



ORIGINAL ARTICLE

Maternal Knowledge on Stunting Prevention During Pregnancy Among Pregnant Women in the Tanasitolo Community Health Center Working Area, Indonesia

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ABSTRACT

Introduction: Stunting is a major public health problem characterized by impaired linear growth resulting from chronic undernutrition, with long-term consequences for cognitive development, educational achievement, and future health. Maternal knowledge during pregnancy plays an important role in preventing stunting by promoting appropriate nutritional practices and healthy behaviors. **Objectives:** This study aimed to describe the level of knowledge regarding stunting prevention among pregnant women in the working area of Tanasitolo Primary Health Center, Wajo Regency, Indonesia. **Methods:** A descriptive cross-sectional study was conducted involving 187 pregnant women selected using simple random sampling. Data were collected using a validated and reliable questionnaire and analyzed using descriptive statistics with frequency distributions and percentages. **Results:** Overall, 40.1% of respondents had poor knowledge regarding stunting prevention, while 35.8% had good knowledge and 24.1% had moderate knowledge. Respondents demonstrated good knowledge of the definition (77.5%) and signs (82.4%) of stunting. However, knowledge regarding the causes of stunting remained limited, with 47.1% of respondents categorized as having poor knowledge. **Conclusions:** A considerable proportion of pregnant women had inadequate knowledge regarding stunting prevention, particularly concerning the causes of stunting. These findings highlight the need to strengthen health education during antenatal care to improve maternal knowledge and support stunting prevention.

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1. Introduction

Stunting is a major public health problem characterized by impaired linear growth in children due to chronic undernutrition. Children with stunting have a shorter height than expected for their age and are at greater risk of experiencing poor cognitive development, learning difficulties, reduced productivity, and metabolic disorders later in life. Inadequate nutritional intake during the first 1,000 days of life, beginning from pregnancy, is considered one of the primary causes of stunting. Therefore, maternal knowledge during pregnancy plays a crucial role in supporting appropriate nutritional practices and preventing stunting [1].

According to the World Health Organization (WHO), Burundi recorded the highest prevalence of stunting globally in 2020 (50.9%), followed by Eritrea (49.1%) and Timor-Leste (48.8%) [2]. In Indonesia, the prevalence of stunting decreased from 24.4% in 2021 to 21.6% in 2022 based on the Indonesian Nutritional Status Survey. Nevertheless, this figure remains above the national target of 14.4%, indicating that stunting continues to be a significant public health concern [3]. In South Sulawesi Province, the prevalence increased slightly from 27.2% in 2022 to



27.4% in 2023 [4]. Furthermore, data from the Wajo District Health Office showed that although the total number of stunting cases declined over recent years, the number of cases in the working area of the Tanasitolo Community Health Center remained relatively unchanged, suggesting that stunting prevention efforts require further improvement. Maternal knowledge is an important component of stunting prevention because adequate knowledge can support pregnant women in understanding appropriate nutritional practices and preventive measures [5].

Stunting is a multifactorial condition influenced by nutritional, environmental, socioeconomic, and maternal factors. Maternal nutritional knowledge is therefore considered an important aspect in strategies aimed at reducing stunting in Indonesia [6]. Knowledge related to child nutrition is also associated with mothers' understanding and attitudes toward stunting prevention [7]. Previous research among pregnant women has shown that knowledge regarding stunting remains an important area of concern, particularly in understanding its prevention and potential consequences [8]. Among these, maternal knowledge has consistently been identified as an important determinant because mothers with adequate knowledge are more likely to adopt healthy nutritional behaviors during pregnancy and early childhood. Knowledge about stunting may also influence maternal attitudes and behaviors toward stunting prevention, indicating that improving knowledge is an important component of preventive efforts [9]. Proper antenatal care, adequate iron supplementation, exclusive breastfeeding, and appropriate complementary feeding practices are essential strategies for reducing the risk of stunting [10].

Previous studies have emphasized the importance of maternal knowledge in preventing stunting during pregnancy. [11] reported that educational interventions improved pregnant women's knowledge, while [12] found that although pregnant women understood the concept of stunting, many still lacked comprehensive knowledge of its causes, consequences, and prevention. Health education using specific educational media has also been examined as an approach to improve pregnant women's knowledge about stunting prevention [13]. These findings consistently suggest that maternal knowledge remains inadequate. The level of knowledge among pregnant women may be influenced by several factors, including educational background and access to health information [14]. Audiovisual-based health education has similarly been reported as an approach for increasing pregnant women's knowledge regarding stunting [15]. However, most previous studies focused on educational interventions or perceptions, with limited evidence describing baseline maternal knowledge in specific local settings where stunting remains prevalent. Therefore, assessing maternal knowledge in the Tanasitolo Community Health Center working area is important to provide baseline evidence for developing targeted health education programs.

However, previous studies primarily focused on evaluating knowledge after educational interventions or exploring pregnant women's perceptions of stunting. Limited evidence is available regarding the current level of maternal knowledge in the Tanasitolo Community Health Center working area, where stunting cases continue to persist despite government prevention programs. This lack of local evidence represents an important research gap because knowledge levels may differ across regions due to variations in educational background, access to health information, and healthcare services.

Assessing the level of knowledge among pregnant women is expected to provide baseline information for planning targeted health education programs. Understanding existing knowledge will help healthcare providers identify educational needs and develop more effective strategies to improve maternal awareness regarding stunting prevention during pregnancy. Therefore, this study was conducted to describe the level of knowledge regarding stunting prevention among pregnant women in the working area of the Tanasitolo Community Health Center.

The findings of this study are expected to contribute to the development of maternal health promotion programs and serve as evidence for healthcare providers and policymakers in designing educational interventions to strengthen stunting prevention efforts. In addition, this



study may provide baseline data for future research on maternal knowledge and stunting prevention in similar settings.

2. Methods

This study employed a descriptive research design with a cross-sectional approach to describe the level of knowledge regarding stunting prevention during pregnancy among pregnant women in the working area of the Tanasitolo Community Health Center. The study was conducted to answer the research question regarding the level of maternal knowledge about stunting prevention during pregnancy in the study area. The study population consisted of pregnant women in the first, second, and third trimesters who resided in the working area of the Tanasitolo Community Health Center. A total of 187 respondents were selected using a simple random sampling technique. Eligible participants were pregnant women in the first, second, and third trimesters who were willing to participate in the study. Pregnant women who declined to participate or were unable to communicate effectively were excluded from the study.

Data were collected using a structured questionnaire that had been tested for validity and reliability. The questionnaire was administered through direct interviews with the respondents after informed consent had been obtained. The collected data were coded and analyzed using descriptive statistics in the form of frequency distributions to describe the respondents' level of knowledge regarding stunting prevention during pregnancy.

3. Results

Table 1 Characteristics of Respondents

Variable	Category	n	%
Age	10–20 years	13	6,9
	21–31 years	148	79,1
	32–41 years	26	13,9
	SD	42	22,5
Educational Background	SMP	56	29,9
	SMA	77	41,2
	Perguruan Tinggi	12	6,4
	PNS	11	5,9
Occupation	Wiraswasta	17	9,1
	Ibu Rumah Tangga	159	85,0
	Trimester I	67	35,8
Pregnanti Trimester	Trimester II	65	34,8
	Trimester III	55	29,4

Table 1 presents the demographic characteristics of the respondents.

Most respondents were aged 21–31 years (79.1%), indicating that the study population was predominantly within the reproductive age group. In terms of educational attainment, 41.2% had completed senior high school, while 85.0% were housewives. Regarding gestational age, the largest proportion of respondents were in the first trimester of pregnancy (35.8%), although the distribution across trimesters was relatively balanced.



Variable	Good (%)	Moderate (%)	Poor (%)
Definition of stunting	77.5	21.9	0.5
Causes of stunting	18.7	34.2	47.1
Impacts of stunting	18.7	43.3	38.0
Sign of stunting	82.4	-	17.6
Prevention of stunting	32.1	31.6	36.4

Table 2. Distribution of Pregnant Women's Knowledge Regarding Stunting Prevention

Table 2 shows variations in respondents' knowledge across the five domains of stunting prevention. The highest proportion of good knowledge was observed for the signs of stunting (82.4%), followed by the definition of stunting (77.5%). In contrast, knowledge regarding the causes of stunting was predominantly poor (47.1%), while knowledge of the impacts (43.3%) and prevention (36.4%) was mainly at the moderate and poor levels, respectively.

4. Discussion

The findings of this study indicate that many pregnant women still have limited knowledge regarding stunting prevention during pregnancy despite the implementation of national stunting prevention programs. This finding suggests that the availability of health programs does not necessarily ensure that essential information is effectively understood by pregnant women. One possible explanation is that health education provided during antenatal care may focus more on routine pregnancy monitoring than on comprehensive counseling about stunting prevention, while differences in educational background and access to reliable health information may further influence knowledge acquisition. Consistent with previous studies by [11] and [12], maternal knowledge gaps remain evident across different settings, indicating that inadequate knowledge continues to be a widespread challenge rather than an issue confined to a single community.

The present study contributes to the existing evidence by providing baseline data on maternal knowledge in the Tanasitolo Community Health Center working area, where local information has previously been limited. Unlike studies that primarily evaluated educational interventions, this study describes the existing level of maternal knowledge before any intervention, thereby identifying specific areas where knowledge remains inadequate, particularly regarding the causes, impacts, and prevention of stunting. These findings may assist healthcare providers in designing more targeted and context-specific educational strategies during antenatal care to improve maternal understanding of stunting prevention.

5. Conclusion

This study demonstrates that maternal knowledge regarding stunting prevention remains inadequate among many pregnant women, particularly in understanding its causes, impacts, and preventive measures. These findings highlight the importance of strengthening maternal health education during pregnancy to address existing knowledge gaps and support more effective stunting prevention efforts. The present study also provides baseline evidence that can inform the development of context-specific educational programs in the Tanasitolo Community Health Center working area.



Author's Contribution Statement:

Marhumi: Conceptualization, Methodology, Investigation, Data Curation, Writing – Original Draft, Supervision. **Eka Wulansari:** Formal Analysis, Validation, Investigation, Writing – Review & Editing. **Rosmiati:** Data Collection, Resources, Visualization, **Ariqahatul Adawiyah. M:** Writing – Review & Editing.

Conflicts of Interest:

The authors declare that there are no conflicts of interest related to this study.

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