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FAMILY EMPOWERMENT MODEL IN HANDLING STUNTING AND WASTING CHILD: A LITERATURE REVIEW

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ABSTRACT

Background: *Both stunting and wasting case, when occur in children leads into greater risk of morbidity and even mortality. Attempt to handle those case with empowerment in family setting were numerous and shows hindrance in several aspects. This study aimed to figure out which effort has the biggest impact with most effective way to address stunting and wasting in golden period.*
Method: *A literature search was conducted on electronic databases such as Scopus, ScienceDirect, ProQuest, and Google Scholar to identify relevant published articles from 2015, to 2025. Additional articles were identified from the reference lists and grey literature*
Result: *This review summarizes 4 empowerment domains with the greatest influence in handling stunting and wasting at the family level. Inherent socio-economic conditions and other family characteristics are indeed significant factors, but family empowerment in terms of increasing knowledge and skills, community support, complementary food availability and agricultural support are highlighted in most studies. Long-term and sustainable interventions were emphasized in determining the most appropriate approach.*
Conclusion: *Family empowerment is an important strategy in dealing with stunting and wasting in children. Optimizable functions of family in those features should be dealt with concern in family characteristics. High quality empowerment was significantly associated with a lower likelihood of childhood stunting and wasting. The findings suggest a need to incorporate targeted strategies for empowering family into child nutrition programs.*

Keywords: *stunting; wasting; family empowerment*

INTRODUCTION

Stunted children facing many potential barriers such as being vulnerable to disease (Muleta et al., 2021), having difficulty learning in school, being at risk of obesity (Scott et al., 2020), having lower incomes as adults, and being prevented from participating in their communities (Katoch, 2021). The severity of the condition causes 45% of children under five in the world to die from stunting each year (UNICEF et al., 2021). Whilst wasted children have weak immunity, are prone to long-term developmental delays and face an increased risk of death, especially in severely wasted children (Guesdon et al., 2021). The incidence of wasting is not as large as stunting, but it is still pesturbing because wasting contributes to 60% of deaths in children under five (Bailey et al., 2021). Stunting and wasting have risk factors from the womb to the postnatal period. Various risk factors and interactions develop over time, such as: poor food and feeding practices, disease infections, and environmental pollution. Both cases hinders children's potential with the consequences of increasing child mortality, exacerbating poverty, creating deep-rooted intergenerational losses and hampering the country's economic future (Chowdhury et al., 2020).

Consequences of stunting and wasting are similar, although the risk levels are different. Children who suffer from stunting have a risk of death 2.3-5.5 times higher than normal children (Song et al., 2021). Children with wasting have a risk of death 3.4-11.6 times higher than normal children, while children

who experience stunting and wasting simultaneously have a risk of death 12.3 times higher (Gayawan & Egbon, 2023). Stunting and wasting influence each other and have a negative impact on children's survival, so that preventive measures for complications and care for children with stunting and wasting are needed (Chowdhury et al., 2020; Myatt et al., 2018; Odei Obeng-Amoako et al., 2020).

Stunting mostly occurs between conception and the age of 24 months. In a comparative study, toddlers who experienced stunting at the age of 12 months had a 1.9 times greater chance of recovering their growth compared to toddlers who experienced stunting at the age of 6 months. The result stated that the older the toddler who experienced stunting, the greater the chance of recovering from stunting. This evidence indicates that malnutrition must be addressed as early as possible in children. Meanwhile, wasting is prone to occur in children aged 6 months-5 years because some are no longer breastfed. Nutritional improvements have a greater chance of recovery if carried out in the age period under 2 years (Odei et al., 2023).

Family affect nutritional status of toddlers, especially the role of the mother from before pregnancy to after childbirth (Eicher-Miller et al., 2023). The strongest influence of the family on health because the family acts as a provider of economic, social and psychological resources, tensions that can be a protector or threat to the health of family members. 80% of toddler deaths occur at home (with little or no contact with health workers)(Abera et al., 2019). Active participation of families and communities in caring for toddlers at home will ensure the survival of children, reduce morbidity and promote practices in order to improve child growth and development (Inbaraj et al., 2020). There is a relationship between the implementation of family roles and the incidence of malnutrition in toddlers. These things show the importance of interventions to increase family empowerment in improving the nutrition of stunted and wasted toddlers (Saleh et al., 2021).

Studies have identified that empowerment has a positive influence on child feeding practices and their growth and nutritional status (Ickes et al., 2018; Indanah et al., 2022; Na et al., 2015; Siddhanta & Chattopadhyay, 2017). Empowerment refers to a process that involves the ability to take charge of their own lives such as the power and control over decisions and issues that shape their lives and the lives of their children (Wassie et al., 2024). Many empowerment models have been implemented to overcome stunting and wasting in the family sphere. Each has its own constraints. Therefore, existing empowerment models need to be studied, and then adopted or combined so that they can have an impact on improving malnutrition in children. The aim of this literature review was to explore which empowerment model were most effective in overcoming stunting and wasting in children. Synthesis of the literature provides insight into this case, and guidance on developing strategies for improving nutrition in appropriate settings.

METHODS

A comprehensive literature search was conducted in the Sciencedirect, Scopus, Proquest, and Google Scholar scientific databases, from 2015 up to 2025, using the following search terms: “stunting”, “stunted”, “wasting”, “wasted” “family empowerment”, “effectiveness”. According to the eligibility criteria, the search has been restricted only to research studies, published last 10 years, investigating types and evaluation of family empowerment models application in the fight against stunting and wasting in childhood. Relevant literature was retrieved by the authors by looking through the references in original articles and reviews. The reference bibliographies of studies from such searches were thereafter hand-searched to identify additional eligible studies.

As presented in fig.1, from the conducted comprehensive literature search in the aforementioned scientific database, 348 articles were initially retrieved, while 29 additional studies were identified through manual search from reference lists. Of the initial 377 studies, 57 studies were excluded as duplicates. From the reaming 320 studies, titles and abstract were screened, and 126 were further excluded as irrelevant to the research aim underpinning the current review paper. Following a second criteria-based screening, from the reaming 194 full-text reviewed studies, 118 were excluded from the review, as the authors agreed that they did not provide accurate information concerning the under-search issue. The remaining 76 studies included in this study comprise 24 representative papers of family empowerment model on stunting, 12 studies of family empowerment model on wasting, and 40 studies reporting on empowerment effort on both cases.

Data Analysis

Each participating author independently evaluated the results of the literature search, extracted the most relevant knowledge, decided whether the search results were too diverse or too confusing to publish a comprehensive review of the area, and also authors checked the accuracy and completeness of the retrieved data, which were analyzed following a qualitative interpretation.

Ethical Statement

The authors would like to clarify that the present study, being a narrative literature review, and not epidemiological research conducted in human population, it was based on publicly available anonymized databases, and thus exempt from ethical compliance.

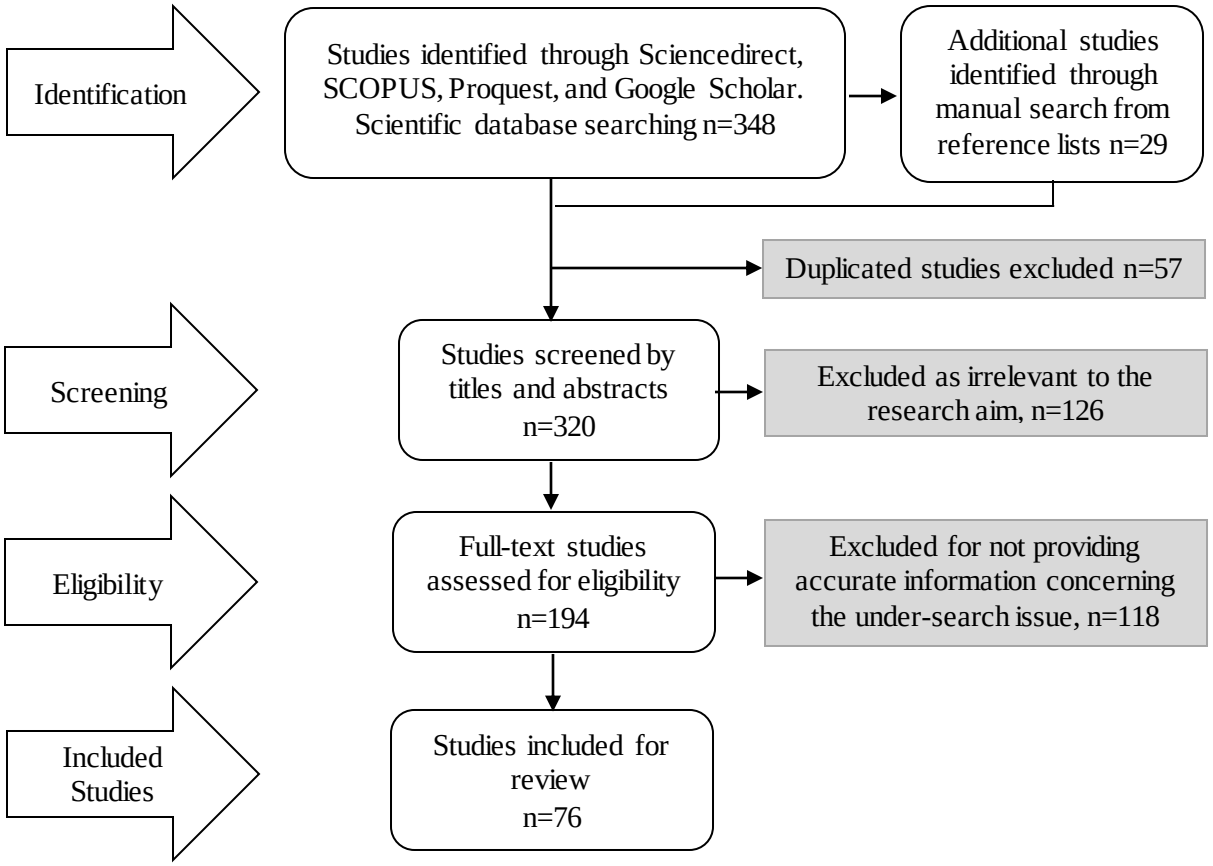

Figure 1. Flow diagram showing study selection process

Table 1. Summary of empowerment models for stunting and wasting

Type of empowerment	Country involved	Type of malnutrition	Outcome, Results
Improvin knowledge & skill	India, Indonesia, China, Rwanda, Africa, Ethiopia, Myanmar, Bangladesh, Sub-Saharan	Stunting (8 studies), wasting (6 studies), both stunting and wasting (15 studies)	Knowledge and ability to understand children's nutritional needs, nutritional value of food, food preparation, food processing, and feeding children, show a strong relationship with the incidence of stunting and wasting.
Community participation	Indonesia, Ghana, Afghanistan, Nepal, Sub-Saharan, African, Vietnam, China, Bolivia, Haiti, Malawi, Ethiopia	Stunting (10 studies), wasting (4 studies), both stunting and wasting (7 studies)	Involvement of the community by utillizing existing platforms, empowering community health workers, and implementing effective strategies, significantly reduce stunting and wasting rates in comunities
Provision of complementary food & supplement	Ethiopia, Burkina-Faso, Indonesia, Tanzania, Zambia, Uganda, Malawi, India, Colombia, China	Stunting (18 studies), wasting (5 studies), both stunting and wasting (28 studies)	Complementary food and supplements were effective in improving feeding practices and reducing child stunting, wasting, and anemia. Longer follow-ups to assess the effects on stunting and implementation of other effective interventions are needed to improve the nutritional status of children. Provision of complementary food program improved child growth patterns, with benefits, to health and diet.
Nutrition sensitive agriculture	Bangladesh, Africa, Vietnam, Kenya, Philipines, Malawi, Ethiopia, Uganda	Both stunting and wasting (14 studies)	This model improve child nutrition outcomes by ensuring food production, food access and agricultural income for nutrition-related expenditure.

RESULTS AND DISCUSSION

Efforts to improve nutrition in cases of stunting and wasting shown in table 1, all involve family participation. Family empowerment emphasizes the best opportunities in health care and child nutritional adequacy because of its high level of interaction (Escher et al., 2024). Families have a direct influence on children's nutritional status (Yani et al., 2023), therefore nutritional improvement interventions could be optimized (Tafese et al., 2020). Some studies only show treatment for one case, stunting or wasting, even though many children ultimately experience both in the development of their condition. The following are some programs that have the greatest impact on improving the nutritional status of stunted and wasted children.

Family empowerment by increasing knowledge and skills

Family is a collection of individuals who can cause or prevent health problems (Nursanti et al., 2021). A mother has a major role in the welfare of the family. Most women in the family are the primary caregivers for children including food preparation and storage, feeding, psychosocial care, and hygiene practices (Hastuti et al., 2024). This makes their empowerment can affect the nutritional status of their children. Limited influence of mothers in making decisions about caring for and fulfilling nutrition for children occurs due to the

influence of cultural factors. Poor parental food literacy and nutrition literacy increased the risk of household food insecurity and tendency for having stunted or/and wasted child (Hoteit et al., 2022). Empowering women and family through increasing knowledge and skills is meaningful in improving nutrition in stunted and wasted children (Jardí et al., 2021).

Community participation

Community involvement is crucial in addressing stunting and wasting by promoting awareness, enabling early detection, and supporting treatment efforts (Bailey et al., 2021). Community health workers, community groups, and platforms play a vital role in extending health and nutrition services, often serving as the first point of contact. By involving community members in planning and decision-making, programs can be tailored to local needs and ensure greater sustainability. By engaging communities in these multifaceted ways, stunting and wasting can be effectively addressed, leading to improved health outcomes for children (Ghodsi et al., 2021).

Provision of complementary food and supplements

Appropriate, adequate and timely nutrition during infancy and early childhood (between 0 and 2 years of age) constitutes a critical window of opportunity to ensure proper growth and development. Inadequate feeding in the first years of life could lead to malnutrition which has been shown to be associated with short-term adverse consequences such as retarded growth and increased child morbidity and mortality in addition to increased risk of adult Non-Communicable Diseases (NCD) (Cliffer et al., 2020). Complementary feeding is a critical step in child development, as it provides essential nutrients that breast milk alone cannot provide (Darcho et al., 2025). Studies have shown that complementary food and supplement can improve growth outcomes and reduce stunting and wasting in children (Ariyo et al., 2021). Provision of complementary or specialised nutritious food during pregnancy, the first six months of lactation, and for children up to two years of age, have proven to be more effective and holistic in targeting nutrient deficiencies in children (Kimere et al., 2022). Complementary feeding and supplementation should be part of a broader approach that includes nutrition education, health services, and addressing underlying causes of malnutrition. Interventions should be sustainable and culturally appropriate to ensure long-term benefits for children (Humphrey et al., 2019).

Empowering family with nutrition-sensitive agriculture

The agriculture sector can potentially play a crucial role in responding to the problem of undernutrition by directly addressing inadequate access to nutrient-rich food, which is a key underlying determinant of malnutrition (Sharma et al., 2021). Low and lower-middle-income countries (LMICs) depends on agriculture for their livelihoods. Nutrition sensitive agriculture, regarded as an effective approach, given the crucial role agriculture can play in the transition towards sustainable food systems and healthy diets, particularly in remote rural areas where market access to nutrient-rich food is limited (Ruel, 2019). This has been described as an inter-sectoral, multi-level food-based system approach intended to maximise agriculture's contribution to improved food security and nutrition (Di et al., 2022). It aims to narrow the gap between available and accessible food and the food needed for a healthy and balanced diet for all children. Agriculture interventions had positive effects on long-term out comes regarding dietary practices (food consumption, di etary diversity, and nutrient intake) and diseases (Wegmüller et al., 2022).

CONCLUSION

Many interventions have been implemented by various countries and regions

to address stunting and wasting through family empowerment. Integration of knowledge and skills, community participation, additional food and essential supplements, and strengthening of agricultural elements in the approach to addressing stunting and wasting must be considered.

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CONFLICT OF INTEREST

All authors declared that there was no conflict of interest in this manuscript.

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