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Smarter Parents, Better Children Nutrition?

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Abstract: The Indonesian government aims for an 'Indonesia Emas 2045,' but child malnutrition remains a major challenge. One important factor that influences malnutrition is parental education level. Previous studies have shown that children's food consumption is influenced by parental knowledge and education and various interrelated multidimensional factors. This study aims to assess the influence of parental education on improving child nutrition in Indonesia, focusing on developing a model for infants aged 6 to 24 months receiving nutritious complementary foods. The method used in this study was a review of relevant literature. Results show that parental education has a significant influence on increasing the number of infants receiving nutritious complementary foods. In addition, the change in the number of infants consuming nutritious complementary foods is also influenced by several control variables, such as parents' access to the internet, the impact of smoking among housewives, PKH assistance, parents' employment status, area of residence, and per capita expenditure. However, this study has limitations as it does not cover the quality and quantity of food consumed by infants, does not consider local cultural influences due to data limitations, and primarily focuses on socioeconomic aspects. Thus, parental education not only improves their access to quality nutritional information but also enriches their knowledge and raises awareness about the importance of nutrition. All these factors cumulatively contribute to improved nutritional intake for children, positively impacting their long-term health.

Keywords: Nutrition; Education; Factors that Influence Children's Nutrition.

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1. Introduction

Stunting is a serious public health problem in various countries, including Indonesia. It is a condition characterized by chronic malnutrition, which is characterized by a height much lower than the child's age standard. The impact of stunting is very broad, including hampering children's physical and mental development, reducing productivity in adulthood, and increasing the risk of chronic disease.

The main cause of stunting is a lack of adequate nutritional intake during pregnancy until the child is two years old, known as the "golden period." In this context, parental education, especially for mothers, plays a crucial role. Parents with good knowledge and understanding of the importance of nutrition, hygiene, and basic health care tend to be better able to provide the nutritional needs their children need for optimal growth. On the other hand, parents' low level of education is often related to their low knowledge about children's nutrition and health, which in turn can increase the risk of stunting.

Apart from the knowledge factor, education also influences the family's economic condition, which plays a major role in their ability to access nutritious food, health services, and relevant information. Families with better educational backgrounds usually have better access to health facilities and information about proper parenting and nutrition. Therefore, increasing parental education, especially through health education and support programs for pregnant women and families with young children, is an important effort to reduce stunting rates. These efforts not only have a direct impact on children's nutritional status but also on the quality of life of future generations.

The ambitious vision of the Indonesian State, namely "Golden Indonesia 2045", aims to transform this country into a prosperous and advanced country in the next century (Poh et al., 2013). This vision, of course, is closely related to the quality of human resources, which is directly influenced by the health and nutrition of the community, especially children. However, in this case, Indonesia faces big challenges in realizing this vision, with child malnutrition, especially stunting, being one of the biggest obstacles (Jackson et al., 2002). Stunting, a condition resulting from chronic malnutrition, has a negative impact on children's physical and cognitive development, which has long-term consequences for their potential future economic contribution (Duadji et al., 2018).

Parental education has certainly been identified as an important factor in combating malnutrition in children. Educated millennial generation parents will certainly be more aware of the importance of nutrition, understand their children's nutritional needs, and know the necessity to provide a balanced diet (Li et al., 2024). This research also focuses on the relationship between parental education and child nutrition, with special emphasis on children aged 6 to 24 months who receive MP-ASI (Complementary Foods for Breast Milk). This study also considered other influencing factors, such as internet access, maternal smoking habits, social assistance programs, parental employment status, and per capita expenditure (Puspitasari & Arifa, 2023).

Good nutrition in early childhood is crucial in this condition to ensure optimal growth and development. Malnutrition can lead to stunting, wasting, and micronutrient deficiencies, which have long-term impacts on a child's future health, cognitive abilities, and economic productivity. According to the World Health Organization (WHO), stunting is a form of chronic malnutrition experienced by millions of children throughout the world, including many children in Indonesia. A study conducted by Raodah (2013) underscores that appropriate nutrition during the first 1,000 days of

life—from conception to two years old—is crucial for preventing stunting and fostering healthy development (Bulan, 2021).

Parental Education and Child Nutrition Parental education is a well-established determinant of child health and nutrition. Parents with higher levels of education are more likely to have the knowledge and resources required to provide a nutritious diet for their children. Studies by Alderman and Headey (2017) and Dewey and Adu-Afarwuah (2008) have shown that higher educational attainment among parents, especially mothers, is associated with improved nutritional status in children. Educated parents are better equipped to understand the importance of providing a balanced diet, recognize the signs of malnutrition, and seek appropriate medical or nutritional interventions when necessary (Taufiqurokhman, 2023).

Parental education also plays a major role in how household resources are allocated. For example, more educated parents may prioritize spending on nutritious food, health services, and education compared to less important expenses. Under these conditions, prioritization is critical, especially in low-income areas, where limited resources mean allocation decisions have a major impact on children's health and nutrition (Hamudy, 2015).

Internet Access and Nutrition Knowledge In the digital era, internet access is a key factor in increasing parents' knowledge about nutrition. The Internet provides a variety of information about children's health and nutrition, including guidance on feeding practices, nutritional needs, and health services. Research by Degefa et al. (2022) indicate that parents with better access to online resources are more likely to seek out and apply information about healthy eating practices for their children.

In Indonesia, where internet penetration is rapidly increasing, there is substantial potential to use digital platforms to educate parents about child nutrition. However, the effectiveness of these platforms depends on parents' ability to access and critically evaluate the information they find online. This highlights the importance of digital literacy as a complement to traditional forms of education (Raodah, 2013).

Smoking and Child Nutrition Maternal smoking is another critical factor that negatively impacts child nutrition. The harmful effects of smoking during pregnancy and in households with young children are well-documented. Studies such as those by Jackson et al. (2002) have shown that children of mothers who smoke are at a higher risk of malnutrition, including stunting and wasting. Smoking not only affects the health of the mother but also influences the household environment, leading to poorer nutritional outcomes for children.

Exposure to secondhand smoke is also a significant concern. Children who are exposed to secondhand smoke are more likely to suffer from respiratory infections, which can further compromise their nutritional status. Additionally, households where smoking is prevalent may have different spending priorities, potentially reducing the amount of money available for nutritious foods (Adnyana, 2014).

Social Assistance Programs Social assistance programs, such as the Program Keluarga Harapan (PKH), are vital in supporting low-income families by providing them with the resources to ensure better nutrition for their children (Sutanto & Putra, 2021). These programs typically offer financial support, which can be used to purchase nutritious foods, access healthcare services, and improve living conditions. Research by Chen et al. (2023) highlights the positive impact of such assistance on improving access to nutritious food, particularly for infants and young children.

The effectiveness of social assistance programs in improving child nutrition depends on several factors, including the adequacy of the support provided, the ease

of accessing the benefits, and the ability of recipients to use the funds effectively. In Indonesia, PKH has been shown to reduce poverty and improve health outcomes for children, making it a crucial component of the country's efforts to combat malnutrition (Helle et al., 2024).

Employment Status and Per Capita Expenditure Parental employment status and household income are crucial determinants of child nutrition. Higher-income levels generally enable better access to nutritious foods, while employment status can influence the time and resources parents can devote to meal preparation and childcare (Li et al., 2024). Studies have shown that employed parents, particularly mothers, may face challenges in balancing work and family responsibilities, which can impact their ability to provide nutritious meals for their children (Rosen et al., 2024).

However, employment also provides financial resources that can be used to purchase a wider variety of foods, access better healthcare, and invest in education (Wardle et al., 2002). With income from employment, families are better equipped to meet children's basic needs, such as providing nutritious meals, quality healthcare, and appropriate education, all of which contribute to overall child development and well-being (Rodenburg et al., 2014). The relationship between employment and child nutrition is complex and influenced by various factors, including the type of employment, work hours, and the availability of support systems such as childcare services and parental leave (Ko & Jeong, 2024).

The gap in research related to the phenomenon of stunting and parental education can be seen in the lack of in-depth research highlighting *specific interactions* between the level of parental education and parenting practices and providing nutrition to children in diverse social and cultural contexts. Although many studies show a relationship between low levels of parental education and an increased risk of stunting, there is still little research that examines *how different levels of education* influence parents' behavior, decisions, and access to information regarding parenting patterns and child nutrition.

Additionally, further studies are needed to understand the effectiveness of education-based interventions for parents with various educational backgrounds. For example, whether nutrition outreach and education programs significantly impact families with lower levels of education or how tailored communication approaches can improve their understanding and practice of nutrition.

This gap shows the need for more comprehensive and contextual research on improving nutritional knowledge and practices among parents with limited educational backgrounds. More in-depth research can provide a better understanding to develop appropriate interventions to reduce stunting rates and improve children's welfare.

2. Methods

This research uses a quantitative study that uses secondary data from the National Socio-Economic Survey (SUSENAS) and Village Potential Data (PODES) obtained from the Central Statistics Agency (BPS). Data from both sources are combined based on district/city classification. This study uses panel data from 2019 to 2020, covering 503 districts/cities, to analyze the relationship between dependent and independent variables.

The dependent variable in this simple regression equation is the percentage of children aged 6 to 24 months, which is taken from the SUSENAS question regarding the type of liquid/food consumed by the child in the last 24 hours, specifically whether the child ate or drank. The authors then grouped the results based on the age range

of 6 to 24 months. A child in this age range is considered to receive nutritious MP-ASI if they consume nutritious food/drinks such as porridge, rice, bread, noodles, corn, nuts, milk other than breast milk, cheese, yogurt, meat, liver, fish, eggs, vegetables, and fruit.

The independent variable is the percentage of parents with higher education, derived from the question about the highest certificate/diploma the respondent holds. The author grouped the results based on the SUSENAS question, which asked about the respondent's relationship to the head of the household. Individuals who have a diploma or the highest certificate from levels D1 to S3 and serve as the Head of the Household or the spouse of the Head of the Household are considered to be highly educated parents.

Additionally, control variables are included to account for other factors that may influence the percentage of children aged 6 to 24 months receiving nutritious MP-ASI. These control variables include parents who are internet literate, identified from the SUSENAS question, "In the last 3 months, have you used the internet (including Facebook, Twitter, YouTube, Instagram, WhatsApp)?" and "What did you use the internet for?"

The authors also included parental smoking as a control variable in this study, referring to the SUSENAS question, "Have you smoked tobacco in the last month?" Apart from that, government assistance programs are also used as control variables. First, the authors added the variable Family Hope Program (PKH), identified through the SUSENAS question, "Did your household receive the Family Hope Program (PKH) in the last year?" Households that report receiving PKH are considered PKH recipients. Second, the author also included the Non-Cash Food Assistance (BPNT) variable, which was obtained from the SUSENAS question, "Has your household ever received food assistance (Non-Cash Food Assistance (BPNT)/sembako program)?" Households that have received BPNT or the basic food program are classified as BPNT recipients.

a. Variable Description

Before conducting relationship analysis, describe each of the main variables in the study:

- Parental Education: Categorized by education level (e.g., low, medium, high).
- Stunting Incidence: Measured as a binary variable (stunted or not stunted).

b. Correlation Test

If the primary aim is to determine the relationship between parents' education level and the risk of stunting in children, a correlation test can be used, such as:

- Spearman or Kendall Tau Correlation if the data is ordinal.
- Chi-square Test of Independence to examine the relationship between education (categorical) and stunting incidence (categorical).

c. Logistic Regression Analysis

Since the stunting incidence variable is binary, binary logistic regression is suitable for exploring the effect of parental education on the likelihood of a child experiencing stunting. The logistic regression equation can be expressed as follows:

$$logit(P) = ln\left(\frac{P}{1-P}\right) = \beta 0 + \beta 1 \times 1 + \epsilon$$

where
P is the probability of a child experiencing stunting
β0\beta_0β0 is the constant (intercept),
β1\beta_1β1 is the regression coefficient for the parental education variable
X1 is the independent variable (parental education),
ϵ\epsilonϵ is the error term

The regression coefficient (β1) shows the impact of a one-level increase in parental education on the likelihood of stunting. If β1 is significant and negative, it suggests that higher parental education tends to reduce the risk of stunting in children.

d. Model Significance Test

To ensure the logistic regression model used is appropriate and that parental education is indeed significant in explaining stunting incidence, the Wald test or Likelihood Ratio test can be applied.

e. Interpretation of Odds Ratio (OR)

From the logistic regression results, the Odds Ratio (OR) can be calculated to interpret the strength of the effect of parental education on the risk of stunting. If OR < 1, higher education reduces the risk of stunting.

f. Model Testing and Validity

The final step is to test the model's validity and fit, using values such as the Hosmer-Lemeshow Test to assess model adequacy.

The authors also considered working parents a control variable based on the SUSENAS questions, "What activities did you do in the past week?" and "Did you have a job/business in the last week but were temporarily unemployed?" Individuals who work or have a job/business but are temporarily not working and are in a relationship as Head of Household or spouse of Head of Household are categorized as working parents.

Finally, the author also included Integrated Health Posts (Posyandu) that provide supplementary feeding as a control variable, based on data from PODES, "Integrated Health Posts (Posyandu) that provide supplementary food/drinks" and "Integrated Health Posts (Posyandu) according to activities/services in the last year."

In this study, we aim to explore the impact of various socio-economic and demographic factors on receiving nutritious complementary feeding (MP-ASI) by children aged 6 to 24 months. The quality of complementary feeding is crucial for the proper growth and development of young children, making it essential to understand how different variables might affect this aspect of child nutrition. By examining factors such as parents' education level, internet literacy, smoking habits, participation in the Family Hope Program (PKH), receipt of Non-Cash Food Assistance (BPNT), the percentage of working parents, the availability of supplementary feeding (PMT) at Posyandu (integrated health posts), and per capita expenditure, we seek to identify any significant influences on the provision of nutritious MP-ASI.

With this background in mind, we can now state the following hypotheses:

i. *H*0 : β = 0, There is no significant effect of parents' education level, internet literacy, smoking habits, the Family Hope Program (PKH), Non-Cash Food Assistance (BPNT), the percentage of working parents, Posyandu (integrated health posts) providing supplementary feeding (PMT), and per capita expenditure on the receipt of nutritious complementary feeding (MP-ASI) by children aged 6 to 24 months;

ii. $H1 : \beta \neq 0$, There is a significant effect of parents' education level, internet literacy, smoking habits, the Family Hope Program (PKH), Non-Cash Food Assistance (BPNT), the percentage of working parents, Posyandu (integrated health posts) providing supplementary feeding (PMT), and per capita expenditure on the receipt of nutritious complementary feeding (MP-ASI) by children aged 6 to 24 months.

3. Results and Discussion

3.1. Descriptive Statistics

This chapter presents descriptive and inferential analyses to provide an overview of the descriptive information and the relationship between the research variables. The description of variables in the descriptive statistics used in this study includes the minimum value, maximum value, mean, and standard deviation of the research variables.

Table 1. Descriptive Statistics Results

Variable	Obs	Mean	Std. dev.	Min	Max
WeaningFood	1,006	81.83	0.113	1.1	100
Educ	1,006	9.26118	0.050	0	35.7
Inlit	1,006	27.80	0.142	0	79.3
Smoke	1,006	53.31	0.095	18.2	77.7
CCT	1,006	25.60	0.144	0	100
NCFA	1,006	29.09	0.245	0	100
Worker	1,006	73.80	0.076	56.8	100
SuppFeed	1,006	90.06	0.155	0	100
ln_Expend	1,006	13.990	0.291	13.092	14.976

Source: *Processed by the author*

Based on Table 1, it can be observed that there are 1,006 observations across 503 regencies/cities in 33 provinces in Indonesia during the years 2019 and 2020. On average, the percentage of children aged 6 to 24 months receiving complementary feeding in regencies/cities in Indonesia during 2019 and 2020 was 81.83%. The highest percentage of children receiving MP-ASI, at 100%, was recorded in Madiun City in East Java Province and Bontang City in East Kalimantan Province in 2019, as well as in Blora Regency and Mojokerto City in 2020. Conversely, the lowest percentage was found in Puncak Regency in Papua Province, with 1.11% in 2019 and 6.86% in 2020.

The average across the regions/cities regarding the percentage of parents with higher education (college or university level) was 9.26%. The highest percentage was in Banda Aceh City, Aceh Province, with 35.70% in 2019 and 31.21% in 2020. In contrast, Nduga Regency in Papua Province recorded the lowest percentages, with 0% (no parents with higher education) in 2019 and 0.47% in 2020.

The average percentage of internet-literate parents was 27.80%. The highest percentage was in Denpasar City, Bali Province, with 68.61% in 2019 and 79.28% in 2020. Meanwhile, the lowest percentages were in Deiyai Regency and Nduga Regency, Papua Province, at 0% in 2019 and 2020.

The average percentage of parents who smoke was 53.31%. The highest percentages were in Lebong Regency, Bengkulu Province, with 77.73% in 2019, and

Yalimo Regency, Papua Province, with 77.04% in 2020. The lowest percentages were found in Dogiyai Regency, Papua Province, with 18.25% in 2019 and 20.70% in 2020.

The average percentage of poor families receiving the Family Hope Program (PKH) in regencies/cities across Indonesia was 25.6% during 2019 and 2020. The highest percentage of PKH recipients was in Tanah Datar Regency, West Sumatra Province, with 77.72% in 2019 and 100% in 2020. The lowest percentage, 0%, was observed in several regencies, including Dogiyai, Intan Jaya, and Deiyai Regencies, during 2019 and 2020.

The average percentage of poor families receiving Non-Cash Food Assistance (BPNT) across regencies/cities in Indonesia was 29.09% during 2019 and 2020. The highest percentage of BPNT recipients was 100%, observed in Hulu Sungai Selatan Regency, South Kalimantan Province, in 2019 and Ciamis Regency in 2020. The lowest percentage, 0%, was recorded in several regencies/cities during 2019 and 2020.

The average percentage of working parents in regencies/cities across Indonesia was 73.80% during 2019 and 2020. The highest percentages were observed in Nduga Regency, with 99.61% in 2019 and 98.38% in 2020. The lowest percentages were in Barru Regency, South Sulawesi Province, with 56.77% in 2019, and Sidenreng Rappang Regency, 58.42% in 2020.

Regarding the percentage of Posyandu (integrated health posts) providing supplementary feeding, the average percentage across regencies/cities in Indonesia was 90.05% during 2019 and 2020. The highest percentage was 100%, and the lowest was 0% in 2019 and 2020.

Lastly, for per capita expenditure, Indonesia's average logarithmic scale value across regencies/cities was 13.990 during 2019 and 2020. The highest logarithmic scale value for per capita expenditure was 14.976, observed in Kuantan Singingi Regency, Riau Province, and Mamuju Tengah Regency, West Sulawesi Province, in 2020. The lowest values were found in Malang City, Central Java Province, with 13.274 in 2019, and in Bengkulu Selatan Regency, Bengkulu Province, with 13.092 in 2020.

3.2. Regression Analysis Results

Based on the results of the inferential analysis between the research variables, the findings are presented as follows.

Table 2. Regression Analysis Results

Variable	WEANING FOOD
Educ	0.671***
	(0.223)
Inlit	0.145
	(0.098)
Smoke	-0.046
	(0.117)
CCT	0.211***
	(0.045)
NFCA	0.058***
	(0.021)
Worker	-0.105
	(0.177)

SuppFeed	**0.0105**
	(0.040)
ln_Expend	**0.007**
	(0.011)
Constant	**0.640*** **
	(0.209)
Observations	**1006**
Adjusted R2	**-0.621**

*P<0.1, **P<0.05, ***P< 0.01

Source: *Processed, STATA 18*

The regression estimation results indicate that parents with higher education levels positively impact the likelihood of their children receiving better-quality nutritious complementary feeding (MP-ASI). The analysis shows that a 1% increase in the percentage of parents with higher education leads to a 0.671% increase in the percentage of children receiving nutritious MP-ASI, all else being equal. Educated parents are generally more aware of the importance of balanced nutrition for their children. Higher education often provides better access to nutritional information and the ability to understand and apply this knowledge in daily life (Adnyana, 2014). Additionally, educated parents tend to have better access to financial and informational resources, enabling them to provide more nutritious food for their children (Anwar & Rosdiana, 2023). They are also more likely to understand and implement healthy eating practices and lifestyle habits within their families (Aziz et al., 2021). Overall, higher parental education contributes to better nutritional caregiving, which supports holistic child development, both physically and mentally. This finding is supported by previous research (Bhutta et al., 2008), which demonstrates that mothers with higher education levels are more likely to receive accurate and adequate information about MP-ASI, leading to better feeding practices. Additionally, studies by Baker et al. (2008) indicates that higher paternal education levels are often associated with better knowledge about nutritional needs and improved feeding practices, as educated parents are better equipped to manage their children's nutritional requirements at different developmental stages.

The regression analysis also reveals that households receiving Non-Cash Food Assistance (BPNT) significantly improve the likelihood of their children receiving better-quality MP-ASI (Peters et al., 2013). The results show that each 1% increase in the proportion of poor households receiving BPNT corresponds to a 0.058% increase in the percentage of children receiving MP-ASI (Lee & Wan Abdul Manan, 2014). BPNT (Non-Cash Food Assistance) enhances the opportunity for children aged 6 to 24 months to receive better MP-ASI by providing access to nutritious food items through e-vouchers that can be redeemed at designated e-warong (electronic kiosks) (Inhulsen et al., 2017). This allows poor families to purchase essential foods like eggs, vegetables, fruits, and other protein sources crucial for MP-ASI. BPNT also stipulates the types of food that can be purchased in accordance with the Indonesian Minister of Social Affairs Regulation No. 1 of 2018, which ensures families select foods that meet their children's nutritional needs (Teymoori et al., 2024). The BPNT program is a government initiative aimed at improving social welfare by providing food assistance to poor and vulnerable families. Unlike cash assistance, BPNT is distributed in the form of electronic coupons or balances that can be used to buy quality food at e-warong or other official outlets (Bawa & Haldeman, 2024). This program helps beneficiaries choose and purchase food according to established nutritional standards, with the

goal of improving food quality and meeting optimal nutritional needs. BPNT also seeks to enhance food distribution systems and reduce reliance on cash assistance. The financial stability provided by this aid allows families to allocate their income to other needs that support their children's health (Mai et al., 2024). The education and counseling included in the BPNT program also raise parents' awareness about balanced nutrition and healthy food preparation, increasing their understanding of the importance of quality MP-ASI (Kiefner-Burmeister et al., 2016). By alleviating economic burdens, this food assistance provides families with greater flexibility in managing their expenses, ensuring that children receive adequate and nutritious MP-ASI (Aziz et al., 2021). These findings are supported by previous studies (Anwar & Rosdiana, 2023; Asim & Nawaz, 2018), which highlight the crucial role of non-cash food assistance programs in improving child nutrition outcomes by enabling low-income families to meet their food needs and enhance nutritional quality.

3.2.1. The Impact of Parental Education Level on Stunting

The level of parental education significantly impacts the incidence of stunting in children. Parental education, especially that of mothers, is directly related to their knowledge of proper nutrition, healthcare, and parenting practices that can influence children's growth. Research shows that parents with higher levels of education are more likely to be aware of the importance of healthy eating and hygiene, which in turn helps reduce the risk of stunting. Parents with lower education levels often have less access to or understanding of relevant health information, which can lead to mistakes in meeting their children's nutritional needs. Additionally, educated parents are more likely to utilize available healthcare facilities and follow proper immunization programs. Therefore, improving the education level of parents, especially mothers, can contribute to reducing stunting rates, as they can provide better care, both in terms of food and health, for their children.

3.2.2. The Impact of Household Assistance on Stunting

The assistance received by households also has a significant impact on preventing stunting. Social assistance, whether direct cash transfers or food assistance, can improve a family's economic conditions, which affects their ability to meet children's basic needs, including nutritious food. Low-income households often struggle to meet their children's nutritional needs, making the children in these families more vulnerable to stunting. Assistance received can be used to purchase more nutritious food, increase access to healthcare, or provide better sanitation facilities. Moreover, assistance can help parents reduce economic stress, allowing them to focus more on child care and education. These findings indicate that well-targeted social assistance can play an important role in reducing stunting rates by ensuring that households can provide adequate nutrition and access to sufficient healthcare services for their children.

4. Conclusion

This study aims to analyze the impact of parents' education levels on the nutrition of young children (Baduta) in Indonesia. Educated household members are a vital factor in improving child nutrition, particularly in Indonesia, which still experiences relatively high levels of malnutrition, especially in Southeast Asia. Previous studies have provided empirical evidence that higher parental education can enhance children's nutritional status.

The research findings indicate that the percentage of parents with higher education significantly influences the nutritional status of children, as reflected by the percentage of children receiving nutritious complementary feeding (MP-ASI). Other variables in this study, such as the Family Hope Program (PKH) for poor families, Non-Cash Food Assistance (BPNT) for poor families, working parents, and per capita expenditure, also significantly impact the improvement of child nutrition.

Parental education greatly affects the quality of nutrition children receive for several reasons. First, parents with higher education levels tend to have better and broader access to information about nutrition and health. They are more likely to seek out and understand information from various sources, such as health education materials, seminars, and online resources. For instance, research shows that more educated parents are often more proactive in seeking information about healthy eating and proper nutrition, which directly influences their family's nutritional decisions.

Second, better nutritional knowledge allows parents to make more informed choices about food and family diets. Higher education is often associated with a better ability to analyze and understand nutrition guidelines, food labels, and health recommendations. This helps them apply sound nutritional principles in meal planning and daily food provision, ensuring that their children receive the necessary nutrients for optimal growth and development.

Third, parents with a strong educational background generally have a higher awareness of the importance of nutrition for their family's health and well-being. This awareness drives them to actively adopt and implement healthy eating habits, such as choosing nutritious foods, avoiding unhealthy processed foods, and teaching their children about nutrition. Research indicates that this awareness contributes to reduced risks of malnutrition and diet-related diseases among children.

Thus, parental education not only improves their access to quality nutritional information but also enriches their knowledge and raises awareness about the importance of nutrition. All these factors contribute to improved nutritional intake for children, positively impacting their long-term health.

The analysis shows that the level of parental education, especially that of mothers, plays a significant role in stunting in children. This study confirms that knowledge and skills acquired through education can enhance parents' understanding of the importance of good nutrition, healthy eating habits, and optimal healthcare for their children. In this context, Human Capital Theory can be used to explain how parental education contributes to the quality of life for their children. Human Capital Theory argues that education increases individuals' knowledge and skills, enhancing their capacity to make better health and family well-being decisions.

Specifically, mothers with higher levels of education are more likely to understand the importance of providing nutritious food, exclusive breastfeeding, and following proper health procedures such as immunization and regular check-ups. This knowledge is directly linked to the decisions parents make in providing the right nutritional needs for their children. In contrast, parents with lower levels of education often lack understanding of the importance of healthy eating and hygiene, which can lead to poor decisions in caring for their children, thus increasing the risk of stunting.

The Socio-Ecological Model (SEM) can also be applied to analyze this relationship, where factors such as parental education, access to information, and economic resource limitations interact in shaping decisions and behaviors related to child care. In SEM, parental education is positioned at the individual level, interacting with family,

community, and social policy levels, which can influence children's nutritional and health conditions.

From the perspective of Parental Investment Theory, which posits that parents allocate resources to maximize their children's well-being, parental education influences how well they understand the best ways to invest in their children's health and nutrition. Educated parents have a deeper understanding of balanced nutrition, which contributes to optimal growth and development for their children.

Overall, the findings of this analysis support the importance of improving parental education, especially for mothers, to prevent stunting. Increasing the level of education can have a lasting positive effect on lifestyle and better care for children, thereby reducing the risk of stunting.

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