



THE RELATIONSHIP OF EARLY MARRIAGE TO THE INCIDENCE OF STUNTING IN LANGKAT REGENCY

Sri Windani¹, Indri Meiliawati², Tri Suci Dewiwati³

^{1,2,3}Universitas Putra Abadi Langkat, Indonesia

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ABSTRACT

Stunting remains one of the major public health challenges in Indonesia, particularly in Langkat Regency, North Sumatra, where early marriage is still prevalent. This study aims to examine the relationship between maternal age at marriage and the incidence of stunting in children under five, as well as the role of women's empowerment in prevention. A quantitative correlational descriptive design was applied with purposive sampling of 30 mothers who married before the age of 18 and had children under five years old. Data were collected using structured questionnaires and analyzed with Chi-Square tests and descriptive statistics. The results show a significant association between early marriage and child stunting, $\chi^2 (3, N = 30) = 9.090, p = 0.028$, with a linear trend ($p = 0.004$) indicating that the older the maternal age at marriage, the lower the prevalence of stunting. At 15 years of marriage age, 75 percent of children experienced stunting, compared to 53.8 percent at 16 years, 12.5 percent at 17 years, and none at 18 years. Women's empowerment indicators reveal that although most respondents have access to health information (93.3 percent) and routinely attend posyandu services (86.7 percent), only 23.3 percent independently make decisions regarding child health, showing limited agency despite available resources. These findings confirm that early marriage significantly increases the risk of stunting through biological immaturity, limited nutritional literacy, and reduced maternal decision-making. Women's empowerment emerges as a strategic pathway to delay marriage, strengthen parenting, and reduce stunting prevalence. Policy recommendations include enhancing adolescent reproductive health education, improving maternal nutrition literacy, and promoting cross-sectoral collaboration between health, education, and religious affairs offices.

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Corresponding Author:

Sri Windani
Universitas Putra Abadi Langkat, Indonesia
Email: sriwindani@gmail.com

1. INTRODUCTION

Stunting is one of the public health problems that is still a big challenge in Indonesia. This condition is defined as failure to grow in children under five due to chronic malnutrition, recurrent infections, and lack of adequate psychosocial stimulation, especially in the First 1,000 Days of Life (HPK) period[1]. Children who experience stunting not only have shorter than average bodies, but are also at risk of facing cognitive development delays, low learning achievement, and decreased economic productivity in adulthood.

Therefore, stunting prevention cannot be seen only as a health problem, but an important part of the long-term development of human resource quality.[2]

Nationally, the prevalence of stunting shows a downward trend. Based on the results of the Indonesian Nutrition Status Survey (SSGI), the stunting rate decreased from 24.4% in 2021 to 21.5% in 2023, and was recorded at 19.8% in early 2025. However, disparities between regions are still a problem. North Sumatra Province, for example, recorded a prevalence of 18.9% in 2023 with a high number of stunted children under five, which is around 316,456 children. Langkat Regency as one of the regions in this province is also still facing a similar problem, with the prevalence of stunting dropping from 18.6% in 2022 to 16.9% in 2023. Until mid-2024, of the 101,364 children under five, 91,301 have been measured and 271 of them are stunted. Despite the decline, the local government's target to reduce stunting rates to 10% by 2025 is still quite far away, so a more comprehensive handling strategy is needed.

One of the factors that contribute to the high stunting rate but is often overlooked is the practice of early marriage[3]. This phenomenon is still widely found, especially in rural areas and communities with low socio-economic backgrounds. Mothers who marry at a young age are generally not biologically or psychologically mature to undergo pregnancy and childbirth, so they are more prone to experiencing pregnancy complications and giving birth to babies with low birth weight[4]. In addition, early marriage often hinders women's education, limits employment opportunities, and increases economic dependence on husbands or extended families, which ultimately worsens children's parenting and nutritional status. The latest research in Langkat Regency in 2025 shows that the marriage guidance program for prospective brides under the age of 20 has succeeded in reducing the number of early marriages from 1,147 cases to 298 cases within two years, and this decrease is followed by a reduction in the number of families at risk of giving birth to stunted children from 84,984 to 37,908 families. This confirms that early marriage is closely related to the incidence of stunting.

In the perspective of women's empowerment, Naila Kabeer's (1999) theory emphasizes that empowerment includes three main aspects, namely resources, agency, and achievement. The results of research in Langkat Regency show that women's access to resources such as health information and basic services is quite good, but the ability to make decisions (agency) is still limited due to the dominance of husbands or families[5]. In fact, women's empowerment can be an important strategy to postpone the age of marriage, increase nutritional literacy, and strengthen the role of mothers in childcare. Thus, strengthening the role of women in households and society is a key step to break the cycle of stunting across generations.

Based on this description, this research is formulated into two main problems. First, how the meaning of early marriage is understood by couples who marry at that age, as well as the extent to which social, cultural, and psychological values affect the increased risk of stunting in children in Langkat Regency. Second, how the role of women's empowerment can be used as a key strategy in preventing early marriage and reducing stunting rates, so that it can support the realization of a healthy generation as well as sustainable development in the region.

In line with the formulation of the problem, this study aims to analyze the meaning of early marriage as understood by couples who marry young, as well as examine the influence of social, cultural, and psychological values on the increased risk of stunting in children in Langkat Regency. In addition, this study also aims to examine the role of women's empowerment as the main strategy in preventing early marriage and reducing the prevalence of stunting, so as to support the birth of a healthier and more competitive generation.

The author's literature review was used in the "Introduction" chapter to explain how the manuscript differs from other papers and how it is innovative; it was used in the "Research Method" chapter to explain the research steps; and it was used in the "Results and Discussion" chapter to bolster the analysis of the findings [2]. The theory and/or the suggested technique/algorithm can be briefly explained in an extra chapter that comes after the "Introduction" chapter and before the "Research Method" chapter if the manuscript was produced with a high degree of originality and offered a novel method or algorithm [4].

To address the high prevalence of stunting, the Indonesian government has developed several strategic programs, such as the National Movement for the Acceleration of Nutrition Improvement, the National Action Plan for the Acceleration of Stunting Reduction (RAN-PASTI), as well as the integration of specific and sensitive nutrition interventions through cross-sectoral collaboration involving health, education, and social protection. At the global level, WHO and UNICEF recommend a holistic approach through Maternal, Infant, and Young Child Nutrition (MIYCN) programs, the first 1,000 Days of Life interventions, improved sanitation and clean water access, and women's empowerment as a key determinant of success. By using these national policies and international recommendations as benchmarks, this study is expected to provide concrete contributions in evaluating the effectiveness of stunting prevention efforts at the local

level while emphasizing the urgency of addressing early marriage practices as one of the crucial determinants.

2. RESEARCH METHOD

This research is a quantitative empirical research that uses a correlational descriptive design[6]. This design aims to determine the relationship between the age of early marriage and the incidence of stunting in children under five, as well as describe the role of women's empowerment in preventing early marriage in Lalat Regency. A quantitative approach is used because the study emphasizes on the collection and analysis of numerical data to identify patterns of relationships between variables. In addition, this approach is also supported by sociological-empirical understanding, which sees the practice of early marriage and stunting as a social phenomenon influenced by cultural, economic, and educational factors[7].

The population in this study is all married mothers under the age of 18 and have children under five years (age 0–5 years) in Lalat Regency. The sample was selected purposively (purposive sampling), with the criteria of mothers who married at an early age, had children of toddler age, lived in Langkat Regency, and were willing to be respondents. The number of samples in this study is 30 respondents, which is considered representative to explain the pattern of relationships observed in the scope of this study.

The location of the research was determined in Langkat Regency, North Sumatra Province. The selection of this location is based on the status of Langkat Regency as one of the national priority loci in an effort to accelerate stunting reduction. In addition, the rate of early marriage in this region is still quite high, especially in rural areas. The availability of data and ease of access to respondents are additional considerations in choosing this location as the research site.

The data in this study was obtained from two sources, namely primary data and secondary data. Primary data was collected through the distribution of a closed-ended questionnaire to respondents. This questionnaire consists of three main parts, namely: (1) demographic data of respondents (age, education, occupation, number of children); (2) information about the age at marriage and the nutritional status of the child based on the Healthy Towards Healthy Card (KMS) or posyandu data; and (3) indicators of women's empowerment, which include access to education, health information, and social participation. The secondary data is obtained from official documents such as reports from the Health Office, BKKBN, BPS, scientific journals, and relevant laws and regulations.

The data analysis techniques used in this study consist of two types. First, inferential statistical analysis using the Chi-Square (χ^2) test, to determine whether there is a significant relationship between the age of early marriage and the stunting status of children under five. Second, descriptive statistical analysis was carried out to describe the characteristics of respondents and interpret data related to the role of women's empowerment, especially in relation to preventing early marriage and improving child health. These two types of analysis are used in an integrated manner to produce conclusions that are objective and relevant to the purpose of the research.

3. RESULTS AND ANALYSIS

The Meaning of Early Marriage and Social, Cultural, and Psychological Values That Affect the Risk of Stunting

Stunting is still one of the serious problems in Langkat Regency, although the prevalence trend shows a decrease. Based on a report by the Lalat Health Office, the stunting rate dropped from 18.6% in 2022 to 16.9% in 2023. Until mid-2024, of the 101,364 children under five, 91,301 children under five have been measured and 271 of them have been identified as stunted. Despite the decline, the local government's target to reduce the prevalence of stunting to 10% by 2025 is still quite challenging. The Langkat Regency Government also strengthened simultaneous intervention programs, such as measuring and weighing toddlers at posyandu, providing additional food, nutrition education, and developing Healthy Kitchens to Overcome Stunting (DASHAT) in Quality Family Villages (KB Villages).

In terms of families, the National Population and Family Planning Agency (BKKBN) highlighted that families at risk of stunting in North Sumatra are still quite high, around 25% in 2024. In Lalat Regency, the family assistance program through the Family Assistance Team (TPK) and the establishment of 43 Family Planning Villages are expected to reduce the number of families at risk of stunting. The results are quite tangible, where the marriage guidance program for brides-to-be aged <20 years succeeded in reducing the number of early marriages from 1,147 cases to 298 cases within two years, and followed by a decrease in the number of families at risk of giving birth to stunted children from 84,984 to 37,908 families.

The Central Statistics Agency (BPS) also provides an important overview related to the phenomenon of child marriage in Langkat. Based on survey data, the proportion of women aged 15-49 years who gave

birth to their first child at the age of <20 years is still quite high. This figure shows that the practice of early marriage in Langkat Regency is still ongoing, especially in rural areas with low socio-economic backgrounds[8]. This data corroborates that social and cultural factors still have a major influence on the practice of early marriage which has a direct impact on the high risk of stunting[9].

A number of scientific studies in Langkat Regency have also strengthened the relationship between early marriage and stunting. Research in Pantai Cermin Village found that mothers who get married at a young age tend to have limited nutritional knowledge, so that the parenting and nutritional fulfillment of children is not optimal. Another study at the Gebang Health Center showed that babies with low birth weight (BBLR)—which is more common in adolescent mothers—were closely related to the incidence of stunting. Spatial studies also show that Secanggang sub-district is projected to have the highest prevalence of stunting, while West Berandan has the lowest, so it requires different intervention priorities[10].

Within the legal framework, efforts to prevent early marriage have been regulated through Law Number 16 of 2019 concerning Amendments to Law Number 1 of 1974 concerning Marriage, which sets the minimum age of marriage at 19 years for both men and women. Child protection is also strengthened through Law Number 35 of 2014, which affirms the right of every child to grow and develop optimally. Meanwhile, efforts to accelerate stunting reduction are regulated in Presidential Regulation Number 72 of 2021, which emphasizes cross-sectoral interventions ranging from adolescents, brides-to-be, pregnant women, to children under five[11].

Early marriage in Langkat Regency is still interpreted positively by the community. Most respondents consider it as a form of maintaining family honor, avoiding slander, or a form of readiness to build a household[12]. From a cultural point of view, marrying young is often seen as a way to accelerate maturity. There are also those who are behind the decision to get married because of love, family pressure, and economic reasons[13].

However, this meaning has implications for increasing children's health risks. The results of the study showed that there was a significant relationship between the age of marriage and the incidence of stunting[14].

Table 4.1 Distribution of Child Stunting Status Based on Mother's Marital Age in Langkat Regency

Mother's Marriage Age	Number of Respondents	Number of Children Experiencing Stunting	Number of Children Who Are Not Stunted	Stunting Percentage (%)
15 Years	4	3	1	75,0
16 Years	13	7	6	53,8
17 Years	8	1	7	12,5
18 Years	5	0	5	0,0
Total	30	11	19	36,7

Table 4.2 Chi-Square Test Results of the Relationship between Marital Age and Stunting Status

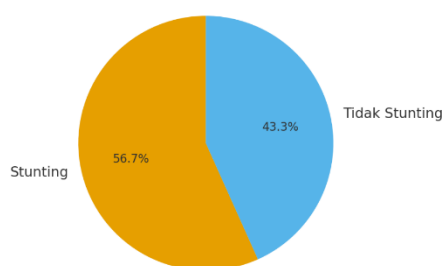
Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.090 ^a	3	.028
Likelihood Ratio	10.958	3	.012
Linear-by-Linear Association	8.317	1	.004
N of Valid Cases	30		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is 1.47.

The results of the analysis using the Chi-Square test showed a significant relationship between the age of marriage and the incidence of stunting, with values $\chi^2 (3, N = 30) = 9.090$ and $p = 0.028$ ($p < 0.05$). This means that the younger a mother is when she gets married, the higher the risk of her child stunting. This finding is also supported by a linear-by-linear association test which yields $p = 0.004$, showing a linear tendency, that is, the higher the age of marriage, the prevalence of stunting decreases.

The distribution of data shows that at the age of 15 years of marriage, 75% of children are stunted, at the age of marriage 16 years is 53.8%, the age of marriage is 17 years of age it decreases drastically to 12.5%, and at the age of marriage is 18 years old there are no cases of stunting. The strength of the relationship shown through Cramer's value $V = 0.550$ indicates associations with moderate to strong categories. Thus, the age of marriage can be considered as one of the important risk factors in the incidence of stunting.

Nevertheless, it should be noted that 75% of cells in the table have an expected count of less than 5 (minimum = 1.47). This condition indicates a violation of the Chi-Square test assumptions, so the test results must be interpreted carefully. Therefore, advanced analysis such as the Fisher's Exact test or the incorporation of marriage age categories with a small sample count is highly recommended to make the results more valid.



Graph 1. Percentage of Stunting Status of Children Under Five

These findings confirm that although society views early marriage as a good thing, biologically young mothers are not ready to have a pregnancy. A body that is still growing makes the nutritional needs of the mother and fetus compete with each other. From a psychological perspective, emotional immaturity affects child-rearing patterns. Economically, early marriage often occurs in families with limited resources, so the nutritional quality of children is neglected. These things increase the risk of stunting in children.

The findings of this study reveal a significant association between early marriage and stunting, as evidenced by the distribution of data and the Chi-Square statistical test. However, this phenomenon does not occur in isolation; it is shaped by confounding factors such as socio-economic status, maternal education, and access to healthcare services. Mothers from low-income or low-education backgrounds tend to have limited nutritional knowledge and inadequate parenting practices, which increase the likelihood of their children experiencing stunting. Thus, early marriage in Langkat should be understood as a product of the intersection between social, cultural, and economic conditions that collectively heighten the risk of stunting among children[15].

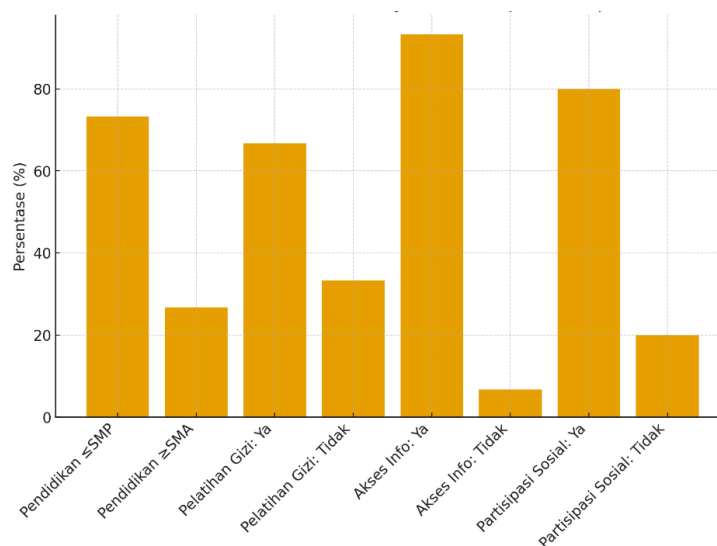
To address these challenges, a more comprehensive and integrated intervention is required. First, community-based counseling programs should be strengthened by involving healthcare workers, religious leaders, and community figures to expand reproductive health literacy and raise awareness about the risks of early marriage. Second, school-based awareness campaigns need to be reinforced by incorporating reproductive health and stunting prevention into the curriculum, while equipping teachers and students with adequate knowledge[16]. Third, economic empowerment initiatives for young women should be prioritized, including vocational training, entrepreneurship programs, and access to microfinance, in order to reduce the economic pressures that often drive early marriage. By combining health, education, legal, and economic strategies, the local government can implement a holistic approach to breaking the cycle of early marriage and stunting in Langkat Regency.

The Role of Women's Empowerment as a Strategy to Prevent Early Marriage and Reduce Stunting

Women's empowerment has a central role in breaking the cycle of early marriage and stunting. The results of the study show that women in Langkat Regency already have access to health information and posyandu services, but are not yet fully independent in family decision-making.

Table 4.3 Distribution of Respondents' Women's Empowerment Indicators

Indicators	Category	Number of Respondents	Percentage (%)
Routine to Posyandu	Yes	26	86,7
	Not	4	13,3
Have Attended Nutrition/Health Training	Yes	20	66,7
	Not	10	33,3
Access Health Information	Yes	28	93,3
	Not	2	6,7
Social Participation (PKK/Posyandu/Arisan)	Yes	24	80,0
	Not	6	20,0
Decision-Making Related to Children's Health	Husband	12	40,0
	Family (in-laws/parents)	11	36,7
	Mother Herself	7	23,3
The Level of Mother's Control in Decision Making	Very Large	22	73,3
	Enough	7	23,3
	Not at all	1	3,3

**Graph 2. Respondent Women's Empowerment Indicators**

The results showed that most of the respondents routinely brought their children to the posyandu (86.7%), while only 13.3% did not routinely. This indicates that there is a fairly high awareness from mothers of the importance of checking children's growth and development through posyandu services. In addition, more than half of the respondents (66.7%) had attended nutrition or health training, while 33.3% had never received one. This data indicates that although most have received education, there are still a third of mothers who have not received training opportunities, potentially affecting their understanding of child nutrition.

Access to health information also appears to be very good, with 93.3% of respondents stating that they have access to the internet, media, or health workers, while only 6.7% do not have access. This condition can be an important capital in increasing mothers' knowledge related to children's health and nutrition. Social participation, such as involvement in PKK, posyandu, or social gathering activities, is also quite high with 80% of respondents actively participating, and only 20% being inactive[17]. This involvement shows that there is a forum for social interaction that can support the improvement of health literacy at the community level[18].

In terms of decision-making related to children's health, the distribution shows that the dominant role is still held by husbands (40%) and families/in-laws (36.7%), while only 23.3% of mothers make decisions

independently. This confirms that children's health decisions are still greatly influenced by other figures in the family, so that the mother's independence in this aspect has not been fully realized[19]. However, when viewed from the level of control of mothers in decision-making, most respondents (73.3%) felt that they had very much control, 23.3% considered it sufficient, and only 3.3% stated that they had no control at all. These findings show that there is a strong potential for empowerment in mothers, although in practice they still often share roles with husbands or families[20].

Based on the theory of Naila Kabeer (1999), women's empowerment includes three main dimensions, namely resources, agency, and achievement. In the context of this study, these three aspects have not been fully fulfilled in the respondents[21]. Most mothers already have resources in the form of access to health information, posyandu facilities, and opportunities to participate in nutrition training, but the ability to act independently is still limited because the dominance of decision-making is often in the hands of the husband or family[22]. This causes women to not be fully able to determine the best choices related to the health and nutrition of their children[23].

The phenomenon of early marriage in Langkat Regency can be understood as part of structural inequality[24]. Young women are often victims of cultural norms that emphasize family honor, economic pressures that encourage marriage as a way out, and weak legal protections. These factors make early marriage considered natural, even though this practice actually has an impact on the high rate of stunting. For this reason, stunting prevention must be carried out from the upstream by strengthening reproductive health education, enforcing marriage age limit regulations, and integrating women's empowerment programs in regional development[25].

Within the framework of Indonesian law, the protection of children from the practice of early marriage has been regulated through Law Number 16 of 2019 concerning Amendments to Law Number 1 of 1974, which sets the minimum age of marriage at 19 years for both men and women. This rule is designed to prevent the negative impact of child marriage, including the risk of stunting[26]. In addition, Law Number 35 of 2014 concerning Child Protection emphasizes that every child has the right to grow and develop optimally, so the state is obliged to prevent practices that inhibit such growth[27]. This policy is strengthened by Presidential Regulation Number 72 of 2021 concerning the Acceleration of Stunting Reduction, which emphasizes a multisectoral approach in reducing the prevalence of stunting[28].

Thus, stunting cannot be seen only as a nutritional or medical problem, but also as a gender, legal, and social justice issue[29]. Effective interventions should include a medical approach through health services and nutrition education, a social approach through women's empowerment, and a policy approach with legal protections for the age of marriage[30]. The findings of this study reinforce that postponing the age of marriage and strengthening the role of women in households and society is a strategic step to break the cycle of stunting across generations[31].

In particular, women's empowerment has been proven to provide real benefits, including:

1. Postponing the age of marriage, so that women are better prepared physically, mentally, and economically before entering the role of wife and mother.
2. Reduce the risk of stunting, through improving nutritional knowledge, parenting skills, and the use of health services.
3. Improving the quality of future generations, by strengthening women's education and social participation in community development.

In addition to impacting children, early marriage also carries serious risks for women[32]. In terms of reproductive health, pregnancy at a young age increases the likelihood of complications such as bleeding, anemia, preeclampsia, and maternal and infant death[33]. From a psychological perspective, adolescent women tend to be emotionally immature, so they are more susceptible to experiencing stress, depression, or baby blues when facing big responsibilities in the household[34].

From a socio-economic perspective, early marriage generally makes women have to stop formal education, limit employment opportunities, and increase financial dependence on their husbands or families[35]. This condition increases vulnerability to domestic violence (KDRT), due to emotional immaturity and unequal roles in marital relationships[36].

Furthermore, early marriage has the potential to perpetuate the cycle of poverty across generations. Women who marry early tend to give birth to children with low nutritional status, thus increasing the risk of stunting[37]. This has an impact on the quality of human resources in the future, while strengthening the cycle of poverty that is difficult to break[38].

Early marriage not only causes short-term impacts in the form of maternal and child health risks, but also triggers long-term impacts in the form of stunting, low generational quality, and the continuation of the cycle of poverty. Therefore, women's empowerment is a key strategy that not only targets health and education, but also involves legal regulation, social protection, and strengthening women's participation in community development[39].

Looking at these various data and regulations, it is clear that stunting in Langkat Regency is not only caused by medical and nutritional factors, but also influenced by social, cultural, economic, and legal factors[40]. The practice of early marriage increases the risk of stunting through the mother's physical immaturity, limited nutritional knowledge, and lack of women's independence in family decision-making[41]. On the other hand, women's empowerment is an important key in prevention, because it can delay the age of marriage, increase nutritional literacy, and strengthen the role of mothers in caring for and making decisions related to children's health[42]. With comprehensive intervention, it is hoped that Langkat Regency can achieve the target of reducing stunting in accordance with the national development agenda while producing a healthier and quality generation.

Women's empowerment plays a crucial role in breaking the cycle of early marriage and stunting. This study shows that while most respondents already have access to health information, posyandu services, and community forums such as PKK or social gatherings, their independence in making decisions regarding their children's health remains limited, as such decisions are still largely dominated by husbands or extended family members. This reflects a gap in empowerment: although resources are available, women's agency and achievements have not yet been fully realized. Referring to Naila Kabeer's empowerment framework, the resource dimension appears relatively adequate, but agency and achievement remain weak, limiting mothers from making independent decisions for the health and nutrition of their children[17].

Several strategic measures can be taken to strengthen women's empowerment. First, community support groups such as PKK, posyandu cadres, and women's cooperatives can be optimized as platforms for education, solidarity, and advocacy among young mothers. Second, empowerment initiatives should be integrated into formal policies, particularly through the strict enforcement of minimum marriage age regulations and the expansion of reproductive health education programs. Third, cross-sectoral collaboration between the Health Office, Education Office, and the Ministry of Religious Affairs is essential to ensure consistent premarital counseling and awareness campaigns. Fourth, economic interventions targeting adolescent girls and young mothers such as life skills training and access to small business capital should be developed to reduce economic dependency, which often drives early marriage. In this way, women's empowerment not only helps delay the age of marriage but also strengthens maternal capacity in childcare and contributes to improving the quality of future generations[42].

4. CONCLUSION

Based on the results of the study, it can be concluded that stunting is a complex public health problem influenced by nutritional, health, social, cultural, economic, and legal factors. The findings confirm that early marriage significantly increases the risk of stunting, while women's empowerment emerges as a key strategy to delay the age of marriage, improve parenting practices, and reduce the prevalence of stunting in the community. Although early marriage is still perceived positively in certain cultural contexts, the evidence highlights its negative consequences on maternal reproductive health, child development, and the long-term quality of human resources.

From a policy perspective, this study underscores the need for multisectoral interventions, including the strengthening of adolescent reproductive health education, improvement of maternal nutrition literacy, and collaboration among the health, education, and religious affairs offices. Women's empowerment through expanded access to education, health and nutrition information, and greater independence in decision making can play a pivotal role in breaking the cycle of early marriage and stunting. In line with Naila Kabeer's empowerment framework, strengthening resources, agency, and achievements among women is highly relevant in this context.

Therefore, efforts to combat stunting in Langkat Regency should not only focus on medical and nutritional interventions, but also integrate social and legal strategies that address early marriage prevention, child protection, and comprehensive women's empowerment. With a consistent multisectoral approach, the target of reducing stunting prevalence by 10 percent by 2025 is expected to be achievable, while fostering the growth of a healthier, smarter, and more competitive generation.

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