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The Relationship of Mother's Knowledge, and Availability of Nutritional Foods with the Event of Stunting in the

Work area of Poleang Southeast Puskesmas Public of

Bombana Regency

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Abstract

Childhood malnutrition is always associated with specific vitamin mineral deficiencies and is associated with specific micronutrients and macronutrients. In recent years, there have been many studies on the impact of lack of nutrient intake, starting from the increased risk of infectious diseases and death that can inhibit mental growth and development. The purpose of the study was to analyze the relationship between mother's knowledge and availability of nutritious food with the incidence of stunting in the working area of Poleang North Health Center, Bombana Regency. This type of research was a survey with a cross sectional study design. The number of samples as many as 82 respondents. Sampling technique with single cluster sampling. The data collection tool uses a questionnaire. Data analysis using Chi Square test. The results showed that there was a relationship between maternal knowledge about nutrition and the incidence of stunting, with a p-value of 0.005 (p-value <0.05). There is a relationship between the availability of nutritious food and the incidence of stunting, with a p-value of 0.000 (p-value <0.05). Conclusion; there is a relationship between mother's knowledge about nutrition and availability of nutritious food with the incidence of stunting in the working area of the Poleang North Health Center, Bombana Regency. Recommendation; as information for the Poleang North District Health Center to plan future community health service program intervention activities.

Keywords:	Stunting;	Knowledge;	Availability	of Nutritious	Food;	Puskesmas.

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1. Introduction

Stunting is an indicator of the success of people's welfare, education and income. The impact is very broad, starting from the economic dimension, intelligence, quality, and the nation's dimensions which have an effect on the future of children. Children aged 3 years who were severely stunted (-3 < z = -2) in boys had 15 points lower reading ability and 11 points for girls compared to those with mild stunting (z < -2). This results in a decrease in intelligence, so that learning achievement becomes low and cannot continue school. When looking for a job, the chances of failing the job interview test are great and not getting a good job, which results in low income and not being able to meet food needs. Therefore, children who suffer from stunting have an impact not only on being physically shorter, but also on their intelligence, productivity and achievements later in life, so that they will become a burden on the state [1]. The World Health Organization (WHO) said that the impact that stunting causes can be classified into two, namely long-term and short-term impacts. Long-term impacts, for example, are increased morbidity and mortality, cognitive, motor and verbal development in children who are not optimal. While short-term examples are not optimal body posture as adults, increased risk of obesity, reduced learning capabilities, and decreased productivity [2]. Stunting has a negative impact, for example, brain development is not optimal because it is disturbed, reduced cognitive abilities, imbalanced body functions [2]. Stunting can have a negative impact both in the short and long term. The adverse effects of stunting include impaired brain development, reduced cognitive abilities, impaired physical growth, decreased body immunity so that it is easy to get sick, body functions are not balanced. Stunting children are also at risk for diabetes, obesity, heart and blood vessel disease, stroke, cancer. On a macro level, stunting can reduce the quality of human resources, productivity and result in large economic losses [3]. The prevalence of children under five experiencing stunting in 2019 decreased compared to 2018, from 30.8 percent to 27.7 percent. Although it is decreasing, the number is still quite high because 28 out of 100 toddlers are stunted. The Central Statistics Agency also explained that the prevalence of children under five experiencing stunting in Indonesia is still high when compared to other middle-income countries. Handling stunting needs to be a concern considering that it can have an impact on the level of intelligence, vulnerability to disease, reduce productivity, and hamper the economy such as economic growth, increasing poverty, and inequality. The Ministry of Finance, quoting the World Bank Investing, noted that stunting can eliminate 11 percent of gross domestic product and reduce the income of adult workers by up to 20 percent. In addition, it can reduce 10 percent of total lifetime income and lead to intergenerational poverty [4]. Based on WHO data in 2016, in the Southeast Asian region the prevalence of stunting under five reached 33.8%. In 2016, Indonesia was ranked fifth out of 81 countries with the largest number of stunted children in the world, which reached 8.8 million children. Indonesia is reported to have a higher number of stunted children than some African countries, such as Ethiopia, Democratic Republic of Congo, Kenya, Uganda, and Sudan. During 2013-2016, Indonesia was reported to have children with severe malnutrition, very short, and very thin which reached 6.5%, 15.6% and 6.8%, respectively [2]. Based on the results of the 2018 Ministry of Health Basic Health Research, 17.7% of infants under 5 years of age still experience nutritional problems. This figure consists of toddlers who are malnourished by 3.9% and those who suffer from malnutrition by 13.8%. Compared to the results of 2013 regional health research, infants experiencing nutritional problems decreased as shown in the graph below. Meanwhile, in the 2019 National Mid-Term Development Plan, infants with nutritional problems are targeted to decrease to 17%. The prevalence

of under-fives experiencing stunting was 30.8%, down from the results of the 2013 regional health research of 37.2% [2]. Based on the ranking of public health development indicators, districts / cities in Southeast Sulawesi, Bombana Regency is in 6th place in the category of under-five health with an index of 0.5231, in the category of prevalence of underweight under five with an index of 13.83, in the category of prevalence of under-five malnutrition and less with an index of 28.64. Meanwhile, data on the number of malnutrition in Bombana Regency was 39 cases in 2018 [5]. Meanwhile, in the working area of the Poleang North Health Center, Bombana Regency, the data on the nutritional status recap of toddlers based on TB/U number of short toddlers is 29 people or 10.70% and is the second highest order of all Puskesmas working areas in Bombana Regency [6]. The purpose of the study was to analyze the relationship between maternal knowledge and the availability of nutritious food with the incidence of stunting in the working area of the Poleang north Health Center, Bombana Regency

2. Materials and Methods

This type of research is a survey with a cross sectional study design. The number of samples as many as 82 respondents. Sampling technique with single cluster sampling. The data collection tool uses a questionnaire. Data analysis using Chi Square test. Presentation of data using a frequency distribution accompanied by an explanation

3. Results

Bivariate Analysis

The Relationship of Mother's Knowledge About Nutrition With Stunting Incidence

Table 1: The relationship between maternal knowledge about nutrition and the incidence of stunting

Knowledge	Stunting Incident			Amount		P- _{Value}	α	
	Normal		Stunting					
	n	%	n	%	n	%		
Well	19	59	13	41	32	100	p=0,005	α=0,05
Currently	10	38	16	62	26	100		
Not enough	4	17	20	83	24	100		
Total	33	40	49	60	82	100		

Source: Primary Data in 2021

Based on table 1, it is found that out of 32 respondents (100%) with good knowledge, there are more normal toddlers, namely 19 respondents (59%) than toddlers who experience stunting, namely 13 respondents (41%). Of the 26 respondents (100%) with moderate knowledge, there are fewer normal toddlers, namely 10 respondents (38%) compared to toddlers who experience stunting, which is 16 respondents (62%). Meanwhile, from 24 respondents (100%) with less knowledge, there are fewer normal toddlers, namely 4 respondents (17%) compared to toddlers who experience stunting, namely 20 respondents (83%)

The results of the analysis using Chi Square obtained P Value = 0.005 or P value <0.05. Thus, Ha is accepted and H0 is rejected, meaning that there is a relationship between maternal knowledge about nutrition and the incidence of stunting in the Working Area of the Southeast Poleang Health Center, Bombana Regency.

Relationship between the availability of nutritious food and the incidence of stunting

Table 2: The relationship between the availability of nutritious food and the incidence of stunting

Food Availability	Stunting Incident			Amount		P _{Value}	α	
	Normal		Stunting					
	n	%	n	%	n	%		
Guaranteed	31	79	8	21	39	100	p=0,000	α=0,05
Not Guaranteed	2	5	41	95	43	100		
Total	33	40	49	60	82	100		

Source: Primary Data, 2021

Based on table 2, it is found that from 39 respondents (100%) who stated that food availability was guaranteed, there were more normal toddlers, namely 31 respondents (79%) than toddlers who experienced stunting, namely 8 respondents (21%). Meanwhile, from 43 respondents (100%) who stated that food availability was not guaranteed, there were fewer normal toddlers, namely 2 respondents (5%) compared to toddlers who experienced stunting, namely 41 respondents (95%)

The results of the analysis using Chi Square obtained P Value = 0.000 or P value <0.05. Thus, Ha is accepted and H0 is rejected, meaning that there is a relationship between the availability of nutritious food and the incidence of stunting in the Working Area of the Southeast Poleang Health Center, Bombana Regency.

4. Discussion

The Relationship of Mother's Knowledge About Nutrition With Stunting Incidence

Knowledge is the result of knowing, and this occurs after people have sensed certain objects. Sensing occurs through the five human senses, namely sight, sensation, taste, and touch. Most of the senses are obtained through the eyes and ears. Knowledge is a very important transaction factor for the formation of one's actions. Because from experience and research results it turns out that behavior based on knowledge will be more lasting than behavior that is not based on knowledge [7]. Knowledge is a very important domain for the formation of one's actions [8].

Stunting in children will have an impact on children's physical growth disorders, children's brain and intelligence development, decreased children's immunity, and children's ability to learn. Stunting can be influenced by several factors, one of which is the mother's lack of knowledge about health and nutrition [9]. Mother's knowledge of nutrition is one of the factors that determine whether or not the food intake consumed by

the child is good. Mothers who have good nutritional knowledge will pay attention to nutritional intake for the development of their children so that they do not experience malnutrition [10].

From the results of the study, it was found that in respondents with good knowledge, there were more normal toddlers than toddlers who experienced stunting, this was due to the better knowledge of mothers of toddlers so that in providing food intake, they prioritized fulfilling the nutritional needs of toddlers during their growth period. Adequate nutritional intake will increase body weight and height, so that toddlers' body growth becomes normal. Normal body growth of toddlers will improve children's health and can prevent stunting. Furthermore, in respondents who have moderate knowledge, there are fewer normal toddlers than toddlers who experience stunting this is due to the lack of food availability at the household level so that food intake is not sufficient to meet the nutritional needs of toddlers, so this can lead to stunting in toddlers, although respondents know about the importance of adequate food intake for toddlers. While respondents have less knowledge, there are fewer normal toddlers than toddlers who experience stunting, this is due to family income factors and the lack of sufficient food availability to meet nutritional needs for toddlers. This is in line with the results of research [11] that in respondents with good knowledge, there are more normal toddlers than toddlers who experience stunting and knowledge of maternal nutrition is a risk factor for stunting in toddlers. Stunting is a description of chronic undernutrition status during growth and development since early life. Many factors can cause stunting in children under five, such as the characteristics of children under five and socio-economic factors.

According to Astuti (2017) Mothers with higher education levels tend to have broad knowledge and it is easy to capture information both from the formal education they take and from the mass media to maintain children's health in achieving good nutritional status so that their child's development becomes more optimal. The higher the education of the mother, the better knowledge of nutrition will be, conversely the lower the education of the mother, the knowledge of nutrition will be less good. The low level of maternal education during pregnancy affects the mother's nutritional knowledge during pregnancy. Pregnant women who are malnourished will result in the fetus being conceived also experiencing malnutrition. Malnutrition in pregnancy that occurs continuously will give birth to children who are malnourished. This condition if it lasts for a relatively long time will cause the child to fail in growth [12].

The findings in the field showed that mothers who were less knowledgeable were caused by a lack of socialization from health workers about family nutrition so that stunting could occur easily because housewives did not know how to provide nutritious food in the household. Another factor that causes the mother's low knowledge is the mother's low education, so they do not know much about the presentation of nutritious food for the household. Likewise, the husband's low knowledge also affects the provision of nutritious food in the household. Generally housewives do not have good knowledge about nutrition.

Stunting is a condition where a person's height is shorter than the height of other people his age. One of the factors that can affect stunting is the mother's knowledge about health and nutrition. Mother's knowledge of nutrition will determine the quality of children's food intake which can affect their growth and development [13]. Stunting is a nutritional problem that occurs in toddlers marked by a shorter height compared to children their age. The knowledge of parents, especially mothers of toddlers regarding insights about stunting can be a

determinant of mothers' attitudes in maintaining health so that stunting is prevented [14]

The existence of nutritional knowledge that has been owned by a person becomes a reference for him in providing and choosing food ingredients that are nutritional enough to be served at the household level in meeting the nutritional needs of children according to what they want. In fulfilling these nutritional needs, it is necessary to be supported by sufficient economic capacity to choose, buy and serve them for consumption to the family so that there is an increase in better nutritional status, especially in improving and maintaining the nutritional status of children in the period of growth and development.

Based on the results of the analysis using Chi Square, the P value = 0.005 or P value <0.05. Thus, Ha is accepted and H0 is rejected, meaning that there is a relationship between maternal knowledge about nutrition and the incidence of stunting in the Working Area of the Southeast Poleang Health Center, Bombana Regency. This finding is in line with the results of research [11][1][14][15][16][17] which says that there is a relationship between maternal nutritional knowledge and the incidence of stunting in children under five. However, this study is not in line with research [18] which states that there is no relationship between the mother's level of knowledge about nutritional intake and the degree of stunting in children under five.

Important factors that influence the occurrence of malnutrition in children under five are poor parenting, especially exclusive breastfeeding due to the low level of parental knowledge, poor environmental conditions such as access to sanitation and clean water, low access to health services. Seeing the multi-dimensional causes of stunting problems, the handling of nutritional problems must be carried out with an integrated multi-sectoral approach [19]

According to Sudiman (2008) the cause of stunting can also be said as a form of physiological adaptation to growth or non-pathological because the two main causes are inadequate food intake and response to high infectious diseases. Factors that can affect stunting are divided into two types, namely direct factors, namely food intake, infectious diseases, low birth weight and genetics. While the indirect factors are knowledge about nutrition, parental education, socioeconomic, parenting, food distribution and family size/number of family members [20]

Relationship between the availability of nutritious food and the incidence of stunting

Availability of household food is the fulfillment of the availability of food which is a source of nutrition for the body. The adequacy of food needs in the household will be a determining factor for the household in meeting the nutritional needs of the family. Households that maintain the availability of food ingredients will always have their nutritional needs fulfilled every day for a year, will make the household food independent. Lack and unavailability of daily food stocks will have an impact on food shortages, the worse impact for households is that family members experience malnutrition and even experience malnutrition.

From the results of the study, it was found that respondents who stated that the availability of food was guaranteed, there were more normal toddlers than toddlers who experienced stunting this was due to the availability of sufficient food ingredients that would help fulfill the level of consumption of nutritious food for

household family members so that stunting events could be prevented in children are growing. The role of the family becomes important in meeting the nutritional needs of the household, it is necessary to maintain its existence through increasing family income, increasing household nutrition knowledge through socialization, education, and empowering families, especially underprivileged families, which are the responsibility of the government. While respondents who stated that the availability of food was not guaranteed, there were fewer normal toddlers than toddlers who experienced stunting this was due to the inability of households to meet household nutritional needs so that the level of household consumption was reduced as a result of fulfilling children's nutritional needs not being met properly which has an impact on the incidence of stunting for children

Under-five stunting is a chronic nutritional problem caused by many factors such as socioeconomic conditions, maternal nutrition during pregnancy, infant morbidity, and lack of nutritional intake for infants. Stunting toddlers in the future will have difficulty in achieving optimal physical and cognitive development. The problem of malnutrition in children is closely related to the level of family income. Families with low income levels generally have problems in terms of access to foodstuffs related to low purchasing power. In addition to income, food insecurity at the household level is also strongly influenced by food price inflation. The incidence of stunting under five is a major nutritional problem faced by Indonesia. Based on the Nutrition Status Monitoring data for the last three years, stunting has the highest prevalence compared to other nutritional problems such as undernutrition, thinness, and obesity. The prevalence of stunted toddlers has increased from 27.5% in 2016 to 29.6% in 2017. To prevent this, the government has launched an integrated stunting prevention intervention program that involves cross-ministerial and institutional. In 2018, 100 districts in 34 provinces were designated as priority locations for stunting reduction. This number will increase by 60 districts in the following year. With this cross-sectoral collaboration, it is hoped that it will reduce the stunting rate in Indonesia so that the target for the Sustainable Development Goals in 2025 can be achieved, namely a reduction in the stunting rate of up to 40% [19].

Based on the results of the analysis using Chi Square, the value of P Value = 0.000 or P value <0.05 is obtained. Thus, Ha is accepted and H0 is rejected, meaning that there is a relationship between the availability of nutritious food and the incidence of stunting in the Working Area of the Southeast Poleang Health Center, Bombana Regency. This finding is in line with the results of research [21][17][1] which states that there is a significant relationship between household food security and the incidence of stunting. However, this finding is not in line with the results of the study [22] which said that there was no significant relationship between food availability for poor families and growth in children under two years of age. Research [23], which states that the availability of nutritious food in the respondent's family where most of them are in guaranteed condition. However, as many as 43.1 percent of families are in a condition where the availability of nutritious food is vulnerable, both at light and moderate levels.

Socio-economic conditions and housing sanitation are also associated with stunting. Economic conditions are closely related to the ability to meet nutritious intake and health services for pregnant women and toddlers. Meanwhile, sanitation and food safety can increase the risk of infectious diseases. Based on data from Joint Child Malnutrition Estimates in 2018, countries with upper middle income were able to reduce stunting rates by 64%, while in lower middle income countries only decreased about 24% from 2000 to 2017. In low-income

countries, it actually increased in 2017. 2017 [19]

Food availability in the family refers to sufficient and available food in an amount that can meet household consumption needs. Low food availability reduces the diversity of food consumption at the household level that is safe and nutritionally balanced. Lack of variety and amount of food consumed, especially foods that function to support children's growth such as sources of protein, fat, vitamins, and minerals will increase the risk of malnutrition [24].

Food is a basic need for humans both individually and in groups because it is very necessary in the growth process. Food and nutrition have a very decisive role in relation to improving the quality of human life. Therefore, food must always be available at all times in good quantity and quality.

Although the actual location of the Southeast Poleang District is in a coastal area that produces a lot of marine products in the form of fish and other marine products that can be used as a source of protein in the family which is expected to prevent stunting. However, from the results of direct interviews with several respondents, most of whom work as fishermen, in terms of fulfilling food in the family, it is said that the results of the activities for looking for marine products are not entirely for their own consumption in the family. Most of the seafood they get is sold to buy other necessities for the family. As for what is consumed only a small part and even just the rest of the sale that is not worth selling in the market.

One of the problems caused by the unavailability of household food, namely malnutrition, will have an unfavorable impact on body health. A person's nutritional status is influenced by many factors, namely the level of income and nutritional knowledge possessed can affect the growth of adolescents so that it will interfere with learning concentration which can affect adolescent achievement in school. Teenagers should know or understand the food they eat, many teenagers prefer food from taste and not on the basis of nutritional considerations. The importance of household food availability in improving the nutritional status of adolescents is not only the responsibility of the individual, but also the responsibility of health workers, especially community nutrition health workers as an effort to improve the highest level of health [25].

The limitation of the study is the high level of respondents' busyness in completing their daily work so that they do not have sufficient opportunities to provide information during data collection, conditions and access to research locations are difficult.

5. Conclusion

Conclusion; there is an influence of mother's knowledge about nutrition and availability of nutritious food with the incidence of stunting in the work area of the Poleang North Health Center, Bombana Regency. Recommendation; as information for the Poleang North District Health Center to plan future community health service program intervention activities.

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