functioning in preterm children (19). On the other hand, several studies have highlighted the complexity of the relationship between development and feeding, suggesting that these associations may be bidirectional (20-22). The absence of significant associations in our study may partly be explained by the limited sample size, as well as by the structured developmental and feeding follow-up provided to preterm infants in developmental pediatrics clinics.

Perinatal risk factors associated with feeding difficulties in preterm infants have been examined in several studies (4,7). Crapnell et al. (4) found no significant associations between any perinatal risk factors except hypotonia and feeding problems at two years of age in infants born before 30 weeks of gestation. In contrast, a review by Sandra et al.(23) which included all infants born before 37 weeks, identified gestational age and birth weight as significant risk factors, and sex, duration of mechanical ventilation, and length of tube feeding as potential risk factors. Studies investigating children diagnosed with feeding disorders have similarly highlighted prematurity, small for gestational age status, and congenital malformations as major perinatal risks, although findings have been inconsistent (10,11). In our study, preterm infants with higher perinatal risk scores tended to have worse feeding outcomes, but these differences did not reach statistical significance. These findings may reflect recent advances in neonatal care, including improved clinical practices and a trend toward shorter durations of respiratory support.

One of the most noteworthy findings of the present study was the association between being SGA and feeding difficulties among preterm infants. Although SGA has been repeatedly linked to feeding problems in childhood, studies focusing specifically on preterm populations are relatively scarce, and the mechanisms underlying this association remain unclear (4,10,11,18,23). Proposed explanations include neurological vulnerability, intrauterine programming, slower postnatal weight gain, and disruptions in early mother–infant interaction, which may affect appetite regulation and feeding behavior. It has also been suggested that feeding problems observed in SGA infants, such as poor appetite, might represent self-protective responses aimed at preventing future metabolic abnormalities or, alternatively, result from neurological or endocrine dysfunction. Taken together, these findings underscore that feeding problems in SGA preterm infants likely arise from an interplay of biological, developmental, and environmental factors rather than a single causal pathway (18).

Limitations

Several aspects of this study strengthen its contribution to the existing literature. It addresses a relatively underexplored topic by simultaneously examining behavioral feeding difficulties and developmental outcomes in preterm infants, with additional consideration of perinatal and growth-related risk factors. To our knowledge, this is the first study from Türkiye to approach this issue comprehensively, integrating developmental and perinatal risk perspectives within the same framework. The use of standardized and validated instruments such as the BPFAS and Bayley-III enhances the reliability and comparability of findings. Furthermore, preterm infants were followed in a tertiary developmental pediatrics clinic, ensuring high-quality data collection, whereas the term group was recruited from a comparable hospital setting.

However, several limitations should also be acknowledged. The sample size was modest, particularly within subgroups of preterm infants, which may have limited the statistical power to detect small effect sizes. The cross-sectional design precludes causal inferences regarding the relationship between developmental status and feeding outcomes. In addition, the study relied on parent-report measures for feeding behaviors, which may be subject to reporting bias. Furthermore, as all term infants were AGA, we were unable to examine associations between birth weight and feeding outcomes in this group. Future longitudinal and larger-scale studies incorporating objective observational methods are warranted to clarify causal pathways and developmental trajectories.

Conclusion

Advances in neonatal care have improved the survival of preterm infants, leading to a growing focus on their long-term growth and development. Even so, feeding difficulties remain common and multifactorial, reflecting both biological vulnerability and early environmental influences. Our findings suggest that preterm infants born small for gestational age are more susceptible to feeding problems, highlighting the importance of regular developmental and nutritional follow-up during early childhood. Early, family-centered, and multidisciplinary support that targets modifiable risk factors may foster healthy growth and reduce the likelihood of later obesity and chronic disease.

Ethics committee approval

This study was conducted in accordance with the Helsinki Declaration Principles. The study was approved by Hacettepe University (date: 01.11.2022, number: 2022/18-18).

Contribution of the authors

Source of funding

Conflict of interest

References

1. Crapnell TL, Woodward LJ, Rogers CE, Inder TE, Pineda RG. Neurodevelopmental profile, growth, and psychosocial environment of preterm infants with difficult feeding behavior at age 2 years. J Pediatr. 2015;167:1347-53. https://doi.org/10.1016/j.jpeds.2015.08.015

2. 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;68:124-9. https://doi.org/10.1097/MPG.0000000000002235

3. Vaivada T, Gaffey MF, Bhutta ZA. Promoting early child development with interventions in health and nutrition: a systematic review. Pediatrics. 2017;140:e20164308. https://doi.org/10.1542/peds.2016-4308

4. Crapnell T, Rogers C, Neil J, Inder T, Woodward L, Pineda R. Factors associated with feeding difficulties in the very preterm infant. Acta Paediatr. 2013;102:e539-e545. https://doi.org/10.1111/apa.12217

5. 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;13:875-912. https://doi.org/10.1093/advances/nmac057

6. Ömercioglu E, Özmert EN. Riskli bebeklerde yeme sorunları. Turkiye Klinikleri J Dev Pediatr-Special Topics. 2023;1:71-7. https://doi.org/10.5336/devpeds.2023-1-71

7. Park J, Thoyre SM, Pados BF, Gregas M. Symptoms of feeding problems in preterm-born children at 6 months to 7 years old. J Pediatr Gastroenterol Nutr. 2019;68:416-21. https://doi.org/10.1097/MPG.0000000000002264

8. Valdés-Bécares A, Fernández-Feito A, Lana A. Impact of preterm birth on feeding and growth patterns at 3 to 4 years old. J Pediatr Health Care. 2025;39:45-53. https://doi.org/10.1016/j.pedhc.2024.11.004

9. 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;72:311-5. https://doi.org/10.1097/MPG.0000000000003076

10. Hvelplund C, Hansen BM, Koch SV, Andersson M, Skovgaard AM. Perinatal risk factors for feeding and eating disorders in children aged 0 to 3 years. Pediatrics. 2016;137:e20152575. https://doi.org/10.1542/peds.2015-2575

11. Dachew B, Tusa BS, Damtie Y, Calton E, Ayano G, Anderson R, et al. Prenatal and perinatal risk factors for feeding and eating disorders in children: A population-based linked cohort study. Eating Behaviors. 2025;102006. https://doi.org/10.1016/j.eatbeh.2025.102006

12. Fenton TR, Kim JH. A systematic review and meta-analysis to revise the Fenton growth chart for preterm infants. BMC Pediatr. 2013;13:59. https://doi.org/10.1186/1471-2431-13-59

13. Acunaş B, Uslu S, Baş AY. Türk Neonatoloji Derneği yüksek riskli bebek izlem rehberi. Türk Pediatri Arşivi. 2018;53:180-95. https://doi.org/10.4274/tpa.53.180

14. Bayley N. Bayley Scales of Infant and Toddler Development–Third Edition: Technical Manual. San Antonio, TX: Harcourt Assessment; 2006.

15. Crist W, Napier-Phillips A. Mealtime behaviors of young children: a comparison of normative and clinical data. J Dev Behav Pediatr. 2001;22:279-86. https://doi.org/10.1097/00004703-200110000-00006

16. Sanchez K, Spittle AJ, Allinson L, Morgan A. Parent questionnaires measuring feeding disorders in preschool children: a systematic review. Dev Med Child Neurol. 2015;57:798-807. https://doi.org/10.1111/dmcn.12713

17. Yazıcı M, Aktan T, Serel Arslan S, Demir N, Karaduman AA. The Turkish reliability and validity of the Behavioral Pediatrics Feeding Assessment Scale in children with neurodevelopmental disorders. Turkiye Klinikleri J Health Sci. 2021;6(3):483-92. 10.5336/healthsci.2020-77457

18. Takeuchi A, Matsumoto N, Higuchi Y, Ohyama A, Tamai K, Nakamura K, et al. Small-for-gestational-age and eating problems in infants aged 2.5 years: a nationwide population-based study in Japan. Early Hum Dev. 2025;210:106352. https://doi.org/10.1016/j.earlhumdev.2024.106352

19. Koca RB, Huri M. Investigation of the relationship between feeding problems and cognitive functions in premature children. Appetite. 2022;177:106156. https://doi.org/10.1016/j.appet.2022.106156

20. Berlin KS, Lobato DJ, Pinkos B, Cerezo CS, LeLeiko NS. Patterns of medical and developmental comorbidities among children presenting with feeding problems: a latent class analysis. J Dev Behav Pediatr. 2011;32:41-7. https://doi.org/10.1097/DBP.0b013e318204b5c4

21. McDermott BM, Mamun AA, Najman JM, Williams GM, O'Callaghan MJ, Bor W. Preschool children perceived by mothers as irregular eaters: physical and psychosocial predictors from a birth cohort study. J Dev Behav Pediatr. 2008;29:197-205. https://doi.org/10.1097/DBP.0b013e3181656f21

22. Putnick DL, Bell EM, Ghassabian A, Robinson SL, Sundaram R, Yeung E. Feeding problems as an indicator of developmental delay in early childhood. J Pediatr. 2022;242:184-91.e5. https://doi.org/10.1016/j.jpeds.2021.08.067

23. Fucile S, Samdup D, MacFarlane V, Sinclair MA. Risk factors associated with long-term feeding problems in preterm infants: a scoping review. Adv Neonatal Care. 2022;22:161-9. https://doi.org/10.1097/ANC.0000000000000927