Knowledge Attitudes and Practices Regarding Stunting Prevention among Women of Childbearing Age

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Abstract. Stunting remains a major public health issue in developing countries, including Indonesia. This study aims to examine the relationship between respondent characteristics—namely age, education, parity, occupation, pregnancy conditions, having toddlers, and exposure to stunting information—and the knowledge, attitudes, and behaviors related to stunting prevention among women of childbearing age in Majalaya Village, Cikalongkulon, Cianjur Regency, West Java Province. The sampling technique used was non-probability sampling, specifically convenience sampling, resulting in a sample of 50 women of childbearing age. Data were collected using questionnaires. Data analysis was conducted using bivariate analysis, namely the chi-square test, with a significance level of 95%. The study found significant relationships between several factors and stunting prevention indicators: age and stunting prevention knowledge (p-value = 0.001; OR = 0.985; 95% CI = 0.297–3.263), stunting information and knowledge (p-value = 0.0001; OR = 9.778; 95% CI = 2.659–35.949), education and attitudes towards stunting prevention (p-value = 0.019; OR = 0.163; 95% CI = 0.032–0.831), stunting information and attitudes (p-value = 0.0001; OR = 18.778; 95% CI = 3.533–99.908), education and prevention behaviors (p-value = 0.002; OR = 0.097; 95% CI = 0.019–0.493), and stunting information and prevention behaviors (p-value = 0.001; OR = 8.050; 95% CI = 2.194–29.537). The study recommends enhancing health education about stunting, increasing access to stunting-related information, and empowering communities to foster behavioral change for stunting prevention..

Keywords: Knowledge, Attitude, Behavior, Stunting.

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1 Introduction

Stunting continues to be a significant public health issue in low and middle income countries, including Indonesia, as it affects children's health outcomes such as morbidity and mortality. It also serves as a critical indicator for assessing the future quality of human resources[1],[2]. Stunting impacts both immediate and long-term health outcomes in children, leading to adverse effects on economic productivity through impaired physical development, reduced work capacity, reproductive health challenges, and a higher risk of chronic diseases. A common misconception persists that short stature is purely a genetic trait, which hinders efforts to address stunting. Overcoming this misconception requires concerted efforts from local governments and multiple relevant sectors to implement effective interventions[5].

According to data from the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO), approximately 151 million children are affected by stunting, representing 22.2% of the global child population. The prevalence of stunting is notably higher in low-income countries (16%) and lower-middle-income countries (47%) compared to 27% in upper-middle-income countries and 10% in high-income countries[6]. Indonesia has made progress in reducing early childhood mortality rates, however, the prevalence of stunting remains among the highest in the world. This issue has long-term implications for health, human development, poverty, and inequality. According to the Indonesian Nutrition Status Survey (SSGI), the stunting rate in Indonesia was 21.6% in 2022. Although this reflects a decrease from 24.4% in 2021, the rate is still considered relatively high. A stunting prevalence above 20% is regarded as a critical public health concern [7].

One of the Indonesian government’s key efforts to reduce stunting is outlined in the Roadmap for Accelerating Stunting Prevention in Indonesia for 2018 to 2024. The government has set a target to reduce the prevalence of stunting among children under five to 14% by 2024 [8]. The stunting rate in West Java Province is 20.1%, while in Cianjur Regency it stands at 13.6%. Although both figures are lower than the national stunting rate in Indonesia, they still fall short of West Java’s target for achieving zero stunting. One of the areas in the province that has become a focal point for stunting prevention efforts is Majalaya Village, located in Cikalongkulon, Cianjur Regency [9]. Childhood stunting can result in impaired cognitive development, lower academic achievement, and reduced productivity and earnings in adulthood. Preventing stunting is essential in addressing all forms of malnutrition, which is one of the key objectives of the Sustainable Development Goals. A critical preventive measure involves focusing on the first 1,000 days of life, starting from the early stages of pregnancy [10].

Findings from a previous study indicated a significant relationship between maternal education and the incidence of stunting, with a p-value of 0.03. Mothers with low levels of education were 3.182 times more likely to have a child with stunting compared to mothers with higher education [11]. One of the key strategies to prevent stunting is by addressing all forms of malnutrition, which is also a target of the Sustainable

Development Goals. An effective window for stunting prevention is during the first 1,000 days of life, beginning with the mother's pregnancy. Women of childbearing age are the primary target in efforts to reduce stunting. If women in this group possess strong knowledge, positive attitudes, and appropriate behaviors toward stunting prevention, it will significantly contribute to accelerating the reduction of stunting [12].

This study aims to examine the relationship between respondent characteristics consisting of age, education, parity, occupation, pregnancy conditions, presence of toddlers, and stunting information with knowledge, attitudes, and behaviors related to stunting prevention among women of childbearing age in Majalaya Village, Cikalongkulon, Cianjur Regency, West Java Province. The results of this study are expected to serve as a recommendation for local governments to develop appropriate intervention methods to achieve the stunting reduction target.

2 Method

This study uses a cross sectional research design. The population consists of women of childbearing age in Majalaya Village, Cikalongkulon, Cianjur, West Java. The sampling technique employed is non probability sampling, specifically convenience sampling, resulting in a sample of 50 women of childbearing age from the village. Data were collected using a questionnaire that included demographic characteristics, sources of information related to stunting, and items assessing knowledge, attitudes, and behaviors toward stunting prevention among women of childbearing age. The data collection method involved interviews and was conducted from June to August 2024.

Data analysis includes both univariate and bivariate approaches. Univariate analysis was used to determine the frequency distribution of respondent characteristics, knowledge, attitudes, and behaviors related to stunting prevention. Bivariate analysis was conducted using the chi square test with a significance level of 0.95 percent ($\alpha = 0.05$) to examine the relationship between independent variables (age, education, occupation, parity, pregnancy conditions, presence of toddlers, and access to stunting information) and dependent variables (knowledge, attitudes, and behaviors related to stunting prevention).

Knowledge of stunting prevention was assessed through 10 true or false questions and categorized into two groups: good knowledge and poor knowledge. Attitudes were measured using 10 Likert scale items. Behavior was measured using 10 questions with response options of always, often, rarely, and never, and categorized into two groups: positive behavior and negative behavior. Data analysis was performed using IBM SPSS Statistics 24 software.

3 Result

The respondents in this study consisted of 50 women of childbearing age from Majalaya Village, Cikalongkulon, Cianjur, West Java Province. The frequency distribution of respondent characteristics is presented in Table 1 below.

Table 1. Frequency distribution of characteristics of women of childbearing age

Variables	Frequency(n)	Percentage (%)
Age		
20-35 years	34	68
< 20 or > 35 years	16	32
Education		
Pre-elementary	4	8
Junior high School	27	34
Senior high School	19	38
Work		
Unemployed	47	94
Employed	3	6
Parity		
Nulliparous	6	12
Primipara	21	42
Multipara	23	46
Pregnancy conditions		
Pregnant	26	52
Not pregnant	24	48
Having a toddler		
Yes	23	46
No	27	54
Stunting information		
Ever received	28	56
Never received	22	44
Knowledge		
Good Knowledge	28	56
Poor Knowledge	22	18
Attitude		
Positive	35	70
Negative	15	30
Behavior		
Positive	31	62
Negative	19	38

Based on Table 1, the frequency distribution of respondent characteristics shows that the age of women of childbearing age was grouped into two categories: those aged 20 to 35 years and those younger than 20 or older than 35 years. The majority of respondents were in the 20 to 35 age group, totaling 34 individuals (68 percent). In terms of education, the largest group had completed junior high school, accounting for 27 respondents (54 percent). Most respondents did not work, with 47 individuals (94 percent) reporting no employment. Regarding parity, the highest number of respondents were multiparous, with more than two children, totaling 23 individuals (46 percent).

A total of 26 respondents (52 percent) were pregnant at the time of the study, while 23 respondents (46 percent) had toddlers. In terms of access to stunting information, 28 respondents (56 percent) reported having received information related to stunting. Similarly, 28 respondents (56 percent) demonstrated good knowledge about stunting prevention. The majority of respondents, 35 individuals (70 percent), showed a positive attitude toward preventing stunting, and 31 respondents (62 percent) displayed positive behavior in stunting prevention.

Table 2. Relationship between Characteristics of Women of Childbearing Age and Knowledge of Stunting Prevention

Variables	Knowledge				*p-value*	OR	95% CI
	Good		Poor				
	n	%	n	%			
Age							
20-30 years	19	38	15	30	**0.001**	0.985	0.297
< 30 or > 35 years	9	18	7	14			
Education							
Elementary School	2	4	2	4	0.166	0.433	0.131-
Junior high School	15	30	12	24			
Senior High School	13	26	6	12			
Work							
Employed	2	4	1	2	0.701	1,615	0.137
Unemployed	26	52	21	42			
Parity							
Nulliparous	3	6	3	6	0.075	0.350	0.109
Primipara	9	18	12	24			
Multipara	16	32	7	14			
Pregnancy Conditions							
Pregnant	13	26	13	26	0.374	0.6	0.194
Not pregnant	15	30	9	18			
Having a Toddler							
Yes	16	32	7	14	0.075	2,857	0.888
No	12	24	15	30			
Stunting information							
Ever received	22	44	6	12		9,778	2,659

Never received	6	12	16	32	0.000 1

Based on Table 2, which presents the relationship between the characteristics of women of childbearing age and knowledge of stunting prevention, there is a significant relationship between age and knowledge of stunting prevention (p value = 0.001; OR = 0.985; 95% CI = 0.297 to 3.263). A significant relationship was also found between access to stunting information and knowledge of stunting prevention (p value = 0.0001; OR = 9.778; 95% CI = 2.659 to 35.949). However, no significant relationship was observed between knowledge and the following characteristics: education, employment, parity, pregnancy conditions, and having a toddler.

Table 3. Relationship between characteristics of women of childbearing age and attitudes toward stunting prevention

Variables	Attitude				*p-value*	OR	95% CI
	Positive		Negative				
	n	%	n	%			
Age							
20-35 years	24	48	10	20	0.895	1,091	0.301-3.959
< 20 or > 35 years	11	22	5	10			
Education							
Elementary School	2	4	2	4	0.019	0.163	0.32-0.831
Junior high School	17	34	10	20			
Senior high School	17	34	2	4			
Work							
Employed	2	4	1	2	0.897	0.848	0.071-10.137
Unemployed	33	66	14	28			
Parity							
Nulliparous	3	6	3	6			
Primipara	13	26	8	16	0.073	0.306	0.82-1.150
Multipara	19	38	4	8			
Pregnancy Conditions							
Pregnant	16	32	10	20	0.174	0.421	0.119-1.489
Not Pregnant	19	38	5	10			
Having a Toddler							
Yes	19	38	4	8	0.073	3,266	0.869-12.268
No	16	32	11	22			
Stunting information							
Ever received	26	52	2	13	0.0001	18,778	3,533-99,908
Never received	9	18	13	26			

Based on Table 3, which presents the relationship between the characteristics of women of childbearing age and attitudes toward preventing stunting, there is a significant relationship between education and attitudes toward stunting prevention (p value = 0.019; OR = 0.163; 95% CI = 0.32 to 0.831). A significant relationship was also found between access to stunting information and attitudes toward stunting prevention (p value = 0.0001; OR = 18.778; 95% CI = 3.533 to 99.908). However, no significant relationship was observed between attitudes and the following characteristics: age, occupation, parity, pregnancy condition, and having a toddler.

Table 4. Relationship between characteristics of women of childbearing age and stunting prevention behavior

Variables	Behavior				*p-value*	OR	95% CI
	Positive		Negative				
	n	%	n	%			
Age							
20-35 years	22	44	12	24	0.566	1,426	0.424-4.794
< 20 or > 35 years	9	18	7	14			
Education							
Elementary School	1	2	3	6	**0.002**	**0.097**	**0.19-0.493**
Junior High School	14	28	13	26			
Senior High School	17	34	2	4			
Work							
Employed	2	4	1	2	0.864	1,241	0.105-14.697
Unemployed	28	58	18	36			
Parity							
Nulliparous	2	4	4	8			
Primipara	12	24	9	18	0.109	0.38	0.115-1.26
Multipara	17	34	6	12			
Pregnancy Conditions							
Pregnant	14	28	12	24	0.216	0.48	0.149-1.548
Not pregnant	17	34	7	14			
Having a Toddler							
Yes	17	34	6	12	0.109	2,631	0.794-8.721
No	14	28	13	26			
Stunting information							
Ever received	23	46	5	10	**0.001**	**8,050**	**2,194-29,537**
Never received	8	16	14	28			

Based on Table 4, which presents the relationship between the characteristics of women of childbearing age and stunting prevention behavior, there is a significant relationship between education and stunting prevention behavior (p value = 0.002; OR = 0.097; 95% CI = 0.19 to 0.493). A significant relationship was also found between access to stunting information and stunting prevention behavior (p value = 0.001; OR

= 8.050; 95% CI = 2.194 to 29.537). However, no significant relationship was observed between behavior and the following characteristics: age, occupation, parity, pregnancy conditions, and having a toddler.

4 Discussion

Based on the research findings, there is a relationship between age and knowledge of stunting prevention among women of childbearing age (OR = 0.985; 95% CI = 0.297 to 3.263). Respondents aged 20 to 35 years demonstrated better knowledge in preventing stunting compared to those younger than 20 or older than 35. Healthy reproductive age refers to the period during which individuals are most receptive to learning and intellectual development, typically between 20 and 35 years. This age range is also considered the safest for pregnancy and childbirth, increasing the likelihood of delivering healthy children[12].

A study conducted in Tolikara Regency found that the incidence of stunting in children under two years old was more prevalent among those born to mothers aged 20 or younger. Teenage mothers (aged 20 years or younger) are at a higher risk of giving birth to stunted children compared to mothers within the healthy reproductive age range of 20 to 34 years [13]. Individuals aged 20 to 35 years are generally considered to have adequate life experience, a more developed way of thinking, and better knowledge regarding how to provide appropriate complementary foods for their babies, which contributes to stunting prevention. Information sources play a crucial role in increasing knowledge about stunting prevention. In this study, there was a significant relationship between access to stunting information and knowledge of stunting prevention (p value = 0.0001; OR = 9.778; 95% CI = 2.659 to 35.949). Stunting information is essential in raising public awareness, particularly among women of childbearing age, about the importance of prevention and the actions that can be taken. This information often includes explanations of the long-term impacts of stunting on children's physical and cognitive development. With this understanding, parents become more aware of the long-term health and socio economic risks associated with stunting and are more motivated to seek information on how to prevent it.

The study conducted by Sari et al. (2021) found that early detection education for stunting can significantly improve mothers' knowledge regarding the prevention of stunting in children aged 0 to 24 months. The study emphasizes the importance of providing regular education through both health center nutrition officers and integrated health post cadres as a strategic effort to prevent stunting [12]. The results of a study by Saaka et al. (2021) show that mothers with good nutritional knowledge are a vital resource, as they are more capable of providing proper care to support optimal growth and development in their children. The attitude of women of childbearing age is also a key factor in preventing stunting. In this study, a significant relationship was found between maternal education and attitudes toward stunting prevention (p value = 0.019;

OR = 0.163; 95% CI = 0.32 to 0.831). Mothers with a senior high school education or higher tended to have more positive attitudes toward preventing stunting. Similarly, a study by Astuti (2021) demonstrated a relationship between maternal education, maternal nutritional knowledge, and the incidence of stunting in toddlers. Mothers with higher levels of education generally possess greater knowledge about the importance of balanced nutrition, appropriate feeding practices for infants and children, and the nutritional requirements during childhood growth and development. As a result, they are more likely to adopt a positive attitude toward stunting prevention. Additionally, research by Anggraeni et al. (2022) on the direct and indirect causes of stunting in toddlers found that maternal education and knowledge serve as indirect contributing factors to stunting [16]. The study by Bukari et al. (2020) in Tamale City, Ghana, found that stunting and wasting were significantly associated with maternal education. Mothers with higher levels of education tend to have a better understanding of child nutrition and health. This knowledge includes awareness of the importance of balanced nutritional intake, exclusive breastfeeding, and regular monitoring of child growth. When mothers understand the significance of good nutrition, they are more likely to provide appropriate food for their children, which can help prevent both stunting and wasting. Overall, higher maternal education has a positive impact on the prevention of stunting and wasting by improving the quality of care, nutritional practices, access to health services, and decision-making related to child health [17].

Another study conducted in Wolkite Town, Gurage Zone, Central Ethiopia, by Kasse et al. (2024) found that mothers with higher levels of education tend to engage in better feeding practices for their children. Maternal education often influences a mother's ability to care for and nurture her children effectively. For instance, mothers with more education are typically more responsive to their children's needs in terms of nutrition, stimulation, and health care. These caregiving skills play a crucial role in preventing malnutrition, which can lead to conditions such as wasting and stunting [18]. In addition to increasing knowledge about stunting prevention, this study found that sources of information also influenced the attitudes of women of childbearing age toward preventing stunting (p value = 0.0001; OR = 18.778; 95 percent CI = 3.533 to 99.908). When women of childbearing age have access to reliable and easily accessible sources of information, such as social media, public health services, or community-based counseling, they are more likely to receive accurate information about stunting prevention and tend to develop a positive attitude toward prevention efforts.

A study conducted in three provinces in Indonesia showed that mothers who have internet-enabled devices are more likely to be exposed to mass media campaigns aimed at reducing stunting and tend to demonstrate positive behavioral changes compared to mothers without internet access. These findings highlight the potential of mass media as a tool for future public health information efforts, particularly in rural areas of Indonesia and similar regions, to influence maternal health behaviors that contribute to stunting reduction [19].

Maternal education not only influences the attitudes of women of childbearing age in preventing stunting but also affects their behavior. In this study, women of childbearing age who had completed senior high school were more likely to exhibit positive behaviors in stunting prevention (p value = 0.002; OR = 0.097; 95 percent CI = 0.19 to 0.493). A related study on the factors influencing the prevalence of malnutrition in India found that approximately 54 percent of adolescents were stunted and 49 percent were underweight. The study showed that maternal education had a significant and negative association with malnutrition [4]. Higher education enhances the understanding of women of childbearing age regarding the importance of maintaining overall health, particularly during pregnancy and the preparation for pregnancy. Women with secondary and higher education are more likely to be aware of the specific nutritional needs required to support fetal health and prevent malnutrition, which can increase the risk of stunting beginning in the womb. As a result, they are more inclined to adopt positive behaviors toward stunting prevention.

In this study, there was a significant relationship between access to stunting information and stunting prevention behavior (p value = 0.001; OR = 8.050; 95 percent CI = 2.194 to 29.537). Women of childbearing age who received information about stunting prevention were eight times more likely to exhibit positive behaviors in preventing stunting compared to those who did not receive such information. Information sources can also influence preventive behavior through social support. For example, a community or group of mothers who share information about child health can help foster positive patterns of preventive behavior within the group. Human behavior is shaped not only by knowledge but also by attitudes. A positive perception or attitude toward a particular issue can significantly influence behavior, including actions taken to prevent stunting. A favorable attitude toward stunting prevention can motivate health workers to collaborate with mothers of young children in addressing risk factors for stunting within their families [20].

Providing information about stunting can help improve behaviors to prevent it, as it offers a more detailed and comprehensive understanding to the community, particularly parents. Understanding the causes of stunting, such as inadequate nutrition, poor diet, unsanitary conditions, and frequent infections, enables parents to identify what to avoid or improve in their child rearing and nutrition practices.

5 Conclusion

According to the study's findings, there is a connection between healthy reproductive age and knowledge of stunting prevention, as well as between education and access to stunting information in shaping attitudes and behaviors related to stunting prevention. The study highlights the need for improved health education on stunting, enhanced access to reliable information, and the empowerment of communities to support behavior change aimed at preventing stunting.

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