

## RELATIONSHIP BETWEEN LEVEL OF MATERNAL KNOWLEDGE ABOUT NUTRITION OF PREGNANT WOMEN WITH THE INCIDENCE OF STUNTING IN CHILDREN UNDER FIVE

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### ABSTRACT

Stunting can be caused by several factors, including poor nutritional intake during pregnancy in toddlers. Some of them are readiness to become mothers where this is motivated by a very high rate of early marriage. Unpreparedness in facing motherhood can affect perceptions in parenting. This study aims to determine the relationship between the level of maternal knowledge about nutrition of pregnant women with the incidence of stunting in children under five in Sisir Village, Batu City with a cross-sectional analytical descriptive design involving 56 respondents consisting of maternal respondents and toddlers aged 1-5 years with purposive sampling techniques. Data were collected with maternal knowledge level questionnaires during pregnancy and z score graphs. Results: Data analysis using Spearman Rank test with  $\alpha = 0.05$ . The results showed that the significance value (sig) or p value was 0.009. Because the value of sig (0.009) > (0.05) with a correlation value of 0.347, the results of the data obtained from respondents mean  $H_0$  rejected  $H_1$  accepted. There is a relationship between the level of knowledge of parents and the incidence of stunting in toddlers. The results of the study concluded that there is a significant relationship between the level of knowledge of parents and the incidence of stunting in toddlers. Discussion: In Batu city comb sub-district. It is hoped that mothers can try to find knowledge and information related to nutrition and other factors that can cause stunting, and mothers can start paying attention to nutrition during pregnancy for preventive measures against the impact of stunting on the development of the next child at birth.

**Keywords:** Maternal Knowledge, Gestation Period, Incidence Of Stunting

### INTRODUCTION

Toddler age is the time when age *Golden Period* Children who are a growth and development process that occurs very rapidly so that they need adequate and quality nutritional intake to carry out high enough physical activity. Stunting or short toddlers is a condition of chronic malnutrition which is a manifestation of failure with

conditions that have occurred for a long time. The incidence rate of children with stunting problems is 80% of stunted toddlers spread across 14 countries in the world and Indonesia occupies the five largest stunting countries (UNICEF, 2013). Stunting data in Indonesia showed 35.6% in 2010 and increased to 37.2% in 2013. Data from the Ministry of

Health of the Republic of Indonesia in 2018 Monitoring of Nutritional Status (PSG) in 2017 showed an increase of 29.6%. According to Basic Health Research from 2013 to 2018, a number of stunting data were obtained 35.8% with the percentage of short and very short toddlers while in 2018 with the percentage of very short and short at 32.81% Based on the Indonesian Nutritional Status Survey (SSGI) Ministry of Health In 2022 in East Java, there are 19.2% of stunting incidents in children under five (Riskasdas Jatim, 2018). Basic Health Research Data 2018 Malang City shows a stunting prevalence of 23.4% (Health Research and Development Agency, Center for Health Humanities and Management, 2018). The number of stunting toddlers in January 2022 in the Sisir Village area of Batu City was 108 children, greater than the data at the end of 2021 which was only 95 children. The condition of stunting if allowed to continue will have a negative impact on future generations and will have an impact on child development. Short-term impact is the inhibition of growth timechildDeclinecognitive abilities, and decreased immune functionbody (Nadiyah Suhailah & Susilawati, 2022).

Stunting can be caused by several factors, including poor nutritional intake during pregnancy in toddlers. Some of them are readiness to become mothers where this is motivated by a very high rate of early marriage. Unpreparedness in facing motherhood can affect perceptions in parenting. Negative perception of the diet pattern of adolescents, Nutritional status, health problems in children, instant food eating habits, and maternal height also contribute to the portion of stunting (Yuwanti et al., 2021)

## LITERATURE REVIEW

Stunted (short) is based on the child's short body size according to body size or body length according to age (TB / U or PB / U) obtained low results. Children who are said to be stunted by measuring nutritional status measured by z-score below normal (Sangadji, 2021).

Stunting is caused by several factors including nutritional factors ranging from the phase of pregnant women to babies born and toddlers. Sari et al., (2022) Providing nutrition is the most decisive thing to be able to reduce the prevalence of stunting, therefore it needs to be done in the first 1,000 days of life of (Anwar et al., 2023).

A mother has an important role in fulfilling toddler nutrition as a figure who accompanies toddlers in their development. The fulfillment of nutrition is very important for children starting from the womb because it will affect the growth of children in the future (Angraini et al., 2020). If a mother has good knowledge, it will certainly affect a good attitude also in fulfilling the nutrition of toddler (Sari et al., 2022). The nutrients consumed by the mother during pregnancy will greatly affect the development of the fetus at birth later which can cause the fetus to experience problems with lack of Komalasari nutrition.

Knowledge is information that a person knows or recognizes. Most of the information comes from the eyes and ears. Information is a guide for Ayu (Wulandari & Kurniawati, 2023).

The effects of deformation are very dangerous for the health and development of the child. Can be blamed for causing disruption of children's growth and development, especially in children under the age of one year less than two years (Kaseng et al., 2023).

## RESEARCH METHODS

### Study Design

This type of research uses descriptive with a *cross sectional study research design*. This study wanted to see the relationship between the level of parental knowledge related to nutrition during pregnancy with the incidence of stunting in toddlers. This study used purposive sampling *method* to collect data by distributing questionnaires with a span of 1 week. The sample in the study was taken with a total of 56 respondents of parents who had toddler-age children. The research location was in 3 posyandu toddlers in 1 exoduan in Batu City. The research time will be carried out from September to December 2023.

### Inclusion Criteria

The population in this study is parents who have children under five with a total of 56 respondents with the following inclusion criteria:

1. Mothers who have toddlers aged 1-5 years are both stunted and not stunted
2. The child is in good health

3. Children are allowed to be respondents by parents

### Instruments

The research instrument used in this study used maternal knowledge about maternal nutrition during pregnancy with Good Grades: correct answers >16 (80%), Sufficient: correct answers 12-16 (60-80%), Less: correct answers <12 (60%). While the second instrument uses a z score chart with provisions for the weight and height scale of toddlers.

### Data Analysis

Data analysis was performed using Spss Statistics 20.0. Demographic data in this study consisted of maternal age, sex of children, mother's occupation, number of children presented in the form of frequency distribution. The level of knowledge of parents is categorized into 3 categories, namely good, sufficient, lacking. In the statistical test used by the *Spearman Rank Correlation test*, the data scale for both variables can be derived from different scales (ordinal data scales correlate with numerical data scales).

## RESULTS AND DISCUSSION

Table 1. Demographic Characteristics of Respondents Parents of Toddlers

Characteristic	Group	Frequency	Percentage(%)
Age of parents	>40 Years	4	7.1
	20-30 Years	24	42.9
	31-40 Years	28	50.0
Number of children	1.00	10	17.9
	2.00	34	60.7
	3.00	9	16.1
	4.00	2	3.6
	5.00	1	1.8
Parents' Work	Teacher	3	5.4

IRT	42	75.0
Private	11	19.6
<b>Parent Education</b>		
Lecture	8	14.3
SD	2	3.6
SMA	39	69.6
JUNIOR	7	12.5
Entire	56	100

The results of respondent characteristics based on the age of parents were obtained. As many as half of the respondents (50%) amounted to 28 respondents aged around 31-40 years. The elaboration of respondent characteristics based on the number of children obtained mostly has 2 child respondents totaling 34 respondents (60.7%). A

description of respondents' characteristics based on parental occupation found that 42% of respondents worked as IRTs. Description of respondents' characteristics based on parental education obtained at most 39 levels of respondents' secondary school education.

**Table 2. Overview of Demographic Characteristics of Toddler Respondents**

Characteristic	Group	Frequency	Percentage (%)
Children's Age	< 24 Months	21	37.5
	> 49 Months	8	14.3
	25 - 48 Months	27	48.2
Child to-	1.00	12	21.4
	2.00	34	60.7
	3.00	6	10.7
	4.00	3	5.4
	5.00	1	1.8
Gender	Man	24	42.9
	Woman	32	52.1
Child Weight	< 10 kg	14	25.0
	> 20 kg	2	3.6
	10 - 20 kg	40	71.4
Children's Height	<80 cm	10	17.9
	>100 cm	7	12.5
	80-100 cm	39	69.6
	Entire	56	100

The results of the characteristics of toddler respondents, based on the age of toddlers obtained aged 24-28 months as many as 27 toddlers. A description of respondents' characteristics based on the sex of toddlers was obtained, most of whom were female by 32 respondents (52.1%). Description of

respondents' characteristics based on the body weight of toddlers, most of whom weigh 10-20 kg, amounted to 40 respondents (71.4%). The description of respondents' characteristics based on toddler height was obtained mostly with a height of 80-100 cm, a total of 39 respondents (69.6%).

**Table 3. Level of Knowledge with the Incidence of Stunting**

		Stunting Incidence (Y)			
		Usual	Stunting	Entire	
Knowledge Level (X)	Less	Count	27	14	41
		% of Total	48.2%	25.0%	73.2%
	Enough	Count	13	0	13
		% of Total	23.2%	0.0%	23.2%
	Good	Count	2	0	2
		% of Total	3.6%	0.0%	3.6%
Entire		Count	42	14	56
		% of Total	75.0%	25.0%	100.0%

Respondents with less knowledge had a higher number of stunting at 14 children (25%) than a

sufficient and good level of knowledge, with 0 stunting (no stunting).

**Table 4. Parental Knowledge Level Data**

Knowledge Level	Frequency	Percentage (%)
Less	41	73.2
Enough	13	23.2
Good	2	3.6
Entire	56	100

Based on table 4, it is known that out of 56 respondents, 41 respondents (73.2%) mostly have less

knowledge related to nutritional needs during pregnancy.

**Table 5. Stunting Incidence Data**

Nutrition (Z-Score)	Frequency	Percentage (%)
Usual	42	75.0
Stunting	14	25.0
Entire	56	100

Based on table 5 it is known that 42 respondents (75%) are mostly in normal condition. Based on the

knowledge of mothers from a total of 56 respondents, it was shown (73.2%) that the level of knowledge of

mothers has a bad role. From the data obtained, it can be seen that most elderly respondents aged 31-40 years, namely as many as 28 respondents (50%).

According to research conducted by Septamarini in the *Journal of Nutrition College* (2019), mothers with low knowledge are at greater risk than mothers with sufficient stunting knowledge. Knowledge is the basis of knowledge, one can analyze an object through their five senses, which include smell, taste, hearing, sight, and touch, to a large extent. Increasing knowledge is important to ensure nutritional status as well as detection and stimulation of Setianingsih children's growth and development

Based on the results of the study, the average education of most parents has a high school education, which is 39 respondents (69.6%). Education is closely related to knowledge, because it can be assumed that parents have higher education, it will be directly proportional to their wider knowledge. health education to improve knowledge and behavior. Education influences knowledge and practice (Waliulu et al., 2018). This is in line with research conducted by (Adelina et al., 2018) that the quality of knowledge of mothers is very important to manage the household which is closely related to the welfare of nutritional health for their children (Prasetyo et al., 2023).

Most The respondent's parents' occupation is housewife (42 respondents (75%). Where the parent's job as an IRT will certainly have a lot of time to be with the child. This can support maternal monitoring related to nutrition and feeding needs as well as children's daily lives at home. The role of the mother in the family greatly

influences the preparation of food, so maternal knowledge is very important for the improvement of family nutrition (Mamuroh et al., 2019). Since the role of the mother greatly influences the preparation of family meals, the knowledge of the mother is very important. However, it does not rule out the possibility that the factors causing stunting events / cases are obtained from the average mother working as an IRT, so that in fact it only comes from one source, namely the husband so that the average income can be lower than other communities where both parents work (Jannah & Nurhamidi, 2023).

Some of the internal and external factors that affect knowledge include education, occupation, age, and gender, while external variables, such as the environment and culture of the community. According to research (Rahmandiani et al., 2019) said that someone who has an education will have a better quality of life and more easily get information from individuals who have less education level, so that a mother can keep her toddler from the risk of stunting.

Researchers argue that the level of knowledge a person possesses is influenced by how often they obtain information; the more information received, the more knowledge possessed; And that getting more information can lead to better behavior. This is in line with the opinion expressed by (Notoadmodjo, 2018) which conveys that providing information will increase people's knowledge, which in turn will increase awareness, which in turn will encourage people to behave in an appropriate way because it is based on their own circumstances rather than their thoughts. The stimulus that affects a person is known as data, either directly or indirectly.

### **Incidence of Stunting in Children Under Five**

Based on the results of research from a total of 56 respondents, it shows that most (48.2%) children aged 24-48 months with an average of 2nd children with a total (60.7%) with male sex (42.9%) are stunted with the number (25%) of the total respondents.

In the questionnaire, it was found that the average toddler (25%) has a body weight ranging from 12 kg to 19 kg and has a height ranging from 77cm to 84 cm. This is not in accordance with the z score that children should get according to their age.

This is in line with research conducted by (Rachmawati et al., 2022). According to WHO standards that toddlers are classified as body length (PB / U) or height (TB / U) according to their age.

Short toddlers are called stunting or very short in terms of height according to age which is considered as one of the indicators of growth in toddlers. Height according to age can also show how much nutrition toddlers need. Malnourished toddlers can affect growth, development, and intelligence. This condition will reduce competitiveness as adults.

### **The Relationship Between Mother's Knowledge Level and the Incidence of Stunting in Toddlers**

Based on security correlation test rating with The significance value (sig) or p value is 0.009. Because the value of sig (0.009) > (0.05) with a correlation value of 0.347, the results of the data obtained from respondents mean  $H_0$  rejected  $H_1$  accepted. So there is a relationship between the level of knowledge of parents and the incidence of stunting in toddlers. According to research conducted by (Olsa et al., 2018) Stating that

mothers with higher education will more easily absorb information especially in terms of preventing stunting reduction, but in mothers who have less knowledge or low education, it will be more difficult for mothers to prevent stunting because of the inability to absorb information. This is in line with research (Nadiyah et al., 2014) There is a relationship between maternal education is one of the components that influence the events of the process of travel of an event in children.

Another factor that has the possibility of stunting in toddlers is the age of the mother during pregnancy greatly affects the process of pregnancy. The younger or older age of the mother affects the process of pregnancy. The older the mother, the more at risk of complications that occur during a woman's pregnancy. Young pregnant people will get less prenatal care.

When pregnant women at a young age, they are expected to give birth to babies with sufficient weight. However, most girls of productive age have a lower-than-normal Body Mass Index (BMI), or are underweight, so they are at risk of giving birth to babies diagnosed with low birth weight. Lack of food intake due to body shape problems during adolescence and lack of nutrition education are suspected as factors causing nutritional deficiencies in teenage pregnancy. Both of these result in an increase in underweight in women throughout pregnancy which results in an increase in the number of babies born prematurely which is one of the factors that influence stunting in children (Nurhayati et al., 2020).

Nutrition serves as the basis and foundation for humans, nutrition is necessary in the first thousand days of life, is a period during development and development that

begins with the formation of the fetus until the child is two years old. In accordance with research conducted by (Husnah, 2017) states that the fetus can adjust to what its mother experiences during development, including the food consumed during pregnancy, if the lack of nutritional intake of the baby will cause a decrease in the cells responsible for the development of its organs, and will be permanent.

The gestation period determines the quality of growth and development of the child born. The condition of the fetus in the womb is greatly influenced during pregnancy. Nutrition for the gestation period affects the health of the mother and fetus. Mothers who lack nutrients will experience long-term lack of energy. and will increase the risk and complications of pregnancy (Nurvembrianti et al., 2021).

A very important feature for pregnancy is an adequate supply of nutrients. Women who become pregnant at an early age have risk factors for nutritional deficiencies. Nutrition is very important. In the health condition of mothers and children, as well as the level of maternal nutrition that is less will have an impact on birth. This is related between the mother's need for nutrition and birth. Not enough knowledge of pregnant women about important nutrients during pregnancy will be harmful to the fetus (Mamuroh et al., 2019).

One of the things that can be done to prevent stunting can be started from the pregnancy process by having knowledge about good nutrition consumed during pregnancy. The results of filling out questionnaires conducted by respondents were obtained from the statement "The nutritional needs of pregnant women are the same as before pregnancy", almost the

average mother answered the same. This indicates that the average mother does not have enough knowledge about nutrition during pregnancy.

## CONCLUSION

From the results of research conducted by researchers related to the relationship between the level of maternal knowledge about nutrition during pregnancy and the incidence of stunting in toddlers, it can be concluded that the level of knowledge related to nutrition of pregnant women in the category is lacking, the incidence of stunting in the normal category. There is a relationship between the level of maternal knowledge about nutrition during pregnancy and the incidence of stunting in toddlers in Sisir Village, Batu City.

## Suggestion

Suggestions for researchers in the future are so that researchers can develop research results into educational science It is hoped that it can be used as a reference for researchers in the future to be able to explore other factors related to the incidence of stunting in toddlers.

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