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The Relationship between Nutritional Status, Parenting Patterns, and Child Development among Children Aged 6–24 Months: A Literature Review

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ABSTRACT

Nutrition is a fundamental determinant of optimal growth and development in early childhood. Adequate nutritional intake combined with effective parenting practices plays a crucial role in supporting physical, cognitive, and psychosocial development during the critical window of 6–24 months. This literature review aims to examine the relationship between nutritional status and parenting patterns with child development outcomes among children aged 6–24 months. A systematic literature review was conducted using Google Scholar and PubMed databases, with studies published between 2018–2023. Keywords included *"nutritional status," "parenting patterns," and "child development."* A total of 15 peer-reviewed articles were selected. Data analysis emphasized findings related to anthropometric indicators (WAZ, HAZ, WHZ) and parenting approaches, with reported associations measured through Chi-square or Fisher's exact tests. Findings across studies indicate that children with normal nutritional status (based on WAZ and WHZ indices) are more likely to achieve normal developmental milestones compared to those with undernutrition or overnutrition. Parenting patterns, particularly in responsive feeding and breastfeeding practices, were consistently associated with improved child development outcomes. However, the HAZ index (height-for-age) did not always correlate with developmental status. Maternal education and employment status were also found to influence parenting quality and child growth. There is a significant relationship between nutritional status (WAZ and WHZ) and parenting patterns with the development of children aged 6–24 months. Interventions targeting maternal knowledge, breastfeeding practices, and balanced dietary intake are essential to promote optimal child growth and development.

Keywords: child development, infants, nutritional status, parenting, toddlers

BACKGROUND

Child nutrition is a critical determinant of survival, growth, and development. Malnutrition, both undernutrition and overnutrition, remains a global public health problem affecting millions of children under five (WHO, 2021). In Indonesia, the 2018 Basic Health Research (Riskesdas) reported that 4.5% of children under five suffer from severe malnutrition, while 14.8% experience moderate malnutrition (Ministry of Health RI, 2019). These conditions increase susceptibility to infection, cognitive delays, and poor educational outcomes (Black et al., 2021).

Parenting practices, particularly in feeding and caregiving, are equally influential. UNICEF's framework highlights both immediate and underlying causes of malnutrition, with parenting and caregiving recognized as critical determinants (UNICEF, 2020). Responsive feeding, adequate

breastfeeding, and proper complementary feeding are strongly associated with optimal developmental outcomes (Victora et al., 2021). Conversely, inappropriate feeding and neglectful parenting increase the risk of stunting, wasting, and developmental delays (Beal et al., 2022).
Given this context, this review synthesizes evidence on the relationship between nutritional status and parenting patterns with child development among children aged 6–24 months.

METHODS

This study adopted a literature review design to systematically examine the relationship between nutritional status, parenting, feeding practices, and child development. The literature review approach was considered appropriate because it allows for the integration and synthesis of findings from multiple primary studies, providing a more comprehensive understanding of the subject matter. By compiling existing evidence, this method offers valuable insights and strengthens the overall conclusions of the study.
The data were obtained from two reputable online databases, namely Google Scholar and PubMed. These platforms were selected because they provide wide access to peer-reviewed international and national journals in the fields of health, nutrition, and child development. To maintain the relevance and timeliness of the data, the search was restricted to full-text articles published between 2018 and 2023. Only articles written in English or Indonesian were considered, as these languages were accessible to the researchers and widely used in scientific publications.
The search strategy applied specific keywords, including “nutritional status,” “parenting,” “feeding practices,” and “child development.” These keywords were chosen to ensure that the retrieved articles directly addressed the core themes of the study. Boolean operators such as AND and OR were also utilized to refine the search results and maximize the retrieval of relevant studies. This systematic process ensured that the search strategy was both comprehensive and targeted.
The selection of articles was guided by predefined inclusion criteria. Eligible studies included those that: (1) involved children aged 6–24 months, (2) analyzed nutritional status using anthropometric indicators such as weight-for-age (WAZ), height-for-age (HAZ), and weight-for-height (WHZ), (3) examined parenting or feeding practices as determinants of child development, and (4) were original peer-reviewed research articles. These inclusion criteria were designed to ensure that only studies providing relevant and reliable data were incorporated into the review.
At the same time, exclusion criteria were applied to filter out studies that did not meet the required standards. Articles in the form of reviews, editorials, commentaries, or opinion pieces were excluded, as they do not provide primary research data. Similarly, studies that were inaccessible in full-text format were removed to avoid incomplete information that could compromise the accuracy and consistency of the findings. These criteria enhanced the rigor and credibility of the review process.
After applying the inclusion and exclusion criteria, a total of 15 studies were deemed eligible and included in the final review. These studies were carefully analyzed and synthesized to identify recurring patterns, similarities, and differences in findings. The final pool of studies formed the empirical basis for the results and discussion, offering an evidence-based perspective on the relationship between nutritional status, parenting practices, and child development in children aged 6–24 months.

RESULTS

The findings of this review demonstrated that nutritional status was closely linked to child development, particularly in the domains of motor and cognitive growth. Most of the included studies consistently found significant associations between anthropometric indicators and

developmental outcomes. Among these, weight-for-age (WAZ) and weight-for-height (WHZ) were the most reliable predictors of child development, strongly associated with both motor and cognitive performance (Nkhoma et al., 2021; Putri et al., 2022).

In contrast, height-for-age (HAZ) yielded mixed results. While some studies identified a positive correlation between stunting and delayed development, others reported no significant relationship. For instance, Khofiyah (2019) concluded that linear growth deficits did not always translate into measurable developmental delays, suggesting that other factors such as stimulation and caregiving might buffer the impact of stunting.

Parenting practices also emerged as a strong determinant of developmental outcomes. Studies highlighted the importance of exclusive breastfeeding, responsive complementary feeding, and maternal involvement in promoting normal child development. Children who received consistent maternal care and proper feeding practices demonstrated better developmental outcomes compared to those who did not (Ariani, 2019; Silawati, 2019).

Furthermore, maternal education and employment status were identified as important predictors of developmental differences. Higher levels of maternal education were strongly associated with improved feeding practices, better awareness of child health, and more effective parenting strategies. Conversely, mothers with limited education or irregular employment often faced challenges in providing adequate care and nutrition for their children (Semba & Bloem, 2019; Santrock, 2021).

One notable Indonesian study involving 160 children aged 6–24 months reported that 81.9% of children exhibited normal development, while 18.1% experienced developmental delays. Statistical analysis confirmed significant associations between WAZ, WHZ, and parenting patterns with child development ($p = 0.000$). However, HAZ did not show a statistically significant relationship with developmental outcomes ($p = 0.774$), reinforcing the mixed evidence reported in previous studies.

Overall, the results suggest that while anthropometric indicators such as WAZ and WHZ are robust predictors of child development, HAZ alone may not be sufficient to determine developmental risks. Instead, a combination of nutritional indicators, parenting practices, and maternal characteristics provides a more comprehensive understanding of the factors influencing child development.

Table 1. Summary of Findings on Nutritional Status, Parenting, and Child Development

Determinant	Findings	References
WAZ (Weight-for-Age)	Consistently associated with motor and cognitive development	Nkhoma et al. (2021), Putri et al. (2022)
WHZ (Weight-for-Height)	Strong correlation with developmental outcomes	Nkhoma et al. (2021), Putri et al. (2022)
HAZ (Height-for-Age)	Mixed results; some studies showed no direct association	Khofiyah (2019)
Parenting Practices	Exclusive breastfeeding, responsive feeding, and maternal involvement linked to better development	Ariani (2019), Silawati (2019)
Maternal Education/Employment	Higher maternal education associated with improved	Semba & Bloem (2019), Santrock (2021)

	feeding and caregiving practices	
Indonesian Study (n=160)	81.9% normal development; 18.1% delays; WAZ, WHZ, and parenting significant; HAZ not significant	Field data (2019–2022)

Table 1 summarizes the findings of the reviewed studies, highlighting the consistent role of WAZ and WHZ as predictors of child development, while HAZ produced mixed outcomes. Parenting practices and maternal education were also found to significantly influence developmental trajectories. The Indonesian study further confirmed that WAZ, WHZ, and parenting are crucial determinants, while HAZ alone was not a reliable predictor.

DISCUSSION

The findings confirm that nutritional adequacy during the first two years is crucial for achieving developmental milestones. Malnutrition impairs brain growth, synaptic development, and motor skills acquisition (Cusick & Georgieff, 2016; Prado & Dewey, 2019). In contrast, adequate breastfeeding and complementary feeding provide protective effects against developmental delays. Parenting patterns significantly influence not only feeding but also psychosocial stimulation. Studies show that children whose parents engage in responsive feeding and active interaction exhibit better cognitive and socio-emotional development (Grantham-McGregor et al., 2020).

However, height-for-age (HAZ) was not consistently associated with developmental outcomes in some studies, suggesting that linear growth faltering may not immediately reflect cognitive outcomes but has long-term consequences (Richter et al., 2021).

Maternal education emerged as a key factor. Educated mothers tend to have better knowledge of child nutrition, leading to improved feeding practices and child health outcomes (Beal et al., 2022). Conversely, maternal employment without adequate childcare support may negatively affect parenting consistency.

CONCLUSION

This literature review highlights the strong relationship between nutritional status (particularly WAZ and WHZ indices) and parenting practices with child development among children aged 6–24 months. While HAZ did not consistently predict developmental outcomes, inadequate nutrition and poor parenting practices clearly increased the risk of developmental delays.

Implications for practice: Health interventions should emphasize improving maternal knowledge on responsive feeding, promoting exclusive breastfeeding, and ensuring balanced complementary feeding. Policymakers must integrate nutrition and parenting education programs to prevent developmental delays in early childhood.

REFERENCES

Beal, T., Tumilowicz, A., Sutrisna, A., Izwardy, D., & Neufeld, L. M. (2022). A review of child stunting determinants in Indonesia. *Maternal & Child Nutrition, 18*(1), e13205.

Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., & Christian, P. (2021). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet, 398*(10294), 103–116.

Cusick, S. E., & Georgieff, M. K. (2016). The role of nutrition in brain development: The golden opportunity of the "first 1000 days." *Journal of Pediatrics, 175,* 16–21.

Grantham-McGregor, S., Fernald, L. C. H., & Kagawa, R. M. (2020). Effects of integrated early child development and nutrition interventions. *Archives of Disease in Childhood, 105*(6), 529–540.

Khofiyah, N. (2019). Relationship between nutritional status and child development in Banyuurip, Purworejo. *Jurnal Kebidanan, 11*(2), 45–52.

Ministry of Health RI. (2019). *Basic Health Research Report (Riskesdas).* Jakarta: Balitbangkes.

Narendra, M. B., Sularyo, T. S., & Soetjiningsih. (2021). *Child Growth and Development Textbook.* Jakarta: Sagung Seto.

Nkhoma, D. E., et al. (2021). Nutritional status and developmental outcomes among under-two children in Malawi. *BMC Pediatrics, 21*(1), 242.

Prado, E. L., & Dewey, K. G. (2019). Nutrition and brain development in early life. *Advances in Nutrition, 10*(2), 337–348.

Putri, N. R., et al. (2022). Parenting patterns and nutritional status in relation to child development. *Indonesian Journal of Public Health Research, 9*(3), 120–128.

Richter, L. M., et al. (2021). Early childhood stunting: Implications for adult functioning. *The Lancet Child & Adolescent Health, 5*(9), 622–631.

Santrock, J. W. (2021). *Child Development.* 15th ed. New York: McGraw-Hill.

Semba, R. D., & Bloem, M. W. (2019). Nutrition and health in developing countries. *Springer Nature.*

Silawati, N. (2019). Parenting style and nutritional outcomes among toddlers. *Jurnal Kesehatan, 11*(1), 77–84.

World Health Organization (WHO). (2021). *Global Nutrition Report 2021*. Geneva: WHO.