

# MATERNAL CHARACTERISTICS AND KNOWLEDGE ON THE RISK OF CHILDHOOD STUNTING AT SIMPANG KAWAT COMMUNITY HEALTH CENTER, JAMBI

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## ABSTRACT

**Background:** Childhood stunting remains a significant public health concern with its short- and long-term negative impacts. In Indonesia, the national prevalence of stunting was estimated at 30.8% and in Jambi Province 30.1% in 2018. Maternal knowledge about stunting contributes to a major role in stunting prevention. This study aimed to determine the maternal characteristics and knowledge on the risk of childhood stunting at Simpang Kawat Community Health Center, Jambi.

**Subjects and Method:** This was a cross-sectional study conducted at Simpang Kawat community health center, Lebak Bandung, Jambi. A total of 306 mothers with toddlers was selected by purposive sampling. The dependent variable was stunting. The independent variable was maternal knowledge. The data were collected by questionnaires. The data were analyzed by chi-square with odds ratio.

**Results:** As many as 68.3% of mothers were 20 to 35 years old. 58.3% were secondary school graduated. 85% were housewives. Lower maternal knowledge increased the risk of childhood stunting (OR= 12.67; 95% CI= 3.68 to 43.61;  $p < 0.001$ ).

**Conclusion:** Lower maternal knowledge increases the risk of childhood stunting.

**Keywords:** childhood stunting, knowledge, mother

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## BACKGROUND

According to WHO in 2012, the threat of nutritional problems experienced by toddlers in the world today is stunting. In 2017, 22.2% or around 150.8 million children under five in the world were stunted. More than half of children stunting in the world come from Asia (55%). Data prevalence of infant stunting collected WHO in the Ministry of Health of Indonesia (2018). Indonesia belongs to the third country with the highest prevalence in Southeast Asia/ South-East Asia Regional (SEAR). On average prevalence of infant stunting in Indonesia in 2005-2017 was 36.4%, meaning that about 8 million

children or one in 3 Indonesian children suffer from suboptimal growth.

Stunting or short is defined as a condition of failure to thrive in infants (0-11 months) and children under five (12-59 months) as a result of chronic malnutrition, especially in the first 1,000 days of life so that the child is too short for his age (Ramayulis, et al. 2018). Undernutrition occurs since the baby is in the womb and the early stages of birth. But stunting only appears after the child is aged 2 years. This impacts the level of intelligence, susceptibility to disease, decreases productivity, and then inhibits economic growth and increases poverty and inequality (Ministry of Finance, 2018).

Basic Health Research Report (2018), Indonesia shows the prevalence of stunting in 2013 (37.2%) and 2018 (30.8%). Meanwhile, Jambi Province has a prevalence of stunting (30.1%). Based on data from the Jambi Provincial Health Office in 2018, the highest percentage of stunting was in West Tanjung Jabung Regency (44%), and the lowest was in Sarolangun Regency (18.8%), for Jambi City, the incidence of stunting (26.2%).

Stunting can be prevented through specific nutritional interventions aimed at the first 1,000 days of life (Ramayulis, et al., 2018). Fulfilment of nutrition and health services for pregnant women, meeting nutritional needs for pregnant women, consumption of protein in the daily menu for toddlers aged over 6 months with protein content according to their age, maintaining sanitation and meeting the needs of clean water and routinely bringing children to attend the posyandu at least once a month. Children under five will be weighed, and their weight and height will be measured so that it will be known regularly whether the toddler is stunted or not (Ministry of Health of the Republic of Indonesia, 2018).

Prevention of stunting according to Ramayulis et al. (2018) through specific nutrition interventions to address nutritional problems in pregnant women, nursing mothers, and children aged 0-23 months by providing nutritional counselling to individuals and families that can help to identify related nutritional health problems, understand the causes of nutritional problems, and help individuals and families solve problems especially regarding stunting. Good mother's knowledge affects mother's behaviour in preventing stunting, starting from giving early initiation of breastfeeding, exclusive breastfeeding, giving complementary foods and

providing nutritious food according to the needs of toddlers.

Maternal knowledge regarding the fulfillment of balanced nutrition for toddlers is important. The mothers can monitor the growth and development of toddlers by providing nutritious food under the growth and development of toddlers so that toddlers achieve normal nutritional status and reduce malnutrition status in toddlers.

Research by Salman et al. (2017) on Buhu Village, Talaga Jaya District, Gorontalo Regency showed if the mother's nutritional knowledge is not good, the toddler's nutritional status is also not good. It was in line with Farah's research (2015) at 3 health centers, namely Patrang, Mangli and Kalisat. One of the factors that influence the incidence of stunting in children under five is the mother's knowledge of nutrition. This study aimed to describe the characteristics and knowledge of mothers under five about the prevention of stunting.

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## **SUBJECTS AND METHODS**

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### **1. Study Design**

The research design used was cross-sectional. The process of collecting, processing and analyzing data was carried out from February to September 2020.

### **2. Population and Sample**

The study population was all mothers who had toddlers aged 0 to 59 months in Lebak Bandung, Jambi City. The sample consisted of 60 mothers of children under five selected by purposive sampling technique, based on inclusion criteria, namely mothers who had children aged 0 to 59 months, residing in the research location and willing to participate in the study.

### **3. Study Variables**

The dependent variable was stunting. The independent variable was maternal knowledge.

### **4. Study Instruments**

Data were collected using a questionnaire covering mothers and toddlers' characteristics, maternal knowledge about stunting prevention, and stunting prevention efforts.

to prevent stunting in toddlers using the chi-square test with a p-value 0.050.

## RESULTS

### A. Sample Characteristics

The characteristics of mothers under five in this study were mothers who had toddlers aged 0 to 59 months, including age, education, occupation, and the number of children could be seen in Table 1.

Table 1 showed most of the age group of mothers under five, namely 31-47 years old and 40 mothers (67%). Most of the maternal education level was middle (67%). Most mothers under five did not work, namely 51 mothers (85%), and some mothers had the same children as 3 people, namely 23 mothers (38%). Knowledge of mothers under five and efforts to prevent stunting. The

### 5. Data Analysis

The data analysis technique used was univariate analysis and bivariate analysis to see the characteristics and relationship between the mother's knowledge and efforts relationship between maternal knowledge and efforts to prevent stunting in toddlers can be seen in Table 2.

Table 2 showed lower maternal knowledge increased the risk of childhood stunting (OR= 12.67; 95% CI= 3.68 to 43.61;  $p < 0.001$ ). Mothers under five who have low knowledge mostly make poor prevention efforts, namely 19 mothers (76%), while mothers under five with high knowledge, most of the efforts to prevent stunting in their toddlers were good, namely 28 mothers (80%). The statistical test results showed that the knowledge of mother's under five about stunting had a significant relationship with efforts to prevent stunting in children under five.

**Table 1. Sample Characteristics (Data Categorical)**

Variables	Categories	Frequency (n)	Percentage (%)
Maternal age (years)	18 - 30	21	35
	31- 47	39	65
Maternal education	Primary	6	10
	Secondary (SMP, SMA and equivalent) degree	40	67
	High (Diploma and Bachelor)	14	23
Maternal occupation	Not work	51	85
	Work	9	15

**Table 2. Relationship between mother's knowledge and prevention of stunting in toddlers**

Knowledge		Prevention Efforts						OR	CI		P-value
		Poor		Good		Total			Lower Limit	Upper Limit	
		f	%	f	%	f	%				
Low		19	76	6	24	25	100	12.67	3.68	43.61	<0.001
High		7	20	28	80	35	100				

## DISCUSSION

This study showed that the age group of mothers under five 31-47 years, namely adulthood. Age can influence the mother's mindset and comprehension in receiving and processing information. Adult age was also said to be mature age and is considered to have better experience and knowledge than someone younger. Besides, adulthood will increase a person's level of thinking so that mature mothers of toddlers will be willing and able to receive information to change health behavior better. Research by Putri et al. (2015) showed that age is one factor that determines the level of knowledge, experience, and motivation of mothers under five, which will affect how mothers behave.

Table 1 showed that most mothers under five had secondary education, namely junior high school and senior high school (67%). Education was a process of learning and training to change one's attitudes and behavior. Notoadmojo (2014) stated that the higher a person's level of education, the easier it is for someone to accept the information provided and implement the information he gets.

Parental education, especially mothers in research in Tanzania and Bangladesh, is associated with stunting in children under five (Chirande et al. 1, 2015; Sarma et al. 1, 2017). This research was in line with the research by Putri et al. (2015), which stated that the education of mothers under five was related to the fulfillment of nutrition for children under five in the working area of the Puskesmas Nanggalo Padang. Maternal education played a very important role in the pattern of care for toddlers because mothers with high and secondary education will find it easier to understand health information and apply it to their toddlers' care compared to mothers with low education.

This study also showed that most of the mothers under five were not working (85%). This study suggested the same thing as the research of Batiro et al. (2017). Most people think that a mother's main task is to take care of the household and care for her toddler. Parenting is a basic need for children to grow and develop optimally. At the toddler stage, toddlers depend on their mothers' care and care. Mothers who do not work are expected to focus on devoting time, love, and nutritious food so that toddlers can grow and develop optimally and avoid stunting.

In Table 2, this study's results indicated that the knowledge of mothers under five had a significant relationship with stunting prevention efforts. This study was in line with Jemide O et al. (2016) 's research that the knowledge of mothers about nutrition was related to stunting status in children under five. Low nutritional knowledge can result in low nutrient intake. In line with Arum et al. (2016), the knowledge of mothers of toddlers about good nutrition can minimize the occurrence of malnutrition in toddlers.

Knowledge is a guide in shaping one's actions (over behavior). So that if the knowledge of the mother of the toddler is low regarding the toddler's nutrition, it will impact the attitudes and behavior of the mother of the toddler in fulfilling the nutrition of the child. This is what causes the number of children under five who experience malnutrition is still a lot. Meanwhile, mothers of toddlers who have high knowledge will show a positive attitude and good behavior in providing healthy nutrition. Nugrahaeni (2018) stated that mothers of toddlers with good knowledge would try their best to meet their toddlers' nutritional needs, and if there are obstacles, they will try to find solutions to overcome them. For example, the mother will grow food in her yard.

The results of this study also showed that the knowledge of mothers under five was high. Efforts to prevent stunting were good because the mothers of toddlers had a secondary and equivalent educational background and matured. Most mothers do not work so that the mothers of toddlers are easy to receive information, process information, and have enough time to practice it to fulfil their toddlers' nutrition as an effort to prevent stunting.

Thus, nurses must take preventive and promotive efforts in health education to increase mothers' knowledge under five to prevent stunting. These study findings showed a significant relationship between the knowledge of mothers under five with efforts to prevent stunting in children under five. Related institutions can use this study's results to carry out various policies and interventions to prevent stunting in children under five. Intervention actions can be carried out to activate the toddler class, provide healthy supplementary food, and health education to increase nutritional knowledge for mothers of toddlers.

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