Nutrizione
Nawala Education
https://jurnal-ilcaagam.com/index.php/JN/index
Volume 3 Issue 2, 2026
e-ISSN : 3048-4138
DOI :https://doi.org/10.62872/jn.v3i2.651

The Relationship Between Mothers' Nutrition Literacy Levels and Their Children's Feeding Practices and Nutritional Status Among Preschoolers

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ARTICLE INFO

Submission:
June 14, 2026
Revised :
July 10, 2026
Approved:
August 12, 2026
Published :
August 28, 2026

Keywords:
nutrition literacy
maternal knowledge
feeding practices

ABSTRACT

Background: Preschool years are a critical window for growth, yet malnutrition in its undernourished and overweight forms persists across low-, middle-, and high-income settings. Mothers' nutrition literacy is widely assumed to shape how children are fed and, through feeding, how they grow. Evidence for this pathway, however, is inconsistent. Objective: This narrative review synthesised recent studies (2021–2026) on the relationships among maternal nutrition literacy, child feeding practices, and nutritional status in children aged roughly six months to six years. Methods: Records from two reference exports and supplementary searches were screened and charted with a structured form. Twenty-five sources were included, of which sixteen primary studies were charted in detail. Results: Higher maternal literacy was fairly consistently associated with better or more responsive feeding practices and diet quality. Associations with anthropometric status were weaker, often non-significant, and frequently attenuated after adjustment for education, income, and child health. Interventions combining education with practical skills showed more promise than knowledge transfer alone. Conclusion: Nutrition literacy appears to operate mainly through feeding behaviour and context rather than as a direct determinant of growth. Programmes should pair literacy building with practical skills and socioeconomic support, and future studies should use validated multidimensional instruments and longitudinal designs.

INTRODUCTION

Early childhood is a period of rapid physical, cognitive, and behavioural development. Between roughly two and six years of age, children consolidate food preferences, acquire eating routines, and gain or lose the growth trajectory established in infancy. Nutritional deficits during this window can leave lasting consequences for immunity, cognition, schooling, and adult productivity, while excess energy intake and poor diet quality raise the risk of overweight and later non-communicable disease. The burden is not evenly distributed. In Pakistan, for example, national survey estimates cited by Tahreem et al. (2025) put stunting among children under five at 40.2%, wasting at

How to cite:
Hikmah H & Afrilia E M (2026). The Relationship Between Mothers' Nutrition Literacy Levels and Their Children's Feeding Practices and Nutritional Status Among Preschoolers. *Journal Nutrizone,* 3(2), 39-52. DOI: https://doi.org/10.62872/jn.v3i2.651

17.7%, and overweight at 9.5%. In Assam, India, around one in three children under five is stunted and a similar proportion underweight (Randhawa et al., 2024). Meanwhile, high-income and urbanising settings contend with unbalanced diets, frequent snacking, and rising excess weight (Gwon et al., 2025; Sari et al., 2026). Many countries therefore face a double burden of malnutrition in which undernutrition and overnutrition coexist within the same communities and sometimes the same households.

Because preschool children depend on adults for nearly every food decision, the caregiver, most often the mother, is the proximal gatekeeper of what, when, and how much a child eats. Parental feeding practices, including the foods made available, the structure of meals, the degree of pressure or restriction, and the responsiveness to hunger and fullness cues, are among the best-studied behavioural influences on children's eating habits (Gray et al., 2023; Mahmood et al., 2021). Feeding practices are in turn shaped by what mothers know, how they interpret information, and the resources and social support they can draw on. This is the rationale for studying maternal knowledge, attitudes, and practices as determinants of child nutrition.

Over the past decade the conceptual focus has shifted from nutrition knowledge to nutrition literacy. Knowledge refers to what a person knows about nutrients, food groups, and dietary guidance. Nutrition literacy extends this to the capacity to obtain, process, and understand nutrition information and to use it to make appropriate decisions, for example by reading food labels, doing simple calculations, and judging the reliability of sources (Carroll et al., 2022). Studies in Iran show that mothers' health literacy and nutrition literacy are directly related, that academic education and employment are associated with higher literacy, and that the internet is the leading information source among mothers with sufficient literacy (Ahmadi & Karamitanha, 2023). Literacy is also multidimensional, so that a mother may know dietary guidelines yet struggle to read food labels or interpret quantities, a distinction that knowledge tests rarely capture. Literacy therefore cannot be equated with schooling alone, and it may be unevenly distributed even in populations with high educational attainment.

The expectation that higher maternal literacy leads to healthier children has intuitive appeal and some empirical support. Among Greek parents, higher health literacy and nutrition literacy were significantly associated with better parental feeding practices (Costarelli et al., 2022). In a Korean sample of 1,116 caregivers of children aged 0 to 6 years, food literacy and social support were among the factors that significantly predicted children's nutrition quotient scores (Gwon et al., 2025). In India, maternal feeding practices correlated positively with weight-for-age, height-for-age, and mid-upper arm circumference (Venkatesh et al., 2026). In Russia, mothers who scored higher on nutrition literacy reported healthier family eating habits, although the correlation was modest (Miropolskaya et al., 2026). A Turkish clinic-based study similarly found a higher proportion of wasted children among mothers with borderline rather than adequate nutrition literacy (Tezol & Mammadova, 2023).

Yet the picture is far from uniform. In Gujranwala, Pakistan, most mothers had average nutritional knowledge and feeding practices were unsatisfactory, but associations with growth outcomes were largely non-significant (Tahreem et al., 2025). In Ghana, maternal nutrition knowledge was not significantly associated with child malnutrition (Forh & Apprey, 2022). In Turkey, maternal nutritional knowledge was not associated with height-for-age or weight-for-age in children aged four to six years (Çam et al., 2026), and among Indonesian mothers, knowledge was unrelated to preschoolers' nutritional status while attitude was related (Zendrato et al., 2025). In Saudi Arabia, maternal

knowledge predicted children's knowledge but not their weight status (Ghabashi et al., 2025). Such discordance suggests that knowledge, literacy, behaviour, and anthropometry are separated by several indirect steps and that the strength of each step depends on context.

Conceptually, nutrition literacy is often described at three levels. Functional literacy covers the basic knowledge and skills needed to understand nutrition information, such as recognising food groups and reading labels. Interactive literacy covers the ability to seek out information, discuss it with others, and apply it to everyday situations. Critical literacy covers the ability to appraise information, resist misleading claims, and act on food environments and household budgets. Most instruments applied to mothers of young children capture functional elements, and few capture the interactive and critical elements that may matter most in a digital information environment where social media and online forums are common sources of advice. Where mothers' nutritional information comes mainly from informal online channels, literacy in the sense of appraisal becomes at least as important as knowledge in the sense of recall.

The Indonesian and wider Southeast Asian literature adds a further dimension. Studies of preschool and early childhood education settings have examined nutrition knowledge and feeding style in relation to nutritional status (Daryati et al., 2026), while work in North Aceh has investigated maternal local food literacy and food regulation as determinants of children's nutritional status (Fauziah et al., 2026). Research with parents of young children in disadvantaged areas has likewise explored the links between feeding practices and food literacy (Tartaglia et al., 2021), and a Turkish study has examined maternal food and nutrition literacy alongside growth indicators in children and adolescents (Meriç et al., 2026). These studies suggest that locally relevant food knowledge, rather than generic nutrition facts alone, may be central to how mothers regulate children's diets, an idea that has received little attention in earlier reviews.

Three gaps motivate the present review. First, the term nutrition literacy is used inconsistently, and many studies still measure general nutrition knowledge under that label. Second, most syntheses examine either literacy and feeding practices or knowledge and anthropometric status, rarely the full chain from literacy through feeding to nutritional status in one framework, even though the mechanistic logic of the field implies exactly this chain. Third, evidence from the preschool period is dispersed across settings, instruments, and outcome definitions, and a growing body of work from Indonesia, Türkiye, and South Asia published since 2021 has not been consolidated. Recent studies have also begun to look beyond anthropometry toward dietary diversity, diet quality, and micronutrient markers (Mammadova et al., 2025; Tezol & Mammadova, 2023), and to evaluate digital interventions for mothers (Hojati & Farhangi, 2025).

The novelty of this review lies in four features. It positions maternal nutrition literacy as an upstream factor that is expected to act mainly through child feeding practices, and it examines the literacy–feeding and feeding–status links separately from the direct literacy–status link. It focuses on the preschool period and on research published between 2021 and 2026, thereby capturing the most recent evidence from underrepresented regions. It reports not only whether associations were significant but also the size, adjustment, and measurement context in which they were observed. Finally, it translates the synthesis into a conceptual framework that identifies where interventions, including education and mobile health applications, are most likely to act.

The review addresses three questions. What is the relationship between maternal nutrition literacy and child feeding practices among preschoolers? What is the

relationship between maternal nutrition literacy, or feeding practices, and children's nutritional status? Which contextual factors and intervention strategies appear to modify these relationships? By answering these questions, the article aims to inform nutrition education programmes, primary care, and early childhood education services that seek to improve preschoolers' diets and growth.

METHODOLOGY

A. Review design

This study is a narrative review with structured data charting. It did not collect primary data from human participants and therefore did not require ethical approval. The review followed the logic of a systematised search and selection process, reported in a flow diagram adapted from PRISMA conventions (Figure 1), but it was not registered and does not claim the completeness of a formal systematic review.

B. Information sources and search

The starting point was two reference exports from a literature-discovery platform, one organised around Indonesian-language keywords on maternal nutrition literacy, feeding patterns, and preschoolers' nutritional status, and one around the English-language equivalents. Together they contained 30 records, of which five were duplicates, leaving 25 unique records. Supplementary searches on the open web, run on 29 and 30 October 2026, used combinations of the terms maternal, parental, nutrition literacy, food literacy, nutritional knowledge, feeding practices, preschool, and nutritional status. These searches identified eight additional records.

C. Eligibility criteria

Records were eligible if they were peer-reviewed journal articles published between 2021 and 2026, studied mothers or primary caregivers of children from infancy to about six years or, for conceptual context, older children, measured nutrition literacy, nutrition knowledge, health literacy, or related constructs, and reported feeding practices, diet quality, or nutritional status of the child. Studies were excluded if the record lacked a digital object identifier, if key results or complete bibliographic metadata could not be retrieved, or if the study population was unrelated to child feeding. Primary studies were defined as empirical studies reporting an association or an intervention effect that could be extracted into a standard form. Contextual sources were conceptual papers, protocols, and reviews, and empirical studies whose abstracts did not report extractable results.

D. Selection and data charting

One reviewer screened titles and abstracts of the 33 candidate records against the criteria. Eight records were excluded because key results or full metadata were not retrievable, leaving 25 sources. Sixteen were primary studies and nine were contextual sources. For each primary study the following were charted: country, design and sample size, literacy or knowledge construct and instrument, feeding or practice measure, nutritional status outcome, and principal findings. Findings were charted as reported by the original authors, and effect sizes were recorded only where they appeared in the available abstract or full text.

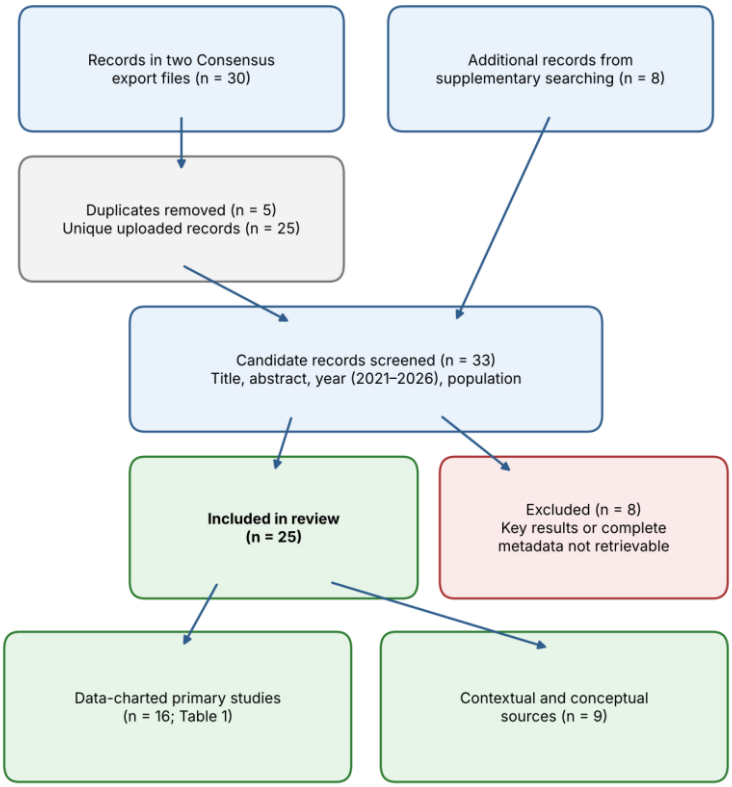


Figure 1: Flow diagram of record identification, screening, and inclusion

E. Synthesis and conceptual framework

Findings were synthesised narratively and grouped by the three links in the hypothesised chain: literacy to feeding practices, feeding practices to nutritional status, and literacy to nutritional status. Studies were also grouped by outcome type (anthropometric, dietary, micronutrient) and by whether they were observational or interventional. The resulting analytic model is shown in Figure 2. Because the included studies differ in instruments, ages, and outcome definitions, no meta-analysis was attempted, and no formal risk-of-bias tool was applied. Instead, design limitations such as cross-sectional sampling, small samples, and self-reported practices were noted during interpretation.

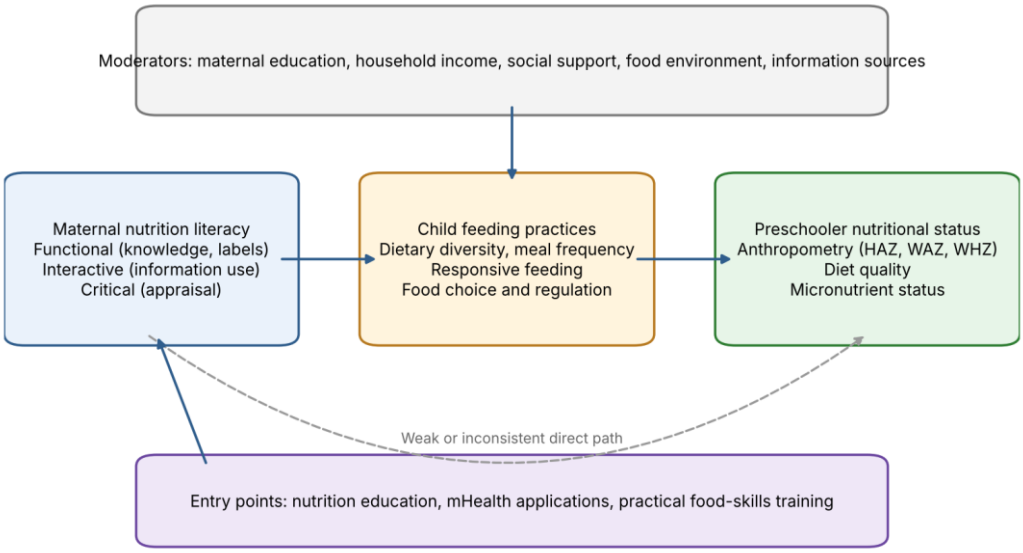


Figure 2: Conceptual framework linking maternal nutrition literacy, feeding practices, and preschooler nutritional status

RESULTS AND DISCUSSION

A. Characteristics of included studies

The 16 primary studies were published between 2022 and 2026 and came from Pakistan, Türkiye, Saudi Arabia, Egypt, Indonesia, Greece, South Korea, Iran, Ghana, India, and Russia. Fifteen were cross-sectional or comparative observational studies, and one was a randomised controlled trial. Sample sizes ranged from 90 mother–child pairs to 1,116 caregivers. Table 1 summarises each study.

Table 1
Characteristics and principal findings of the 16 primary studies

Study (country)	Design and sample	Literacy / knowledge construct	Feeding or nutritional outcome	Main findings
Tahreem et al. (2025) (Pakistan)	Cross-sectional; 100 mother–child pairs; 6–23 months	Maternal nutritional literacy (WHO/FAO KAP questionnaire)	IYCF indicators; stunting, wasting, underweight	57% average knowledge; feeding practices unsatisfactory; literacy–growth associations mostly non-significant
Tezol & Mammadova (2023) (Türkiye)	Cross-sectional; 90 pairs; 24–59 months	Nutrition Literacy Assessment Tool for Adults	Anthropometry, diet diversity, iron status	Wasting 13.9% vs 1.9% in borderline vs adequate literacy ($p = .036$); anaemia not different
Çam et al. (2026) (Türkiye)	Cross-sectional; 282 mothers; 4–6 years	Nutritional Knowledge Level Scale for Adults	HAZ, WAZ	No association with HAZ or WAZ; education strongest predictor of knowledge

Study (country)	Design and sample	Literacy / knowledge construct	Feeding or nutritional outcome	Main findings
Ghabashi et al. (2025) (Saudi Arabia)	Cross-sectional; mothers and schoolchildren	General Nutrition Knowledge Questionnaire	Child knowledge; BMI z-score	Maternal knowledge predicted child knowledge, not weight status
Mohamed et al. (2024) (Egypt)	Descriptive; 320 preschoolers and mothers	Nutrition-related knowledge, attitude, practice	Eating habits; anthropometry	61.2% satisfactory knowledge; 68.4% of children had unhealthy eating habits; most without stunting or wasting
Zendrato et al. (2025) (Indonesia)	Cross-sectional; 158 mothers; 3–5 years	Knowledge and attitude on feeding patterns	Nutritional status	No relation with knowledge; relation with attitude
Sari et al. (2026) (Indonesia)	Cross-sectional; 255 caregiver–child pairs; 3–6 years	Child Feeding Questionnaire (responsive vs non-responsive)	Nutritional status (WHO standards)	56.1% responsive; r = 0.123 (p = 0.04); not independent after adjustment
Costarelli et al. (2022) (Greece)	Cross-sectional; 402 parents	Health literacy and nutrition literacy scales	Parental feeding practices	Higher literacy associated with better feeding practices
Gwon et al. (2025) (South Korea)	Cross-sectional online; 1,116 caregivers; 0–6 years	Caregiver food literacy	Nutrition Quotient for Preschoolers	Food literacy, social support, income, environment predicted score
Ahmadi & Karamitanha (2023) (Iran)	Cross-sectional; mothers of children under 7	Health and nutrition literacy	Determinants of literacy	Literacy domains related; education, employment increased literacy; internet main source
Forh & Apprey (2022) (Ghana)	Cross-sectional; 226 caregiver–child pairs; 6–59 months	Nutrition knowledge and practices	Dietary adequacy; anthropometry	Average knowledge (61.5%); no association with malnutrition
Venkatesh et al. (2026) (India)	Cross-sectional; children 6 months–5 years	Maternal knowledge, attitude, practice	WAZ, HAZ, MUAC	Practices correlated with WAZ (r = 0.52), HAZ (r = 0.47), MUAC (r = 0.50)
Randhawa et al. (2024) (India)	Cross-sectional; 389 mothers, 456 children, 138 workers	Maternal and worker KAP on IYCF	Stunting, wasting, underweight	29% mothers good KAP; 56% workers good KAP
Miropolskaya et al. (2026) (Russia)	Cross-sectional; mothers of older preschool and school-age children	Nutrition literacy	Healthy eating habits in the family	72.1% knew principles; 45.5% implemented; r = 0.186
Hojati & Farhangi (2025) (Iran)	Randomised controlled trial; 2–6 years with undernutrition	MyKid'sNutrition application (maternal KAP)	Maternal KAP; growth indicators	Higher maternal KAP in intervention arm
Kocagozoglu et al. (2024) (Türkiye)	Cross-sectional; children 6–23 months	Maternal health literacy	Complementary feeding indicators	Maternal and child age associated with dietary diversity; parity negatively associated

Source: Author's synthesis of the reviewed literature

B. Maternal nutrition literacy and feeding practices

The most consistent finding concerns the first link in the chain. In the Greek study of 402 parents, higher health literacy and nutrition literacy were significantly and positively associated with better parental feeding practices (Costarelli et al., 2022). In Russia, mothers with higher nutrition literacy reported healthier eating habits, although the correlation was small ($r = 0.186$) and, notably, 72.1% of mothers knew the principles of healthy nutrition while only 45.5% implemented them (Miropolskaya et al., 2026). This knowledge–implementation gap recurs elsewhere. In Egypt, 61.2% of mothers had satisfactory nutrition knowledge and 68.7% good practices, yet 68.4% of their preschoolers still had unhealthy eating habits (Mohamed et al., 2024). In Indonesia, a survey of 255 caregiver–child pairs in West Jakarta found 56.1% of caregivers reported responsive feeding, and higher maternal education and household income were associated with responsive feeding (Sari et al., 2026).

In the Pakistani study of children aged 6 to 23 months, mothers' literacy was average and recommended practices were uncommon: only 12% initiated breastfeeding within the first hour, 7% exclusively breastfed, and 34% achieved minimum dietary diversity (Tahreem et al., 2025). In India, 29% of 389 mothers had good knowledge, attitude, and practice scores, 42% average, and 29% poor, while 56% of frontline health workers scored well, indicating a transfer gap between service providers and mothers (Randhawa et al., 2024). Taken together, these studies suggest that literacy is a necessary but insufficient condition for good feeding. Practices appear to depend as much on education, income, time, and the food environment as on information alone.

C. Social and environmental context of literacy

Context repeatedly emerged as a moderator. In Korea, caregivers' food literacy was higher in urban and higher-income groups, and food literacy, social support, income, and the food environment all significantly affected the nutrition quotient of preschoolers (Gwon et al., 2025). Among Iranian mothers, employment and academic education were associated with higher health and nutrition literacy, and the internet was the main information source for mothers with sufficient literacy (Ahmadi & Karamitanha, 2023). In Türkiye, educational attainment was the strongest independent predictor of basic nutritional knowledge, while household income independently predicted food preference scores (Çam et al., 2026). These findings imply that literacy is socially patterned and that improving it without addressing inequality may widen rather than narrow gaps, since mothers who are already advantaged are better placed to seek and use information online.

D. Feeding practices, literacy, and nutritional status

The link to anthropometric status was weaker and less consistent. Table 2 summarises the direction of evidence by link. Positive associations were reported in India, where maternal practices correlated with weight-for-age ($r = 0.52$), height-for-age ($r = 0.47$), and mid-upper arm circumference ($r = 0.50$) (Venkatesh et al., 2026), and in the Turkish clinic study, where wasting was more common among children of mothers with borderline nutrition literacy than adequate literacy (13.9% versus 1.9%, $p = .036$) (Tezol & Mammadova, 2023). Null or conditional findings were equally common. Maternal knowledge was not associated with height-for-age or weight-for-age in 282 Turkish mother–child dyads (Çam et al., 2026) or with child malnutrition in a Ghanaian sample of 226 pairs, although wasting tended to decrease as knowledge increased (Forh & Apprey, 2022). In Gujranwala, associations between literacy, feeding practices, and

growth were mostly non-significant; the odds of stunting were higher among children of mothers with middle-school rather than higher education (OR = 8.788), suggesting that formal education may be a stronger signal than measured literacy in small samples (Tahreem et al., 2025).

Table 2
Synthesis of evidence by link in the hypothesised chain

Link examined	Direction of evidence	Illustrative studies	Interpretation
Literacy → feeding practices	Mostly positive, modest in size	Costarelli et al. (2022); Miropolskaya et al. (2026); Gwon et al. (2025)	Supported, but a knowledge–practice gap persists
Feeding practices → nutritional status	Mixed; weak or attenuated after adjustment	Venkatesh et al. (2026); Sari et al. (2026)	Depends on measures, adjustment, and child health
Literacy / knowledge → anthropometry	Mixed; often non-significant	Çam et al. (2026); Forh & Apprey (2022); Tahreem et al. (2025); Tezol & Mammadova (2023)	Direct effect is weak; indirect, multifactorial pathway likely
Literacy → diet quality / micronutrients	Positive for diet quality; null for anaemia	Gwon et al. (2025); Tezol & Mammadova (2023)	Proximal outcomes more responsive than growth
Education / app interventions	Improved maternal KAP in one trial	Hojati & Farhangi (2025)	Promising but single-trial evidence

Source: Author's synthesis of the reviewed literature

The Indonesian evidence on feeding practices illustrates the attenuation problem. Among West Jakarta preschoolers, responsive feeding correlated weakly with nutritional status ($r = 0.123$, $p = 0.04$), explaining only 1.5% of variance, and the association disappeared after adjustment, with child health status and use of preventive services emerging as stronger correlates (Sari et al., 2026). A Tangerang study found no relationship between mothers' knowledge of feeding patterns and preschoolers' nutritional status, but did find a relationship with attitude, suggesting that cognitive information needs to be complemented by an affective component (Zendrato et al., 2025). Likewise, Turkish researchers concluded that the pathway from knowledge to child growth is indirect and multifactorial and that interventions should address practical dietary skills and socioeconomic determinants as well as knowledge transfer (Çam et al., 2026).

E. Beyond anthropometry: diet quality and micronutrients

Anthropometric indices are slow-moving and reflect cumulative influences, including infection, birth size, genetics, and household resources, which may mask the effect of literacy. Studies using more proximal outcomes tend to find clearer signals. The Korean nutrition quotient, a measure of dietary balance, moderation, and environment, was significantly predicted by caregiver food literacy (Gwon et al., 2025). On the other hand, in the Turkish clinic-based study the frequency of iron deficiency, iron-deficiency anaemia, and nutritional anaemia did not differ significantly between children of mothers with borderline and adequate nutrition literacy (30.6% versus 40.7%, $p = .326$), even though wasting did (Tezol & Mammadova, 2023). Because micronutrient deficiency can arise from low bioavailability, infection, and household food access as well as from the quality of food choices, literacy alone is unlikely to be sufficient. Complementary-feeding

research in Türkiye also found that maternal and child age and parity were associated with dietary diversity and acceptable-diet indicators, underscoring that demographic factors operate alongside maternal capability (Kocagozoglu et al., 2024).

F. Interventions

Only one randomised trial was included. The MyKid'sNutrition application, a mother-focused mobile health intervention for children aged 2 to 6 years with undernutrition, delivered educational content and a growth chart over three months in addition to usual care (Hojati & Farhangi, 2025; Hojati et al., 2023). The authors reported higher maternal knowledge, attitude, and practice scores in the intervention than the control group, and described the trial as the first to test a mother-focused mHealth intervention in this age group. Nevertheless, a single trial, delivered in one setting, is insufficient to establish generalisability, and the durability of knowledge gains and their translation into growth require longer follow-up.

Taken together with the observational evidence, the trial supports a more nuanced programming logic. Mothers need not only knowledge but also functional skills such as reading labels, planning affordable balanced meals, and responding to children's appetite cues, together with enabling conditions such as income support and social networks.

G. Measurement and design issues

Several methodological patterns help explain the inconsistency across studies. First, instruments differ in what they measure. The Turkish studies used adult nutrition literacy or knowledge scales, the Greek study used parallel health literacy and nutrition literacy instruments, the Iranian trial used knowledge, attitude, and practice questionnaires, and the Korean study used a food literacy measure, so that results labelled as literacy are not directly comparable (Çam et al., 2026; Costarelli et al., 2022; Gwon et al., 2025; Hojati & Farhangi, 2025; Tezol & Mammadova, 2023). Studies that measured knowledge of general dietary principles tended to find null associations with growth, whereas studies that measured practices or behaviour-relevant dimensions more often found significant ones.

Second, child age and outcome definitions differ widely. The samples ranged from infants and toddlers in the first two years, in whom feeding is governed by breastfeeding and complementary feeding indicators, to children aged four to six years, in whom feeding is governed by family meals and food preferences (Kocagozoglu et al., 2024; Tahreem et al., 2025; Çam et al., 2026). The same maternal capability may therefore be operationalised differently. Third, almost all studies were cross-sectional and drawn from clinics, health centres, or schools. A mother of an underweight child may seek and acquire nutrition information because of the problem, which would reverse the expected direction and attenuate associations. Longitudinal designs, which were absent from the included studies, are needed to separate such reverse causation from true effects.

H. Relevance to the Indonesian context

Although the Indonesian studies charted here were few, their pattern is consistent with the wider evidence. Responsive feeding was linked to maternal education and income, while nutritional status was more closely related to child health and use of preventive services than to feeding style once other variables were considered (Sari et al., 2026). Attitude rather than knowledge was associated with nutritional status among mothers in Tangerang (Zendrato et al., 2025). Related Indonesian work has addressed feeding style and nutrition knowledge in early childhood education institutions and local food literacy and food regulation in North Aceh (Daryati et al., 2026; Fauziah et al.,

2026). For services such as community health posts and early childhood education centres, this suggests that sessions should emphasise attitudes, locally available foods, and practical feeding skills, rather than relying only on didactic information, and should be accompanied by health and social support.

Taken together, the findings suggest that the weak direct association between literacy and anthropometry should not be interpreted as evidence that literacy is irrelevant. A more accurate reading is that literacy is one element in a chain of influences, that its effects are conditional on resources and environment, and that anthropometric outcomes may lag behind changes in diet and feeding behaviour. Studies that begin with nutrition literacy but end with height and weight may therefore be poorly designed to detect real but indirect effects.

I. Strengths, limitations, and implications

This review brings together recent evidence across diverse settings and places the findings in an explicit chain-of-effects framework (Figure 2). Its limitations are important. The search was not exhaustive, screening was performed by one reviewer, and no formal risk-of-bias assessment was undertaken. Several included studies were small, cross-sectional, and reliant on self-reported feeding practices, which are vulnerable to social desirability bias. Instruments varied widely, from general nutrition knowledge scales to validated nutrition literacy tools, limiting comparability. Some contextual sources could not be charted in detail because key results were not retrievable. Finally, the available findings come from a small number of countries, and published results may overrepresent significant associations.

Practical implications follow. Health and education services should assess not only what mothers know but what they can do, using brief validated literacy tools with a food-label and numeracy component. Programmes should target the knowledge-to-practice gap through demonstrations, peer support, and responsive-feeding counselling. Policies addressing income and the food environment remain essential complements. Researchers should adopt consistent multidimensional literacy instruments, record feeding practices with standard indicators, and prefer longitudinal and mediation designs that can test whether feeding practices mediate the relation between literacy and nutritional status.

CONCLUSION

Across the recent literature, maternal nutrition literacy shows a fairly consistent relationship with how preschool children are fed, but a weaker and more context-dependent relationship with their nutritional status. Feeding practices, social support, education, and income appear to stand between literacy and growth, which explains why many studies find non-significant direct associations between knowledge and anthropometric indices. The conclusion is not that literacy is unimportant but that it works through behaviour and context. Interventions should therefore combine nutrition education with practical food skills, responsive-feeding guidance, and socioeconomic support, and should be evaluated using validated multidimensional instruments and longitudinal designs. Future studies in Indonesia and other middle-income settings are needed to test the proposed framework, particularly the mediating role of feeding practices, using standard feeding indicators and objective growth measurements.

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