



Women And Stunting Prevention: Literature Review Of Community Empowerment

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Abstract

One in four children in the world is stunted and 90 percent of them live in developing countries. Programs to address malnutrition in children often target mothers as the main subject. This study aims to examine the relationship between community empowerment, especially women, on the incidence of stunting. This research is a literature study by reviewing 22 journals from various countries related to stunting and women's empowerment as a form of stunting intervention. The results of various literature reviews are used to identify stunting prevention efforts based on community empowerment, especially women. The results of the study found that there was a positive correlation between empowered mothers and the nutritional status and health of children. Empowered mothers and fathers who support women's empowerment and gender equality tend to have healthier children with better nutritional status. Policymakers need to consider aspects of women's empowerment in this context to improve the nutritional status of children, especially in preventing stunting.

Keywords: stunting; women's empowerment; stunting prevention, stunting intervention Abbreviations:

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Introduction

Stunting and wasting in children is still one of the most serious health problems in developing countries. Around the world, nearly one of every four children is stunted, with 90 percent of stunted children living in developing countries (Burroway, 2017). The high incidence of stunted or undernourished children is frequently linked to poverty in low- and middle-income countries. Nearly half of South African children under the age of five are malnourished (Cunningham et al., 2015). Malnutrition not only has immediate effects on children but also has long-term ramifications for the future. Those who were malnourished as children will be less physically and intellectually productive as adults (Blackwell et al, 2001 in Burroway, 2017). Each type of malnutrition raises the risk of mortality and morbidity in children. Stunting, on the other hand, has long-term and serious repercussions. Researchers believe that

childhood stunting (particularly severe stunting) is largely irreversible or irreversible. Stunting disrupts the temporal sequence of brain maturation, causing neuronal circuit creation to be disrupted and cognitive deficiencies to occur (Pandey et al., 2017) Ensuring children's health is a global challenge since childhood health is a critical phase in human development that has long-term consequences for their health and well-being.

Women, as the primary caregivers for their children, are in charge of their nutrition and health decisions. As a result, it is reasonable to assume that women's empowerment will have an impact on their children's health. Various studies have shown that women's empowerment is critical for achieving development goals and contributing to improved family health, particularly children's health. Women's empowerment has also been identified as an



important factor of child health in a recent study in Ethiopia. This study shows that women's empowerment (measured in terms of decision-making power, resource control, and autonomy) improves maternal and child health (Abreha et al., 2020).

The low and powerless social status of women provides impediments to social development and has negative repercussions for children's health and nutrition, including growth issues, low birth weight (LBW), and suboptimal growth. Several empirical research has discovered that women's status and empowerment are related to children's height and weight (Cunningham et al., 2015).

Findings of the role of women in reducing the prevalence of malnutrition are strengthened by the statements of policymakers considering that women are commonly the main caregivers of children. Redistribution of decision-making roles in favor of women has the potential to improve children's health conditions (de Schutter, 2013 in Imai et al., 2014). Many scholars, policymakers, and development practitioners have maintained that employment is one of the essential determinants or factors for promoting family health and well-being, and hence improving women's employment prospects has long been a focus of development organizations worldwide. Many realize and believe that narrowing the gender gap in the workplace can result in broad development advantages, improved child health and education, poverty reduction, and increased productivity. Given that women hold major responsibility for parenting in most cultures, their empowerment will undoubtedly have a significant positive impact (Burroway, 2017).

Children are the nation's future assets. We can anticipate how human resources will be in the future if there are currently many stunted children. If a country's human resources are of poor quality, it will struggle to compete with other nations in the face of global challenges. To avoid this issue, the problem of stunting must be seriously addressed (Saputri & Tumangger, 2019).

We must recognize that the debate over stunting is not limited to the dimensions of health, nutrition, and nutritional security, which the government has emphasized as the primary means of reducing stunting. Because of the many complicated factors involved, the problem of

stunting must also be considered a social phenomenon. Other dimensions have not received much attention related to stunting eradication efforts so far, including the aspect of gender equality, roles, access, control, and empowerment of women. Until now, numerous government attempts to reduce stunting have mostly focused on health, nutrition, and dietary intake. There aren't many initiatives aimed at empowering women (Saputri et al., 2020).

This study aims to see the association between women's empowerment and child growth issues. Indeed, efforts to minimize the risk of stunting, wasting, and low birth weight will be futile without a thorough understanding of the relationship between the status of women both in the household and community and the nutritional status of children. By understanding such association, the findings of this study are expected to assist policymakers design programs that consider women's empowerment to alleviate child malnutrition in this context (Mekonnen et al., 2021)

Research Methods

This research is a literature study reviewing 22 journal articles related to stunting and women's empowerment as a form of stunting intervention. The results of various literature reviews are used to identify stunting prevention efforts based on community empowerment, particularly women's empowerment.

Results

Stunting and its causes

The earliest evidence linking childhood stunting with adverse long-term consequences comes from multiple studies. In these studies, "height at age 2-3 years" was identified as the key determinant of school achievement and other significant performance in adulthood. According to research conducted over the last two decades, the first 1000 days of life represent a "critical phase" in a child's growth period. This is because evidence shows that growing at an older age doesn't have the same effect on brain development as it does in the first two years of life. Scientists and economists believe that investing in these times (critical phases) has the highest potential return for the world because it permanently locks in good human capital (Pandey et al., 2017)

Stunting prevents children from growing and reaching their full potential. We must first outline the biological and social factors in order to promote children's linear growth and reduce the occurrence of stunting in the first 2-3 years of life. Stunting in children is caused by demographics, diet, and other variables (Pandey et al., 2017). The factors that cause stunting are described as follows:

Mother factor

A low maternal height of less than 145 cm is regarded to cause severe stunting in children aged two years. Ozaltin et al. in a multi-country study discovered that maternal height was inversely associated with the likelihood of stunting in children. Maternal height is a significant determinant of low birth weight (LBW) and intrauterine growth retardation (IUGR) which induce stunting in early infancy. The findings of this study demonstrate that children born to moms who are under the age of 18 at the time of birth are five times more likely to suffer from stunting. Aguayo et al. reported that children whose mothers married before the age of 18 had a higher risk of experiencing stunting (Pandey et al., 2017).

Mothers aged 19 years were associated with a higher risk of low birth weight and stunting at the age of two. This study also came to the conclusion that stunting at the age of 2 years, in turn, has a worse impact later in life. Families who did not practice family planning had a considerably higher risk of stunting than those who did. Higher birth rates and having younger siblings less than 18 months were associated with a higher risk of stunting. Saxton et al in their study concluded that the birth spacing of 24 months is the safest distance to avoid stunting in children. Find et al found that spacing pregnancies more than 24 months apart could prevent roughly 8.6% of stunting cases in South Asia. Too close birth spacing depletes the mother's reserves (both physically and emotionally), putting the child at risk of malnutrition, including stunting. Large family sizes increase the risk of contracting repeated infections, thus making children vulnerable to repeated attacks of malnutrition which eventually leads to stunting (Pandey et al., 2017)

Prenatal factor

We discovered that maternal malnutrition (low weight gain and severe anemia) during pregnancy was connected with a higher risk of stunting in the child. Neufel et al. found a robust link between maternal weight gain and fetal growth from the first to the second trimester. Black et al. also found that inadequate maternal nutrition during pregnancy is responsible for around one-fifth of all stunting causes worldwide. Furthermore, Ludwig and Currie added that there was an inverse link between weight gain during pregnancy and low birth weight. Our analysis noted that children with a birth weight of less than 2 kg had a six-fold increased risk of developing stunting. Aguayo et al. also reported that the likelihood of stunting was higher among children with LBW. A study conducted in Indonesia found that LBW was the most significant predictor of stunting in children. In our study, gestational age of fewer than 32 weeks was related to approximately five-fold increased odds of being stunted. Kristen et al. observed that the risk of stunting was significantly higher among infants born prematurely or before the expected gestational age. They estimate that approximately 20% of the causes of stunting begin in the womb. Very low weight gain during pregnancy is strongly associated with low birth weight which eventually determines postnatal growth and is significantly linked with stunting in children later in life. As a result, there appears to be an indirect relationship between weight gain during pregnancy and the occurrence of stunting in children which demands additional investigation (Pandey et al., 2017)

Post-birth factors

We discovered that children who were exclusively breastfed for less than three months had a threefold increased risk of stunting, and that cessation of breastfeeding before the age of 18 months was linked to a twofold increased risk of stunting. Simondon et al. discovered that children who were breastfed for a longer period of time had a much greater increase in length (height) over the course of their first two and three years of life. Firdadu et al. discovered in their study that nursing exclusively for fewer than 6 months was linked to a threefold increased risk of stunting between the ages of 24 and 59 months. They also reported that stopping

breastfeeding before the age of 24 months was linked to five-fold increased risk of stunting in children aged 24-59 months. Zongrone et al. reported that appropriate supplemental feeding practices for children aged 6-8 months were associated with higher HAZ scores. They also observed that diets with higher variety indices were associated with higher HAZ scores. A literature study by Lassi et al. concluded that simply providing families with information on complementary feeding practices for families significantly increased HAZ scores and reduced stunting rates in children (Pandey et al., 2017). The incidence of recurrent diarrhea (more than seven times) was linked to an 83% higher probability of severe stunting. Moore et al. observed that children's HAZ scores were much lower after protracted diarrhea compared to before diarrhea. This could be due to improper feeding practices adopted by parents during and after diarrhea, thereby depriving essential nutrients required by the growing children. We note that stunting is roughly three times more likely in children who do not receive even a single dosage of Vitamin A until they are two years old. Kimani-Murage et al. reported that the likelihood of stunting was higher among children who did not receive Vitamin A supplements compared to those who did. It is widely recognized that vitamin deficiency increases the duration, severity, and frequency of diarrhea, hence indirectly contributing to poor nutrition including stunting (Pandey et al., 2017). Thus, educating and empowering women for self-care before, during, and after pregnancy and about parenting practices is the only possible solution to reduce the prevalence of stunting and protect our children's future (Pandey et al., 2017).

Women's empowerment

Empowerment is a complex process to understand because it is a phenomenon that cannot be observed directly. Women's empowerment is one of the significant domains that has recently received attention (S. Kumar et al., 2020). Women's empowerment is a multifaceted concept with many different perspectives on how to define and measure it. Women's empowerment can be defined as a women's ability to make decisions or access life's choices (Imai et al., 2014). Naturally, the

concept works on multiple levels, despite the fact that there is no universally accepted definition of empowerment. The most widely accepted definition is a woman's ability to claim the resources that allow her to exercise her voice and right to choose and act of her own will in order to shape her own life.

There is a growing amount of public health literature that recognizes the importance of women's empowerment for public health issues such as maternal health services, agricultural products, and child nutrition. According to this evidence, empowering women is more essential than poverty alleviation in predicting children's nutritional quality. Women who have the flexibility to make their own decisions and control household income may have a significant impact on household food choices, improving children's eating habits and nutrient intake. As a result, a lack of women's empowerment could be a root cause and contributor to child malnutrition (Mekonnen et al., 2021).

Women's empowerment is a multifaceted concept that is universally acknowledged as a critical component of global development. This has been connected to a variety of aspects of household health status through many pathways, ranging from the utilization of health services to child health, lower expenditure on health-related reasons, and household food security. Women's resource empowerment, for example, has been proven to be linked to household food security and poverty reduction (Mekonnen et al., 2021).

Empowerment is significant not only because of its intrinsic value but also because of the instrumental value it offers in allowing people to make better use of available resources (Kabir, 2005). This implies, first, that the association between empowerment and improved child health and nutrition might be modulated by resource availability (including physical, economic, and human resources). However, no explicit example of women's empowerment is used to enhance children's nutritional status was found in this study (Heckert et al., 2019).

The relationship of empowerment and stunting

Women's empowerment is considered critical to improving conditions for future generations, as women's opportunities impact their children's opportunities (World Bank, 2011 in Burroway,

2017). Despite its frequent use, women's empowerment is an elusive repetition related to many concepts (i.e., agency, autonomy, status, control, equality, freedom). Among the various definitions, there is some overlap on the fundamental aspects of empowerment that are most critical for improving resource welfare control and decision-making (Malhotra and Schuler, 2005; Desai and Johnson, 2005 in Burroway, 2017).

Women's education is one of the most researched correlations between child development and health in developing countries, and it is frequently used as an indicator of empowerment. This is partly due to the fact that education provides women with greater chances to work outside the house (Nussbaun, 2003 in Burroway, 2017).

In principle, women's occupation improves children's health and provides them control over their income, which raises their social status and strengthens their household decision-making capacity. Lisa C Smith et al (2003) in Burroway (2017) emphasized that "work is the root of women's economic independence from men". Indeed, economic power and control over resources are possibly the most crucial determinants of women's equality. Control over income is significant to improve children's health because women are more likely than men to use economic resources for family needs (Blumberg, 1988; Hoddinott and Haddad, 1995 in Burroway, 2017). Allowing women to manage incomes increases household revenue for food, nutrition, health, and education. As a result, when the mother controls the income, the probabilities of the child surviving increase dramatically. Children's well-being is highly dependent on women's direct access to income, not income mediated through husbands or other male relatives (Agarwal, 2003 in Burroway, 2017).

Profitable work outside the home and the income generated eventually improve women's social status in the household and community (Pomeroy and Jacob, 2004). Women become less reliant on others, and their contributions to family prosperity are recognized; they have increased bargaining power and influence over household decisions (Sen, 1999). When women have greater autonomy in household decision-making, they can care for their children more effectively and efficiently. For example, the

greater a woman's freedom to make decisions, the more likely she is to make appropriate choices about using health services, caring for and immunizing sick children, and following treatment recommendations. (Smith et al, 2003). Work also allows women more mobility and enhances their social contact with the outside world, both of which expose them to new knowledge and behavioral standards that can benefit their children's health (Dharmalingam and Morgan, 1996; Sen, 1999; Smith et al, 2003). Many empirical studies corroborate the relationship between women's work and their empowerment. Employment and/or control over income is linked to women's autonomy and decision-making power (Burroway, 2017). However, the impacts of women's labor on children's health remain unclear. On the one hand, women's work can increase income, allowing them to spend more on food and health care, but it can also limit the quantity and quality of childcare (Ukwuani and Suchindran, 2003; Diro et al, 2016). Working mothers may also be unable to prepare nutritious meals or utilize public services aimed at improving the health of their children (Glick dan Sahn, 1998). Not every job has the same set of advantages. Not all jobs produce the same benefits. As a result, an examination of the types of work done by women in developing countries is extremely important to understand how their work affects their family welfare (Burroway, 2017).

Most studies find that women's decision-making power in the household is positively associated with better nutritional status and mortality. There is a positive relationship between children's dietary diversity and women's empowerment as household decision-makers (Abreha et al., 2020)

Although there is a well-established connection between resource improvement and women's control over nutrition, determining the connection between women's empowerment and nutrition is more difficult. Based on their life experiences, personalities, and aspirations, everyone has their own definition of empowerment. The notion of empowerment is also influenced by context and society. Kabeer (1999) defines empowerment as expanding people's ability to make strategic life choices. In this definition, people's ability to exercise choices is divided into three categories: resources (which include not only current access

but also future claims to material, human, and social resources), agency (including decision-making processes, negotiation, and even fraud and manipulation), and achievement (well-being) (Quisumbing et al., 2021).

There is a connection between children's nutritional status and women's contribution to economic decision-making, such as purchasing or manufacturing decisions. Economic empowerment can help women prioritize the purchase of particular foods, hygiene products, and medicines. Their authority over economic production decisions may be related to food production for households, and empowerment in agricultural production is associated with better child-feeding practices (Heckert et al., 2019).

Different from economic decisions, contributions to other decisions can also improve child health. Several studies have revealed a link between maternal decision making with better nutritional status of children. Women who have opportunities to contribute to health care decisions are more likely to use antenatal and postnatal care and are better able to seek medical assistance and treat sick children (Sado et al, 2014). Furthermore, the capacity to make family planning decisions can assist mothers to maximize the timing of deliveries and achieve what the family desires, which can improve child nutrition. Likewise, a woman's capacity to communicate with her husband about her children's nutritional and health needs, as well as negotiate to prioritize those needs, may be associated with the child's health (Heckert et al., 2019)

The majority of research that looked at the link between women's empowerment and children's nutritional status found a favorable correlation. By using cross-country data, Smith et al. (2003) concluded that women's empowerment had a positive effect on child nutrition indicators. Fafchamps et al. (2009) concluded that women's bargaining power can enhance children's nutritional status. The connection between women's empowerment and children's nutritional status is largely beneficial in India and other developing nations, though it can be ambiguous at times. For example, Gaiha dan Kulkarni (2005) found that the effect of the salary disparity between men and women reduces the frequency of stunting children in one household. Their analysis also shows that

household income, household composition, and the number of children, and caste affiliation are all major variables in reducing stunting. Maitra (2004) reveals that children's health is only affected indirectly through increased use of health care, which is determined by education and women's control over the household (Imai et al., 2014)

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Table 1. Literature review related to stunting prevention based on women's empowerment

No.	Title	Year	Results
1	Taking power: Women's empowerment and household Well-being in Sub-Saharan Africa	2021	This study examines women's 'power' over their husbands in 23 countries in Africa and focuses on the relationship of this power with women's health, reproduction, children's health, and children's education. The results reveal that women in a position of authority had better reproductive health and children's health, but had worse emotional health. The results of the study strengthen the evidence on the importance of empowering women for economic development through enhancing their capacity to make household decisions.
2	Intersectional role of paternal gender-equitable attitudes and maternal empowerment in child undernutrition: a cross-sectional national study from India	2021	The results of this study show that even in low-income households, children with empowered mothers and fathers who have a positive gender equality perspective have a lower likelihood of stunting. Conclusion: While women's autonomy can help to minimize the risk of malnutrition in children, men's gender equality attitudes can also help to prevent malnutrition. The findings of this study underscore how patriarchy contributes significantly to the incidence of stunting in children.
3	Women's empowerment and child growth faltering in Ethiopia: evidence from the Demographic and Health Survey	2021	Attitudes towards violence, social independence, and decision-making are three domains of women's empowerment associated with child growth. An increase in the standard deviation in each empowerment domain is related to a reduced likelihood of stunting and a decreased likelihood of having an underweight child.
4	Do tradeoffs among dimensions of women's empowerment and nutrition outcomes exist? Evidence from six countries in Africa and Asia	2021	Despite the fact that women's empowerment and gender equality are frequently linked to improved maternal and child nutrition, the findings of this study revealed that this is not the case. Women's empowerment has a minor impact on nutritional status. Household financial conditions and state factors actually contribute more to the diversity of household foods. In order to enhance nutritional status, efforts must be made to address the underlying causes of malnutrition, as well as women's empowerment and gender equality.
5	Women's empowerment and child nutrition in South-Central Asia; how important is socioeconomic status?	2021	Women's empowerment has been recognized as a strategy for improving the nutrition of children. This study examines the association between women's empowerment and children's nutritional status using demographic and health surveys from five countries in South-Central Asia. Three key dimensions of empowerment are examined in this study, including attitudes toward violence, social independence, and decision-making. The findings reveal that improving women's social independence and decision-making power help to minimize stunting, wasting, and low body weight in children. Additionally, empowering low-income women appears to have a positive impact on lowering stunting, wasting, and low body weight in children. The facts, on the other hand, appear to differ throughout the countries studied. This variation suggests that exogenous contextual factors may play a role in nutrition-empowerment and the nutrient-empowerment-wealth relationship.
6	Associations between women's empowerment and children's health status in Ethiopia	2020	This study aims to measure the extent to which women's empowerment is associated with children's health in Ethiopia. The findings reveal that increasing women's empowerment in the household in terms of their economic status (ie, increasing women's access to education, information, media, and investment/savings) is linked to a reduced risk of having stunted children. Women who have more control in making decisions in the household are positively correlated with children's health.
7	Does land possession among working women empower them and improve their child health: A study based on National Family Health Survey-4	2020	Women's empowerment is measured by decision-making in the household, while children's health is measured by the prevalence of stunting. The results suggest that land ownership does neither empower women nor improve children's health. Other factors such as the nature of work, women's education level, household wealth are also significant in determining women's empowerment and improving children's health. Children born to highly educated mothers have a lower risk to be stunted compared to those born to uneducated mothers. Economic development and women's empowerment are inextricably linked. The assumption of land ownership as an indicator/measure of economic development in this study demonstrates that economic development does not necessarily lead to women's empowerment. The context of economic development is more significant than the economic development itself.



8	Women's empowerment and household food security in Ghana	2020	The three dimensions of empowerment examined in this study include women's education, women's autonomy in decision-making, and domestic violence. The findings of this study reveal that women's decision-making is a critical indicator for improving household food security.
9	Prevalence of Stunting and Its Associated Factors among Children of 6-59 Months in Arba Minch Health and Demographic Surveillance Site (HDSS), Southern Ethiopia: A Community-Based Cross-Sectional Study	2020	Households with poor-to-moderate economic conditions have a higher probability of having stunted children. Furthermore, children who are not exclusively breastfed, whose mothers do not participate in purchasing decisions in the household, and whose mothers do not have freedom of mobility (do not have the decision to do so) will be significantly more stunted than those their age.
10	Rural-urban differentials in the determinants of under-five mortality in Bhutan	2020	The under-five mortality rate in rural areas is 2.75 times higher than in urban areas. Factors that raise the risk of under-five mortality in Bhutan include children born to young mothers and children born in households without safe sanitation and electricity. Meanwhile, those born to working mothers and educated fathers have a lower risk of dying in urban areas. Higher birth rates and smaller household sizes are also linked to a higher risk of under-five mortality regardless of living in urban areas.
11	What does women's empowerment have to do with malnutrition in Sub-Saharan Africa? Evidence from demographic and health surveys from 30 countries	2020	This study aims to find out the relationship between women's empowerment and the nutritional status of children in sub-Saharan African countries. Research results and conclusions of the study show that there is an independent association between the nutritional status of children under five with women's empowerment in sub-Saharan African countries. The empowerment of women was found to be related to the nutritional status of children. Policies and programs aimed at reducing child malnutrition should include interventions designed to empower women in Sub-Saharan Africa.
12	Women's Empowerment and Child Stunting in India: An Investigation	2020	The lack of women's empowerment is believed to be a significant factor that contributes to the prevalence of stunting. This study investigates whether there is a significant relationship between the dimensions of women's empowerment and stunting in children. The results of the study reveal that women's financial autonomy is one of the factors linked to the possibility of reducing stunting children. Other factors that reduce the likelihood of stunting in children are maternal health, measured body mass index, and the number of antenatal visits during pregnancy. As a result, women's empowerment can play a significant role in improving the nutritional status of children.
13	Impact of exposure to mass media on female empowerment: evidence from India	2019	The indicators of women's empowerment in this study include women's autonomy in domestic decision-making, freedom of movement, financial awareness and independence, attitudes toward accepting violence against women, and decisions on the use of contraception. The findings reveal that there is a strong positive effect of mass media exposure on women's status in India. These findings highlight the effectiveness of mass media to favorably influence women.
14	Is women's empowerment a pathway to improving child nutrition outcomes in a nutrition-sensitive agriculture program? Evidence from a randomized controlled trial in Burkina Faso	2019	There is limited empirical evidence to support the hypothesis that empowering women as part of intervention will eventually enhance the nutritional status of children. The indicators of women's empowerment in this study include spouse communication, purchasing decisions, health care decisions, and family planning decisions.
15	Women's decision-making power and undernutrition in their children under age five in Democratic Republic of the Congo: A cross-sectional study	2019	This study aims to evaluate the relationship between women's power in decision-making and stunting/wasting in children under the age of five. The multivariate regression analysis done in this study shows that none of the five dimensions of power in decision-making were associated with stunting and wasting in children.
16	Rural women's empowerment and children's food and nutrition security in Bangladesh	2019	The purpose of this study is to analyze the effect of women's empowerment in agriculture on children's food. The findings reveal that women's autonomy in decision-making and household productivity in public speaking is linked to a higher likelihood of stunting reduction.
17	Women's empowerment and child nutrition: The role of intrinsic agency	2019	The empowerment of women has an impact on the nutritional status of children. This research data were collected from Ethiopia, Kenya, Rwanda, Tanzania, and Uganda. Increasing women's empowerment, particularly through intrinsic institutions in Africa can directly enhance child nutrition through improving maternal nutrition.
18	Are all jobs created equal? A cross-national analysis of women's employment and child malnutrition in developing countries	2017	This study examines the relationship between women's work and stunting in children in 49 developing countries. The findings of the study show that not all women's work will have the same impact on family conditions, particularly children's nutrition. Some occupations such as professional, administrative, marketing, and domestic work are associated with stunting reduction. This is due to an established economic condition. It implies that these occupations can bring benefits to the household (financial adequacy, rich). Meanwhile, employment in agriculture is associated with increased malnutrition. Other occupations like technical work do not affect children's nutrition. In conclusion, not all women's occupations will have the same impact on household life, particularly regarding the nutritional condition of children. Some are beneficial/have an impact on improving the nutritional status of families, while others cause malnutrition in children, and yet others have no effect at all. In general, at the country level, female labor force participation is not related to child malnutrition.
19	Maternal empowerment holds the key to reducing stunting during first 1000 days of life: Evidence from a case-controlled study	2017	Most of the factors that cause stunting are directly or indirectly related to the mothers. Therefore, educating and empowering mothers for self-care before, during, and after pregnancy regarding childcare practices during the first two years of life is critical to minimize the prevalence of stunting in the first 1000 days of life.
20	The importance of public health, poverty reduction programs and women's empowerment in the reduction of child stunting in rural areas of Moramanga and Morondava, Madagascar	2017	The results reveal that the incidence of stunting was higher in low-income families (main factor). Interventions that are possible to be carried out include poverty alleviation, empowering women, public health programs that focus on WASH and increasing acceptability, and expanding the coverage and quality of mother and child health services.
21	Women's empowerment in agriculture and child nutritional status in rural Nepal	2015	Women's empowerment in the agriculture sector (measured using the agriculture index and five empowerment domains) is significantly linked to children's height
22	Women's Empowerment and Prevalence of Stunted and Underweight Children in Rural India	2014	Relatively educated mothers will have children with better nutritional status. There is a substantial connection between women's empowerment and better nutritional status of children.

Sources : (Abreha et al., 2020; Annan et al., 2021; Bogale et al., 2020; Burroway, 2017; Cunningham et al., 2015; Dasgupta, 2019; Dendup et al., 2020; Heckert et al., 2019; Holland & Rammohan, 2019; Imai et al., 2014; Jones et al., 2019; R. Kumar & Lakhtakia, 2020; S. Kumar et al., 2020; McKenna et al., 2019; Mekonnen et al., 2021; Onah, 2021; Pandey et al., 2017; Quisumbing et al., 2021; Rabaoarisoa et al., 2017; Sharma & Subramanyam, 2021; Yaya et al., 2020)

In general, previous studies measure five dimensions of women's decision-making including decisions about how they spend their own income, how they spend their husband's income, their health, major household purchases, and visits to family and relatives. According to the literature, these five indicators may be relevant to the nutritional status of children. Furthermore, women's involvement in health care decision-making can be a measure of overall household access to health care which has been shown to be protective against stunting prevalence in Tanzania. In addition, a woman's decision-making regarding visits to her family and relatives indicates her mobility autonomy, which allows for greater independence and provides her children with access to wider resources. For instance, a study in India reveal that mothers who did not need permission to go to the market were less likely to have stunted children (McKenna et al., 2019).

Malnutrition in children is caused not only by a shortage of food but also by other variables such as women's empowerment. According to the findings of these studies, women must be empowered in order to achieve optimal nutritional status for their children because they have a significant influence on food selection, procurement, preparation, and feeding (Mekonnen et al., 2021).

Research on differential preferences regarding the allocation of resources, especially food resources, between men and women shows that women are more inclined than men to channel resources towards the welfare of their children. Women's decision-making power has been shown to be linked to the nutritional status of children in several low-income countries, where women with lower decision-making power having more likely to have malnourished children (McKenna et al., 2019).



In most communities, women are primarily responsible for selecting, procuring, preparing, and supplying food for the children. They play a vital role in child nutrition and make a significant investment in their children's future. The nutritional status of children is substantially affected by the characteristics of women, including their level of empowerment in the household and community (Mekonnen et al., 2021)

Research from India highlighted several factors such as financial situations in the household, mother's education, and maternal health in affecting the nutritional status of children. Recent research has also found a link between maternal autonomy and the nutritional condition of children. However, in patriarchal societies like India, women's autonomy and access to socioeconomic resources are mediated mostly through their husbands in the household (Sharma & Subramanyam, 2021)

Although quite a number of research results reveal a positive relationship between women's empowerment and children's health and nutritional status, several studies have indicated that the association between women's empowerment and children's nutritional status is not highly convincing. (Quisumbing et al., 2021).

Conclusion

Research has looked into the relationship between women's empowerment (despite differences in operationalization) and health issues, particularly child stunting. These studies reported complex results and have a tendency to be inconsistent. For instance, research from Bangladesh and Benin suggests that women's empowerment is linked to improving child-feeding practices that affect child nutrition. On the other hand, the studies from Mozambique and Ghana found no association between the domains of women's empowerment and child growth problems (Mekonnen et al., 2021). In general, however, the majority of the results of this literature review conclude that empowering women both in the household and in the community has the potential to minimize stunting and child health problems. Policymakers and health professionals are required to consider empowering women in this context in order to enhance nutritional outcomes for children and reduce stunted

growth. Future studies should explore further the relationship between women's empowerment and children's health. To enhance nutritional status, efforts must be made to address the underlying causes of malnutrition, as well as empower women and increase gender equality. However, programs targeted at improving the nutritional status of children would still be better off if they included interventions designed to empower women. Efforts are needed to promote maternal empowerment, household economic conditions, and infant and toddler feeding practices to minimize the number of stunting prevalence among children.

Conflicts of interest:

Ethics approval:

Consent to participate:

Data availability:

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References

- Abreha, S. K., Walegn, S. Z., & Zereyesus, Y. A. (2020). Associations between women's empowerment and children's health status in Ethiopia. *PLoS ONE*, 15(7).
<https://doi.org/10.1371/journal.pone.0235825>
- Annan, J., Donald, A., Goldstein, M., Gonzalez Martinez, P., & Koolwal, G. (2021). Taking power: Women's empowerment and household Well-being in Sub-Saharan Africa. *World Development*, 140.
<https://doi.org/10.1016/j.worlddev.2020.105292>
- Bogale, B., Gutema, B. T., & Chisha, Y. (2020). Prevalence of stunting and its associated factors among children of 6-59 months in Arba Minch Health and Demographic Surveillance Site (HDSS), Southern Ethiopia: A community-based cross-sectional study. *Journal of Environmental and Public Health*.
<https://doi.org/10.1155/2020/9520973>
- Burroway, R. (2017). Are all jobs created equal? A cross-national analysis of women's employment and child malnutrition in developing countries. *Social Science Research*, 67, 1-13.
<https://doi.org/10.1016/j.ssresearch.2017.07.003>
- Cunningham, K., Ploubidis, G. B., Menon, P., Ruel, M., Kadiyala, S., Uauy, R., & Ferguson, E. (2015). Women's empowerment in agriculture and child nutritional status in rural Nepal. *Public Health Nutrition*, 18(17), 3134-3145.
<https://doi.org/10.1017/S1368980015000683>
- Dasgupta, S. (2019). Impact of exposure to mass media on female empowerment: Evidence from India. *International Journal of Development Issues*, 18(2), 243-258. <https://doi.org/10.1108/IJDI-10-2018-0156>
- Dendup, T., Zhao, Y., & Putra, I. G. N. E. (2020). Rural-urban differentials in the determinants of under-five mortality in Bhutan. *Journal of Health Research*, 35(3), 226-239. <https://doi.org/10.1108/JHR-09-2019-0208>



- Heckert, J., Olney, D. K., & Ruel, M. T. (2019). Is women's empowerment a pathway to improving child nutrition outcomes in a nutrition-sensitive agriculture program? Evidence from a randomized controlled trial in Burkina Faso. *Social Science and Medicine*, 233, 93–102. <https://doi.org/10.1016/j.socscimed.2019.05.016>
- Holland, C., & Rammohan, A. (2019). Rural women's empowerment and children's food and nutrition security in Bangladesh. *World Development*, 124. <https://doi.org/10.1016/j.worlddev.2019.104648>
- Imai, K. S., Annim, S. K., Kulkarni, V. S., & Gaiha, R. (2014). Women's empowerment and prevalence of stunted and underweight children in rural India. *World Development*, 62, 88–105. <https://doi.org/10.1016/j.worlddev.2014.05.001>
- Jones, R., Haardörfer, R., Ramakrishnan, U., Yount, K. M., Miedema, S., & Girard, A. W. (2019). Women's empowerment and child nutrition: The role of intrinsic agency. *SSM - Population Health*, 9. <https://doi.org/10.1016/j.ssmph.2019.100475>
- Kumar, R., & Lakhtakia, S. (2020). Women's empowerment and child stunting in India: An investigation. *Journal of Population and Social Studies*, 29, 47–66. <https://doi.org/10.25133/JPSsv292021.004>
- Kumar, S., Patel, R., & Chauhan, S. (2020). Does land possession among working women empower them and improve their child health: A study based on National Family Health Survey-4. *Children and Youth Services Review*, 119. <https://doi.org/10.1016/j.childyouth.2020.105697>
- McKenna, C. G., Bartels, S. A., Pablo, L. A., & Walker, M. (2019). Women's decision-making power and undernutrition in their children under age five in the Democratic Republic of the Congo: A cross-sectional study. *PLoS ONE*, 14(12). <https://doi.org/10.1371/journal.pone.0226041>
- Mekonnen, A. G., Odo, D. B., Nigatu, D., Sav, A., & Abagero, K. K. (2021). Women's empowerment and child growth faltering in Ethiopia: Evidence from the Demographic and Health Survey. *BMC Women's Health*, 21(1). <https://doi.org/10.1186/s12905-021-01183-x>
- Onah, M. N. (2021). Women's empowerment and child nutrition in South-Central Asia; how important is socioeconomic status? *SSM - Population Health*, 13. <https://doi.org/10.1016/j.ssmph.2020.100718>
- Pandey, P., Bajpai, P., Jain, S., & Sharma, A. (2017). Maternal empowerment holds the key to reducing stunting during first 1000 days of life: Evidence from a case-controlled study. *Annals of Tropical Medicine and Public Health*, 10(3), 667–677. <https://doi.org/10.4103/ATMPH.ATMPH.228.17>
- Quisumbing, A. R., Sproule, K., Martinez, E. M., & Malapit, H. (2021). Do tradeoffs among dimensions of women's empowerment and nutrition outcomes exist? Evidence from six countries in Africa and Asia. *Food Policy*, 100. <https://doi.org/10.1016/j.foodpol.2020.102001>
- Rabaoarisoa, C. R., Rakotoarison, R., Rakotonirainy, N. H., Mangahasimbola, R. T., Randrianarisoa, A. B., Jambou, R., Vigan-Womas, I., Piola, P., & Randremanana, R. V. (2017). The importance of public health, poverty reduction programs and women's empowerment in the reduction of child stunting in rural areas of Moramanga and Morondava, Madagascar. *PLoS ONE*, 12(10). <https://doi.org/10.1371/journal.pone.0186493>
- Saputri, R. A. (2019). Upaya pemerintah daerah dalam penanggulangan stunting di Provinsi Kepulauan Bangka Belitung. *Jurnal Dinamika Pemerintahan*, 2(2), 152–168.
- Saputri, R. A., Anggraeni, D., Sujadmi, & Sopamena, N. (2020). Environmental sanitation and stunting (study of the role of women in stunting intervention). *Journal of Physics: Conference Series*, 1655(1). <https://doi.org/10.1088/1742-6596/1655/1/012083>
- Saputri, R. A., & Tumangger, J. (2019). Hulu-hilir penanggulangan stunting di Indonesia. *Journal of Political Issues*, 1(1), 1–9. <https://doi.org/10.33019/jpi.v1i1.2>
- Sharma, A. J., & Subramanyam, M. A. (2021). Intersectional role of paternal gender-equitable attitudes and maternal empowerment in child undernutrition: A cross-sectional national study from India. *BMJ Open*, 11(8). <https://doi.org/10.1136/bmjopen-2020-047276>
- Yaya, S., Odusina, E. K., Uthman, O. A., & Bishwajit, G. (2020). What does women's empowerment have to do with malnutrition in Sub-Saharan Africa? Evidence from demographic and health surveys from 30 countries. *Global Health Research and Policy*, 5(1). <https://doi.org/10.1186/s41256-019-0129-8>

