

Factors Related To The Incidence Of Stunting In Toddlers Aged 24-59 Months In The Region Work Of UPT Puskesmas Sawah Besar Central Jakarta

Ernawati^{1*}, Yurita Mailintina², Khalida Ziah Sibualamu³, Fitri adella⁴, Keisha Ayu⁵

Diploma Three of Nursing, Husda Hospital College of Health Sciences, Central Jakarta, Bachelor of Nursing, Husda Hospital College of Health Sciences, Central Jakarta, Bachelor of Health Administration, Husda Hospital College of Health Sciences, Central Jakarta

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ABSTRACT

The incidence of stunting in toddlers is one of the nutritional problems globally. Based on UNICEF data 2012-2018, the prevalence of stunting in the world reached 28%, in Eastern and Southern Africa by 40%, and in South Asia by 38%. When compared to the limit of "non-public health problem" according to the WHO for stunting problems of 20%, almost all countries in the world experience public health problems. The incidence of stunting in toddlers is more common in developing countries. This is evidenced by the number of stunting prevalence in toddlers in developing countries of 30%. Children will be stunted in their growth due to a lack of adequate food intake and recurrent infectious diseases that cause increased metabolic needs and reduced appetite. This can lead to increased malnutrition in children. This situation will make it more difficult to overcome growth disorders that ultimately have the opportunity to cause stunting. The purpose of this study is to find out the factors related to the incidence of stunting in toddlers aged 24-59 months in the Working Area of the Sawah Besar Health Center, Central Jakarta. This type of research is quantitative with a Cross-Sectional *design*. The research approach used is a quantitative approach, namely the use of questionnaires and survey research techniques which are components of quantitative research. The results of the analysis show that the majority of mothers are in productive age, but there are also young and old mothers who face different challenges in parenting. The mother's education level is generally low, affecting parenting and nutrition. Preschool-age children are predominantly female, and most have normal height and weight, although some are at risk of stunting, especially with short height or low birth weight. The majority of children receive complementary foods as recommended, although a small number get them too early. Mothers' knowledge of nutrition is still mixed, with many lacking understanding, indicating the need for intensive education. Educational factors, feeding patterns, birth weight, and maternal knowledge are closely related to the risk of stunting, requiring strategic interventions to improve children's health.

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Corresponding Author:

Ernawati
College of Health Sciences, Husada Hospital
Depok, West Java
ernatsyah@gmail.com

INTRODUCTION

According to the latest report from WHO in 2018, globally in 2016, around 22.9% or around 154.8 million children under five worldwide were stunted. In Asia, the number reaches 87 million, in Africa it is about 59 million, and in Latin America and the Caribbean it is about 6 million. Meanwhile, in West Africa it reached 31.4%, in Central Africa 32.5%, East Africa 36.7%, and in South Asia 34.1% (WHO, 2018). According to WHO, the stunting problem is regulated with a maximum limit of 20% in each country, province, and district. In Indonesia, the prevalence reached 29.6% in 2017. In 2016, the estimated number of short toddlers globally was 162 million, and if this trend continues, it is projected to reach 217 million by 2025. As many as 56% of short toddlers live in Asia, while 36% in Africa (WHO, 2017). The problem of stunting in children under five is a global concern as seen from the increasing trend between 2012 and 2013, with the number of children under five stunted reaching 178 million in 2013. Indonesia has the highest prevalence of stunting compared to neighboring countries, such as Myanmar with 35%, Vietnam 23%, Malaysia 17%, Thailand 16%, and Singapore 4% (UNICEF, 2017). The Global Nutrition Report in 2014 stated that Indonesia is included in 17 countries, among 117 countries, which have three nutritional problems, namely stunting, wasting and overweight in toddlers.

The United Nations through the FAO reports that, currently about 805 million people suffer from malnutrition, this means that almost one in nine people in the world suffers from malnutrition problems. It is estimated that one-third of these people are women of childbearing age (Uauy R et al, 2017). Malnutrition experienced by pregnant women can inhibit the development of the fetal brain in the womb which can later cause disturbances in learning. If this continues into toddlers and into adulthood, it can increase the risk of psychiatric disorders such as depression, personality disorders and schizophrenia (Christian, P., 2015). The incidence of stunting in children is a cumulative process that occurs from pregnancy, childhood and throughout the life cycle. At this time, which is the process of stunting in children and the increased chance of stunting occurring occurs in the first 2 years of life. Maternal nutritional factors before and during pregnancy are indirect causes that contribute to the growth and development of the fetus. Pregnant women with malnutrition can cause the fetus to experience intrauterine growth retardation (IUGR), so that the baby will be born malnourished, and experience disturbances in growth and development (Short toddler lipos have a negative impact that will take place in later life. A study showed that short toddlers have a close relationship with poor educational achievement and low income as adults. Short toddlers face a greater likelihood of growing up to be less educated, poor, less healthy adults and more susceptible to non-communicable diseases (UNICEF, 2017).

There are several nutritional problems that can be experienced by toddlers, including malnutrition and stunting (short). Stunting is a chronic condition that describes stunted growth due to long-term malnutrition. Stunting according to the WHO Child Growth Standard is based on the index of body length to age (PB/U) or height to age (TB/U) with a limit (z-score) of less than -2 SD (WHO, 2018). Malnutrition occurs from the time the baby is in the womb and in the early days after the baby is born. However, stunting conditions will only appear after the child is 2 years old. Stunted toddlers are toddlers with body length (PB)

or height (TB) according to their age (U) compared to the standard standard of WHO-MGRS (Multicentre Growth Reference Study) 2006, while according to the Ministry of Health (Kemenkes) stunting is children under five with a z-score of less than $-2SD$ /standard deviation (stunted) and less than $-3SD$ (severely stunted) (Tim Nasional Percepatan Penanggulangan Kemiskinan, 2017). The age of 25-59 months is an age that is declared as a critical period in order to get quality human resources, especially in the first 2 years is the golden period for optimal brain growth and development, therefore at this time it needs serious attention (Risikesdas, 2018).

(Risikesdas, 2018), that the proportion of nutritional status is very short and short from the results of Risikesdas in 2013 has decreased, namely in 2013 by 37.2% and in 2018 by 30.8%. And the government also targets that in the 2019 RPJMN the figure will be reduced to 28%. The prevalence of very short and short toddlers at the age of 0-59 months in Indonesia in 2017 was 9.8% and 19.8%. This situation increased when compared to the previous year, where the prevalence of very short toddlers was 8.5% and short toddlers was 19% (Kemenkes., 2017). Based on the results of Nutritional Status Monitoring (PSG) in 2015, stated that 29% of toddlers in Indonesia are in the short category. According to WHO, the prevalence of short toddlers becomes a public health problem if the prevalence is 20% or more, therefore the percentage of short toddlers in Indonesia is still high and is a health problem that must be addressed immediately.

One of the priority programs of the four priority health development programs in the period 2015-2019 is to reduce the prevalence of stunting. Efforts to improve the nutritional status of the community, including reducing the prevalence of short toddlers, are one of the national development priorities listed in the main goals of the 2015-2019 Medium-Term Development Plan (RPJM). The target to reduce the prevalence of stunting (short and very short) in clown children (under 2 years old) is to 28% (BPPN, 2014).

Indonesia is one of the developing countries that has a high incidence of stunting in toddlers. Berdasarkan data Risikesdas (2018) Four provinces on the island of Sumatra have a high incidence of stunting in children under five namely Aceh Province (39.0%), North Sumatra (42.3%), South Sumatra (40.4%), and Lampung (36.2%). The prevalence rate can be declared high when compared to the average prevalence of stunting in children under five nationally, which is 35.6%. Based on data obtained from Hutaraja Village in 2021, the number of toddlers 24-59 months old was 1005 toddlers. The number of toddlers 24-59 months in Hutaraja Village is 135 toddlers. The number of toddlers based on TB/U status for very short was 1 toddler (0.74%), short as many as 25 toddlers (18.5%), normal as many as 109 toddlers (80.7%) (Kementrian Kesehatan RI, 2015).

Based on the above data, stunting in toddlers needs to be a special concern because it can hinder the physical and mental development of children. (Prendergast, A. J., & Humphrey, 2018) stated that stunting is related to an increased risk of illness and death as well as inhibition of the growth of motor and mental abilities. Toddlers who experience stunting are at risk of decreasing intellectual ability, productivity, and an increased risk of degenerative diseases in the future (UNICEF, 2017). In 2017, WHO in the World Health Assembly launched Global Nutrition Targets, one of which is to reduce the stunting rate by 40% by 2025.

METHODS

The design of this study is quantitative with a Cross-Sectional *design*. A *cross-sectional* study is a type of observational research that analyzes variable data from a predetermined sample or population of subjects at a specific point in time.



Figure 1. Factors Related to the Incidence of Stunting in Toddlers Aged 24-59 Months in the Working Area of the Sawah Besar Health Center in Central Jakarta.

This type of research is quantitative with a Cross-Sectional design. The research approach used is a quantitative approach, namely the use of questionnaires and survey research techniques which are components of quantitative research, this study uses a causal associative research strategy. Quantitative research methods are survey techniques used to collect data from specific natural sources; however, researchers treat the collected data themselves by distributing questionnaires, tests, structured interviews, and other similar methods (Sugiyono., 2019). Cross sectional *design* is a *cross sectional study* that examines risk factors and effects simultaneously through approaches, observations, or data collection (Sugiyono, 2015).

Population is a generalization area consisting of; objects or subjects that have certain quantities and characteristics that are determined by the researcher to be studied and then drawn conclusions (Sugiyono, 2019). The population in this study is all families with toddlers aged 24–59 months.

The sample must be representative of a population in order to be considered representative of the population being studied. Total sampling is used as a sampling method because the population is less than 100 (Sugiyono., 2018) which states that total sampling can be done if the researcher wants to make a generalization provided that the population is small. or only slightly larger than expected with minimal error. If the entire population is used as a research sample, the term census is used. So in this study, Total Sampling is used with an unknown amount.

RESULTS AND DISCUSSION

The research, which was carried out from September to November 2024 with the theme The Relationship Between Factors Related to the Incidence of Stunting in Toddlers Aged 24-59 Months in the Working Area of the UPT Puskesmas Sawah Besar, Jakarta, the center of this research includes respondent profiles and research variables. In this study, there are no

incomplete data; All 43 respondents have filled out the questionnaire completely and all data have been collected in accordance with existing procedures.

Table 1 Demographic Characteristics of Respondents (n=43)

Variabel	Frequency	Percent	
Age	19-23 Year	4	9.3
	24-28 Year	8	18.7
	29-33 Year	13	30.2
	34-39 Year	8	18.7
	40-44 Year	9	20.8
	45-49 Year	1	2.3
Last Education	Junior High School	25	58.1
	High School	15	34.9
	Diploma 3	2	4.7
	Bachelor 1	1	2.3
Child Gender	Woman	26	60.5
	Male	17	39.5
Child Age	1 Year	3	7.0
	2 Year	10	23.3
	3 Year	12	27.9
	4 Year	15	34.9
	5 Year	3	7.0
Child Height	75-79 CM	9	20.9
	80-84 CM	4	9.4
	85-89 CM	6	13.9
	90-94 CM	9	20.9
	95-99 CM	14	32.6
	>100 CM	1	2.3
Child's Current Weight	9-13 Kg	38	88.4
	14-18 Kg	5	11.6
Birth Weight	1 Kg	2	4.7
	2 Kg	8	18.6
	3 Kg	28	65.1
	4 Kg	5	11.6
Children Begin to Be Given Eating a companion to breast milk (MPASI)	<6 Moon	5	11.6
	>6 Moon	38	88.4
Children Begin to Be Given formula milk (SuFor)	<6 Moon	20	46.5
	>6 Moon	23	53.5
Mother's Knowledge	Good	22	51.2
	Less	21	48.8

Based on the table above, it can be concluded that various factors affect the incidence of stunting, including maternal characteristics, child characteristics, and breastfeeding patterns (MPASI) and formula milk (SuFor). Based on the data presented, most mothers are in the productive age range, with the age group of 29-33 years (30.2%) as the largest. This age is ideal for pregnancy, but other age factors also need to be considered because they can affect the mother's readiness to take care of children. The last level of education of the majority of mothers is junior high school (58.1%), which shows limited access to health information and knowledge related to child nutrition, so it is one of the potential causes of stunting.

The distribution of the sex of children in this study showed 60.5% of women and 39.5% of men. Although gender does not directly affect the incidence of stunting, differences in nutritional needs between the sexes still need to be analyzed. Most children are in the age group of 4 years (34.9%), which is a crucial phase in growth, so quality nutritional intake is very important at this age. In terms of height, the majority of children have a height of 95-99 cm (32.6%), but there is a distribution of children with lower height, namely 75-79 cm (20.9%) and 90-94 cm (20.9%), which indicates the risk of stunting. In addition, the majority of children weigh in the range of 9-13 kg (88.4%), which tends to be low for their age, leading to the possibility of chronic malnutrition.

From the pattern of complementary feeding, most children began to receive complementary foods after the age of 6 months (88.4%), in accordance with WHO recommendations. However, as many as 46.5% of children begin receiving formula before the age of 6 months, which can reduce the benefits of exclusive breastfeeding and potentially affect children's growth. Birth weight is also an important factor, with the majority of children born with a normal weight (2-3 kg, 83.7%), but 4.7% have a low birth weight (<2 kg), which is one of the main risk factors for stunting.

Maternal knowledge about children's health showed almost balanced results between the categories of good (51.2%) and poor (48.8%). This emphasizes the need to increase health education, especially in the aspects of nutrition and stunting prevention. In conclusion, the incidence of stunting in toddlers aged 24-59 months in the study area is influenced by various factors such as maternal age, education level, complementary and supplementary feeding patterns, and child birth weight. Health education and increasing awareness about the importance of proper nutrition for children are important steps to reduce stunting rates in this region.

The incidence of stunting in the Sawah Besar Health Center UPT area is influenced by maternal demographic factors, child characteristics, feeding patterns, and maternal knowledge. Most mothers are of productive age, but low education limits their understanding of parenting and nutrition. Children's height and weight are mostly normal, but there are those who are at risk of stunting due to a lack of optimal nutritional intake. The provision of complementary foods and supplements that are not in accordance with WHO recommendations also affects the risk of stunting, while maternal knowledge about children's health is still a challenge. Health education interventions, age-appropriate feeding, and

awareness of the importance of exclusive breastfeeding are urgently needed to prevent stunting.

Discussion

The distribution of maternal age shows that the majority are in the age range of 29-33 years (30.2%) and 40-44 years (20.8%). Based on research, the ideal maternal age is in the healthy reproductive age range, which is 20-35 years. At this age, the mother's physical condition and mental readiness tend to be optimal to support pregnancy and healthy parenting, so that it can reduce the risk of stunting in children (Agustina, R., 2021). Younger or older mothers are often at risk of not being optimal in understanding the child's nutritional needs and good parenting (Mosha, A., & Philemon, 2015).

Most mothers have the last junior high school education (58.1%), which indicates limited access to health information. Research shows that low levels of maternal education are significantly related to a lack of understanding of children's nutritional needs and health, which can increase the risk of stunting (Putri, R. D., 2019). On the other hand, mothers with higher education tend to have better abilities to understand and apply healthy diets for their children (Victoria, C. G., 2018).

Female gender dominated (60.5%) of child data, while the majority age was 4 years old (34.9%). Although gender does not directly affect the risk of stunting, some studies show that boys tend to have a higher risk due to greater energy requirements during the growth period (Wamani, H., 2017). The age of children 24-59 months is a critical phase that determines the quality of a child's growth, so nutritional interventions at this age are very important (Black, R. E., 2017).

Most children have a height of 95-99 cm (32.6%) and a body weight of 9-13 kg (88.4%). The height and weight of children who do not meet WHO standards are the main indicators of chronic nutritional problems, such as stunting. Stunting usually begins in the first 1,000 days of life and continues to have an impact on the quality of children's physical growth later in life (WHO, 2021).

The majority of children were born with a body weight of 3 kg (65.1%) and began to be given complementary foods after 6 months (88.4%). Low birth weight (<2.5 kg) is one of the significant risk factors for stunting because it shows poor nutritional status during pregnancy (Christian et al., 2013; Black et al., 2008). In addition, the administration of complementary foods that are not timely or not in accordance with WHO recommendations can worsen the risk of growth disorders (Dewey, K. G., & Begum, 2021).

Maternal knowledge of child health showed almost balanced results between the good (51.2%) and poor (48.8%) categories. Research shows that nutrition education for mothers has a significant impact on improving child feeding practices and reducing the prevalence of stunting (Ruel, M. T., 2015).

CONCLUSION

The conclusion of this study shows that the majority of mothers are of productive age, but there are also young and older mothers, who are likely to face different challenges in childcare. The level of education of mothers is mostly low, only a few achieve higher education, so it can

affect their ability to provide good parenting and nutrition. The children in the study were dominated by the preschool-age group, a critical period in their growth, with a gender distribution that was more female than male. Most children have height and weight in the normal range, but there are groups of children who show signs of stunting risk, especially those who have shorter height or low birth weight. The majority of children receive complementary foods as recommended, but a small number are still given too early, which has the potential to affect their nutritional status. The same thing can be seen in the provision of food portion supplementation. Maternal knowledge about nutrition is quite diverse, with almost half of mothers having a poor understanding, indicating the need for more intensive education. Overall, this data illustrates several factors between education level, feeding patterns, birth weight, and maternal knowledge and the potential risk of stunting in children, which requires strategic interventions to improve the quality of children's health.

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