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The Description of Animal Protein Consumption Bahavior in Stunted Children at Sidorejo Village in Pulokulon

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ABSTRACT

Stunting is a condition of growth failure in toddlers due to chronic malnutrition so that their height is too short for their age (Nadila, 2023). Approximately 30.8% of toddlers in Indonesia are stunting. Children aged >12 months are more likely to experience stunting than children of the same age. This is due to the older the child, the greater the need for nutrients required to burn energy in the body. Based on the SSGI results in 2021, the national stunting rate decreased by 1.6% per year from 27.7% in 2019 to 24.4%; in 2021, almost all of the 34 provinces showed a decrease compared to the year (Hatijar, 2023). Toddlers need more protein for muscle and antibody formation. Protein needs for the 1-3 year old group are 20 grams, 4-6 year olds are 25 grams, and 7-9 year olds are 40 grams. Animal protein sources can be found in fish, eggs, chicken, milk, and meat, which have complete and high-quality essential amino acid content. Essential amino acids in animal protein are obtained from the food we consume. The benefits of essential amino acids are as wound healers, growth hormone production, increases muscle strength, and regulates blood sugar levels. The results of the analysis of the description of animal protein consumption behavior according to the age group of stunted toddlers at Sidorejo Village in Pulokulon found that 95% of stunted toddlers consume less animal protein.

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INTRODUCTION

Stunting is a condition of failure to grow in children under five due to chronic malnutrition so that the child is too short for his age. Data on the prevalence of stunted children under five according to (Nadila, 2023)World Health Organization (WHO) in 2020 Indonesia is the second highest in Southeast Asia reaching 31.0%. Central Java is one of the cities in Indonesia that has a prevalence of stunting high. Ministry of Health in 2022, prevalence stunting in Central Java reached 27.6%. Case stunting in Grobogan Regency based on the nutritional status assessment (PSG) in 2020 of 20.20%. Based on PPGBM data for December 2021, the location stunting in Grobogan Regency in 2022, one of them is Sidorejo village with a case prevalence of 22.91%. Animal protein sources are a better source of protein than plant-based proteins, for example, animal protein found in fish, eggs, chicken, milk, and meat has a complete and quality content of essential amino acids. Essential amino acids in animal protein are obtained from the food we consume, the benefits of essential amino acids are as a wound healing process, produce growth hormone, increase muscle strength and regulate blood sugar levels (Lubis, 2023)

METHODOLOGY

This study uses quantitative research with a descriptive research design. The population of this study is toddlers in Posyandu Sidorejo Pulokulon Village, totaling 88 stunted toddlers, which totals 10 posyandu, including Posyandu Srikandi, Posyandu Bima, Posyandu Arjuna, Posyandu Puntodewo, Posyandu Nakula, Posyandu Sadewa, Posyandu Banowati, Posyandu Kunthi, Posyandu Arimbi, Posyandu Drupadi. Sampling was done using non-probability sampling techniques, with the rules of the total sampling technique. From a

population of 88, the sample in this study was 80 people because 8 mothers under five were not present in the study. The inclusion criteria include mothers who have stunted children under five in Sidorejo Pulokulon Village, respondents who live in Sidorejo Pulokulon Village, respondents who are willing to be interviewed and fill out informed consent. The exclusion criteria include mothers of toddlers who do not come to the Pulokulon Sidorejo Posyandu and mothers of toddlers who migrate to the Pulokulon Sidorejo Posyandu.

RESULTS

Characteristics of Respondents

Gender

Table 1. Characteristics of Toddlers Based on Gender in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
Woman	34	42.5
Man	46	57.5
Total	**80**	**100**

Table 1 is the characteristics of respondents based on the gender of stunted toddlers in Sidorejo Pulokulon Village. The most common gender was male at 46 (57.5%) and female at 34 (42.5%)

Toddler Age

Table 2. Characteristics of Toddlers Based on Age in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
1 year	50	62.5
2 years	30	37.5
Total	**80**	**100**

Table 2 is the characteristics of respondents based on stunting age in Sidorejo Pulokulon Usia Village. The most age is 50 (62.5%%) at the age of 1 year, followed by 30 (37.5%) at the age of 2 years.

Parent Education

Table 3. Characteristics Based on Parental Education in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
SD	3	3.8
JUNIOR	4	5
SMA	67	83.8
S1	6	7.5
Total	**80**	**100**

Table 3 is the characteristics of respondents based on parental education in Sidorejo Pulokulon Village. The most parental education is high school with 67 (83.8%), followed by S1 with 6 (75%), junior high school with 4 (5%) and elementary school with 3 (3.8%)

Parents' Work

Table 4. Characteristics Based on Parents' Work in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
Farming	43	53.8

Laborer	22	27.5
Private	8	10
Effort	2	2.5
IRT	5	6.3
Total	**80**	**100**

Table 4 is the characteristics of respondents based on the work of parents in Sidorejo Pulokulon Village. The most parental jobs are farmers with 43 (53.8%), followed by workers with 22 (27.5%), private sector with 8 (10%), businesses with 2 (2.5%) and IRT with 5 (6.3%)

Number of Toddlers in the House

Table 5. Characteristics Based on the Number of Toddlers in the House in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
1 Toddler	75	93.8
2 Toddlers	5	6.2
Total	**80**	**100**

Table 5 is the characteristics of respondents based on the number of toddlers in the house in Sidorejo Pulokulon Village. The highest number of toddlers in one house is 1 toddler 75 (93.8%) and 2 toddlers 5 (6.2%).

Upper Arm Circumference

Table 6. Characteristics Based on Lila during Pregnancy in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
Usual	73	96.3
Less	7	3.3
Total	**80**	**100**

Table 6 is the characteristics of respondents based on the nutritional status of mothers during pregnancy in Sidorejo Pulokulon Village. The number of normal lila is 73 (96.3%) and the number of less is 7 (3.3%)

Anemia During Pregnancy

Table 7. Characteristics Based on Anemia During Pregnancy in Sidorejo Pulokulon Village

Variable	Frequency	Percent (%)
Usual	76	95
Anemia	4	5
Total	**80**	**100**

Table 7 is the characteristics of respondents based on anemia while pregnant in Sidorejo Pulokulon Village. The number of mothers who do not experience anemia is 76 (95%) and those who experience anemia are 4 (5%)

Univariate Analysis
Diversity of Animal Protein Consumption of Toddlers in Sidorejo Pulokulon Village

Table 8. Results of Diversity Analysis of Animal Protein Consumption Consumed by Toddlers in Sidorejo Pulokulon Village

Variable	Frequency	Percentage
Beef	27	33.8
Variable	**Frequency**	**Percentage**
Goat meat	-	-
Variable	**Frequency**	**Percentage**
Duck	-	-
Variable	**Frequency**	**Percentage**
Chicken meat	41	51.3
Variable	**Frequency**	**Percentage**
Beef liver	6	7.5
Variable	**Frequency**	**Percentage**
Chicken liver	3	3.8
Variable	**Frequency**	**Percentage**
Chicken Rempela	-	-
Variable	**Frequency**	**Percentage**
Cow tripee	-	-
Variable	**Frequency**	**Percentage**
Cow intestines		
Variable	**Frequency**	**Percentage**
Free-range chicken eggs	28	35
Variable	**Frequency**	**Percentage**
Chicken eggs	25	31.3
Variable	**Frequency**	**Percentage**
Duck eggs	-	-
Variable	**Frequency**	**Percentage**
Quail eggs	-	-
Variable	**Frequency**	**Percentage**
Milkfish/pindang	-	-
Variable	**Frequency**	**Percentage**
Salted fish	-	-
Variable	**Frequency**	**Percentage**
Canned fish	-	-
Variable	**Frequency**	**Percentage**

Mackerel	-	-
Variable	**Frequency**	**Percentage**
Tuna	-	-
Variable	**Frequency**	**Percentage**
Tilapia	16	20
Variable	**Frequency**	**Percentage**
Catfish	13	16.3
Wet shrimp	-	-
Variable	**Frequency**	**Percentage**
Meatballs (chicken/beef)	40	50
Variable	**Frequency**	**Percentage**
Sausage	16	20
Variable	**Frequency**	**Percentage**
Squid	-	-

In table 8, the results of the analysis of the diversity of animal protein consumption consumed by toddlers in Sidorejo Pulokulon Village. In the questionnaire, there were 24 types of animal protein, but only 10 types of protein were commonly consumed by toddlers in Sidorejo Village, Pulokulon. The most consumed types of animal protein are chicken meat 41 (51.3%), followed by meatballs 40 (50%), free-range chicken eggs 28 (35%), beef 27 (33.8%), domestic chicken eggs 25 (31.3%), tilapia 16 (20%), sausage 16 (20%), catfish 13 (16.3%), beef liver 6 (7.5%), and chicken liver 3 (3.8%).

Overview of Animal Protein Consumption Behavior of Toddlers in Sidorejo Pulokulon Village

Table 9. Overview of Animal Protein Consumption Behavior Consumed by Toddlers in Sidorejo Pulokulon Village

It	Variable	Frequency	Percentage	Std.deviation
1	Usual	4	5	191
2	Less	76	95	
	Total	**80**	**100**	

Table 9 is an overview of animal protein consumption behavior in stunted toddlers in Sidorejo Village, Pulokulon. In stunted toddlers, the most protein consumption is less than 76 (95%) and normal only 3 (5%).

DISCUSSION

Gender

In the results of research in Sidorejo Village, the most children suffering from stunting are males. Mothers think that boys tend to do a lot of activities. Nutrients that are not paid attention to every day in the value of their nutritional status. Mothers only give food that their children like without knowing the benefits of the food.

The results of Dewi's research, (2021) showed that the activities of boys who require more energy without adequate food intake will increase the occurrence of stunting in children. In addition, the results of the study said that nutrition was not fulfilled because mothers lacked knowledge and innovation in providing nutrition to children, especially in the provision of animal protein.

The gender of the child can affect the incidence of stunting. Girls have a lower risk of stunting than boys. This is suspected to be due to the anxiety factor of mothers towards girls who are considered weaker so that they tend to pay more attention than boys who are considered stronger.

Toddler Age

The results of the analysis of respondent characteristics based on the age of toddlers were 62.5% at the age of 1 year. Stunting includes growth disorders in children aged two years and under. occurs in the first thousand days of the womb which will have an impact on the survival of the child. Not tall, at risk of being overweight and reduced reproductive health and decreased productive ability. Malnutrition occurs from the time the baby is in the womb and in the early days after the baby is born. The condition of stunting only appears after the baby is less than 2 years old (Zurhayati, 2022).

The age of toddlers is a group that must be considered because they are in a critical period of growth and development. Unmet nutritional needs will result in disturbances in growth, one of which is stunting and developmental disorders. Toddlers who are malnourished, when adults cannot reach the height appropriate for their age, and muscle tissue is underdeveloped. Stunting is a growth failure caused by chronic inadequate nutrient intake, chronic or recurrent infectious diseases characterized by a z-score of body length by age (PB/U) less than -2 SD. (Wulandari, 2021)

Parent Education

Maternal education is the main capital in supporting the family economy and also plays a role in the preparation of family meals, as well as nurturing and caring for children. For families with a high level of education, it will be easier to receive health information, especially in the field of nutrition, so that they can increase their knowledge and be able to apply it in their daily lives. If the mother's education and knowledge are low, as a result, she is unable to choose and serve food for the family that meets the requirements of balanced nutrition (Qomariyah, 2021)

Parents' Work

Work is related to the economic status of the parents. Jobs that offer or earn a lot of money are likely to meet the needs of children sufficiently, on the other hand, if a job with little or low income can affect the family's ability to meet the needs of one of them is the nutrition of toddlers

Families with low economic status often choose animal and vegetable side dishes at affordable or cheap prices according to their ability. Vegetables to be processed more often take vegetables available in rice fields or fields with a limited variety of plants so that the daily menu served is simple and not varied. This condition causes food intake in toddlers to vary less so that it can indirectly cause nutritional intake in toddlers.

Number of Toddlers in the House

The results of Safitri's research, (2021) The number of children in the family affects food security in the family. Insufficient food intake due to a large number of family members is a factor that contributes to determining nutritional status. Growth and development disorders tend to be experienced by children born later, because the burden borne by parents is getting bigger with the increasing number of children they have. The first child will be more satisfied because the burden of parents is still light so that they can give more attention and meet all the needs of the child.

Upper Arm Circumference

According to the Ministry of Health, the limit for pregnant women is called SEZ risk if the LILA size < 23.5 cm, in the Ministry of Health guidelines it is stated that the intervention is needed for WUS or pregnant women who suffer from SEZ risk. Insufficient energy and protein intake during pregnancy can lead to KEK. Pregnant women are at risk of developing KEK if they have an Upper Arm Circumference (LILA) < 23.5cm. Pregnant women with SEZs are at risk of giving birth to low birth weight babies (BBLR) which, if not handled properly, will be at risk of stunting. (Sanjaya, 2019)

The results of Dewi R.'s research, (2021) found a historical relationship between maternal LILA during pregnancy and stunting incidence in children aged 1-3 years. Mothers who experience chronic energy deficiency or anemia during pregnancy will give birth to babies with low birth weight (BBLR).

Anemia During Pregnancy

During pregnancy, there is often a lack of iron in the body. During pregnancy, iron needs increase twice as much as before pregnancy. This happens because during pregnancy, blood volume increases by up to 50% so more iron is needed to form hemoglobin. Increased blood volume is caused by blood thinning, the need for placenta formation, and fetal growth. Hb examination is carried out at least twice during pregnancy, namely in the first trimester and the third trimester. High and low hemoglobin levels during pregnancy have an effect on the weight of the baby born because it can result in impaired fetal growth in the womb. Low hemoglobin levels in the third trimester can result in stunted/small/BBLR fetal growth and potentially stunting. (Bua, 2022)

Diversity of Animal Protein Consumption of Toddlers in Sidorejo Pulokulon Village

In the results of the study of 24 types of animal protein consumption diversity, only 10 types of animal protein diversity were given. The contributing factor is that mothers only provide animal protein according to their economic ability and mothers do not understand the types of animal proteins that are beneficial for the growth and development of children.

Protein is one of the macronutrients that are important for human life besides carbohydrates and fats. Protein comes from the Greek word "protos" which means the most important. Protein provides about 10-15% of energy/calories in the diet. Protein is important for a variety of structural and functional purposes and is especially important for body growth. In the human body, protein can be found in hair, nails, muscles, bones, and almost all parts and tissues of the body. (Suryati, 2023)

Consumption of animal protein derived from meat/poultry is also a protective factor against stunting in toddlers. Toddlers who consume meat/poultry have a 32% lower chance of stunting. Toddlers who do not consume meat or eggs have a greater chance of stunting. Consumption of at least one source of animal protein is associated with a higher Z-score for TB/U and a lower prevalence of stunting.

Overview of Animal Protein Consumption Behavior in Sidorejo Pulokulon Village

The results of the study also found that the child was said to be stunted but the protein consumption was normal. This is because children are often sick. The mother has provided nutrition according to the direction of health workers, but the child is vulnerable to diseases such as flu, cough and fever.

Stunting is a condition of failure to grow in children under five years old as a result of chronic malnutrition so that the child is too short for his age. Malnutrition occurs from the time the baby is in the womb and in the early days after the baby is born. However, stunting conditions only appear after the baby is 2 years old. Short toddlers (stunted) and very short (severely stunted) is a toddler with body length (PB/U) or height (TB/U) according to his age compared to the standard standard. (Rusyantia, 2018)

The adverse consequences that can be caused by stunting are decreased cognitive ability and learning achievement, decreased immunity so that it is easy to get sick, and a high risk for diabetes, obesity, heart and vascular disease, cancer, stroke, and disability in old age, as well as uncompetitive work quality that results in low economic productivity. (Hasanah, 2023)

CONCLUSION

The results of the analysis of the diversity of animal protein consumption consumed by stunted toddlers in Sidorejo Village, Pulokulon. There are 10 types of protein that are commonly consumed by toddlers in Sidorejo Pulokulon Village. The most consumed types of animal protein are chicken meat, meatballs, free-range chicken eggs, beef, chicken eggs, tilapia, sausages, catfish, beef liver, and chicken liver.

The results of the analysis of animal protein consumption behavior according to the age group of stunted toddlers in Sidorejo Pulokulon Village are stunted toddlers do not consume animal protein.

The results of the analysis of animal protein consumption behavior according to the age group of stunted toddlers in Sidorejo Pulokulon Village are stunted toddlers do not consume animal protein

SUGGESTION

For institutions. The results of this study are expected to be able to be used as reading material to develop interventions that can be carried out in stunted toddlers

For respondents. As a source of information for mothers about animal protein consumption for stunted toddlers

For the next researcher. It is hoped that it can be an overview and reading material to develop more complex research developed towards interventions with an approach to animal protein consumption

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