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The Influence of Mother Characteristics on Giving Tempe Broth as an Effort Prevention of Stunting in Toddler

[1]Yarmaliza Yarmaliza, [1]Teungku Nih Farisni, [1]Fitriani Fitriani

[1]Faculty of Public Health, Teuku Umar Universty, Indonesia
Corresponding author's email: yarmaliza@utu.ac.id

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Abstract

Stunting is one of the effects of nutritional problems from past intake caused by a lack of macro and micronutrient intake (such as protein, vitamin A, zinc), as well as the frequency of infectious diseases such as diarrhea and low birth weight. Kuala Pesisir sub-district has a prevalence of stunting in 2017 that is 39.2%. Purwodadi Village accounts for the highest stunting case, with 66 toddlers with stunting. The purpose of this study was to determine the effect of mothers' knowledge and attitudes on the provision of tempe broth as an effort to prevent stunting in infants in Purwodadi Village, Kuala Pesisir District, Nagan Raya Regency. This study uses a cross-sectional design with a population of 75 mothers who come from poor families and have toddlers, sampling using a total sampling technique that is as many as 75 mothers who come from misikin families. Data were analyzed by univariate, bivariate, and multivariate using multiple linear regression tests. The results showed a relationship between mother's knowledge and attitude towards the provision of tempe broth as an effort to prevent stunting in infants (P. Value <0.05). For the results of multivariate analysis shows that the mother's knowledge gives a stronger influence on the administration of tempe broth (Ex. B. 27, 28). The conclusion there is a very significant relationship between mother's knowledge and attitude towards the provision of tempe broth. Mother's knowledge gives a stronger influence on the provision of tempe broth as an effort to prevent stunting in infants. It is necessary to increase the education program for the community about the importance of nutrition in preventing stunting in infants.

Keywords

Attitude; knowledge; Stunting; tempe broth; toddler

Introduction

Indonesia faces nutritional problems that have a serious impact on the quality of Human Resources (HR), one of the nutritional problems that is the main concern at this time is the stunting of children under five. Stunting is the main condition of failure to thrive in children under five years old (toddlers) due to chronic malnutrition, recurrent infections, and inadequate psychosocial stimulation Riskesdas, 2013). The prevalence of stunting in

Indonesia ranks fifth in the world. Data showed the prevalence of stunting at the national level was 37.2%, consisting of short prevalence of 18.0% and very short of 19.2%. Stunting is considered a severe public health problem if the prevalence of stunting is in the range of 30-39%. This shows that Indonesia is experiencing severe public health problems in the case of stunting toddlers. Data obtained from Riskesdas 2018 shows that the stunting rate increased to 40.3% (Riskesdas 2018).

Stunting impact is a short-term impact and a long-term impact. The short-term effects of children becoming apathetic, experiencing speech disorders, and developmental disorders, while the long-term effects of decreasing IQ scores, decreased cognitive development, impaired concentration of attention and decreased self-confidence. Poor nutritional conditions can cause disruption in the growth process, disruption to traders and reduce the ability to think. The direct factor of stunting is the fulfillment of nutrients which is very influential in the future growth of children, especially the fulfillment of energy intake from macro nutrients (carbohydrates, fats and proteins) (Permatasari, Murwani, & Rahfiludin, 2018)

Stunting (short body) is a condition where the body is very short to exceed the 2 standard deviation (SD) definition below the long or high median which is an international reference. There are several factors that affect stunting in children, namely the direct factor of food intake and infectious diseases and factors Indirect knowledge of nutrition, namely knowledge about nutrition, parental education, parental income, food distribution, family size, while protein intake <80% of the Nutrition Adequacy Rate (RDA) risk being stunting 6.4 times higher than children with protein consumption 80 %. Stunting in children, apart from being caused by macro nutrient deficiency, is also associated with zinc (Zn) deficiency. Zinc (Zn) is an essential mineral that plays a role in the synthesis, secretion, and control of growth hormone (Growth Hormone). The low synthesis of growth hormone can inhibit linear growth and is thought to cause stunting in infancy (Farah Okky Aridiyah, Ninna Rohmawati, 2015).

Aceh Province is one of the provinces which annually contributes to severe stunting problems, which is 35.7% in 2017 and an increase in 2018 which is 37.7%. Nagan Raya Regency is a district of expansion in Aceh Province which began to be formed in 2002, although as a regional expansion in terms of development and economy continues to show rapid development, besides that this region also has agricultural and fishery commodities that can be commercialized to other regions outside the province Aceh. However, this situation is not in harmony with family food security, this is evidenced by the increasing trend of stunting cases over a period of three years. (Profile of Aceh Health Office, 2017)

Based on the Nagan Raya District Health Office Report, the number of under-fives was 19,052 under-fives, stunting by 31.3% in 2016, an increase in 2017 of 32.5% and experiencing an increase again in 2018 of 33.2% (Profile of Health Office, 2017). Kuala Pesisir Subdistrict is one of the working areas of the Nagan Raya Health Office, this region consists of 16 villages, with a stunting prevalence in 2017 of 39.2%. The villages that accounted for the highest stunting cases were found in Purwodadi village, namely the number of 66 toddlers with stunting (Profile of Aceh Health Office, 2017).

Toddlerhood is an important period in the process of human growth and development. Development and growth at that time will be critical for the success of children's growth and development in the next period. The period of growth and development at this age is a period that takes place quickly and will never be repeated, because it is often called the golden age or golden age, but at this time will be susceptible to disease that affects the nutritional status

in the future. The problem that usually occurs at this time is the occurrence of infectious diseases that can reduce the intake of infants who will have an impact on one of them is stunting. Other scientific facts show that malnutrition experienced by pregnant women who then continues until the child is 2 years old will result in a decrease in the level of intelligence of children. However, this period is often not received family attention, either because of lack of knowledge and information about monitoring the growth and development of children. (Septamarini, Widyastuti, & Purwanti, 2019)

Age 0-24 months is part of the first thousand days of life, as it is known that the age below two years is a critical period (critical period) that is the optimization of the process of growth and development of children. In the growth and development of children need nutrients so that growth and development go well. Indicators of achievement of the first thousand days of life that will be evaluated at the end of 2025 are reducing the number of children under five who are stunting by 9% and the number of children under five who are wasting by 5%. Based on 2013 riskesdas data for children under two years the prevalence of malnutrition showed an increase from 17.9% in 2010 to 19.6% in 2013 (Riskesdas, 2013)

One form to prevent stunting is like giving foods that are high in nutrients, like tempeh. Tempe is a processed fermented soybean Kapang Rhizopus sp, the fermentation process will change the physical and chemical form of soybeans into highly nutritious tempe products and can be used as functional food (Atmarita, 2015). According to the results of the study (Astuti) the protein contained in tempe is easily digested so that the protein can be used to gain weight, especially the toddler age group.

Tempe is one of the food ingredients that is easy to rot, which is stored for 1 to 2 days, therefore requires special processing to be stored for a long time, and can be used as daily food additives that have potential benefits. Processed tempeh can be enjoyed in various forms, including making tempe as a powder in the form of broth. Tempe broth is an extract from the basic ingredients of tempe which contains nutrients from protein, energy, fat, iron, vitamins, phosphorus, calcium, vitamin A, Vitamin B1 and vitamin C. Tempe broth can be used as (addition) nutrients in various kinds food preparations to meet nutrition in toddlers at the household level, so that it can be used as one form of specific interventions in reducing the incidence of stunting in toddlers. (Astuti et al., 2014).

Method

This type of research is observational analytic using cross-sectional design. Total population of 75 mothers who come from poor families and have children under five. Sampling using a total sampling technique that is as many as 75 mothers. The purpose of this study was to determine the effect of mothers' knowledge and attitudes on the provision of tempe broth as an effort to prevent stunting in infants in Purwodadi Village, Kuala Pesisir District, Nagan Raya Regency. Data were analyzed by univariate, bivariate, and multivariate using multiple linear regression tests. There are two variables examined in this study, the dependent variable which includes the provision of tempe broth and the independent variable which includes the mother's knowledge and attitude.

Results

In the Table 1 can be seen that most respondents' education at the elementary level is 36 mothers (48%), with mothers who have jobs as housewives (IRT) of 64% and mothers who have poor knowledge of 53 mothers (70%) and attitudes bad mothers as many as 49 people (65%).

Table 1. Distribution of Respondents based on mother's knowledge and attitude

Criteria	Total	%
Mother's Education		
- SD	36	48
- SLTP	24	32
- SLTA	12	16
- PT	3	4
Mother's job		
- Housewife	64	85
- Goverment Employees	11	15
Mothers Knowledge		
- Good	22	29
- Not Good	53	71
Mother's attitude		
- Good	26	35
- Not Good	49	65

In the Table 2. it can be seen that the mother's knowledge has a very significant relationship to the provision of tempe broth in infants (PV 0.001) and with an OR value of 3.6, for mothers with a less good category it can be seen that (PV 0.003) with an OR value of 3 2, these results also indicate the meaning that the mother's attitude has a significant relationship to the provision of tempe broth in infants.

Table 2. Relationship Between Mother's Knowledge and Attitude Towards Giving Tempeh Broth to Toddlers

Criteria	P.Value	OR
Mothers Knowledge		
- Good	0,00	3,62
- Not Good		
Mothers Attitude		
- Good	0,01	3,24
- Not Good		

Table. 3 Relationship Between Knowledge and Attitudes of Mothers Towards Giving Tempeh Broth to Infants

Variabel	Categori	Total	P *Value* (Chi Square)	P *Value* (Multivariat)	Exp (B)
Mothers Knowledge	- Good	22	0.01	0,02	35,123
	- Not Good	53			
Mothers Attutude	- Good	26	0,02	0,03	30,329
	- Not	49			

Good	

Based on Table 3 shows that mother's knowledge and attitudes contribute greatly to the provision of tempe broth to infants, but the mother's knowledge from the results of the Multivariate test shows a greater contribution value (Exp. 35,123) when compared to the attitude of mothers who only have a contribution value (Exp. B 30 , 32).

Discussion

Relationship between Mother's Knowledge and Giving Tempe Broth as an Effort Prevent Stunting in Toddlers

In this study overall mother's knowledge with good category results totaling 25 people (29%), and 53 other parents had poor knowledge (71%). The results of this study indicate that mother's knowledge and attitude will affect food intake in the family, especially children. This is because parents, especially mothers, are responsible for the care of children, including meeting the nutritional needs for children's growth and development. Several studies have shown that there are problems related to the behavior of parents in the provision of sweet foods as a gift to control children and there is no control in the choice of children's food. Parents do not determine the foods that children should eat, but tend to obey the wishes of children. In addition, maternal behavior also plays an important role in watching over the habits of children's snacks. The results of the study are supported by (Oktavina,) which states that there is a significant relationship between mother's knowledge and the provision of processed foods from tempeh in toddlers, such as tempeh nuggets, tempeh broth and others derived from soy-based ingredients.

According to (Ni'mah & Khoirun, 2015) the nutritional composition of tempe, both the levels of protein, fat and carbohydrates are easily digested in the body, because of the digestive enzymes produced by mold tempeh. So it is very good to give to all age groups. During the fermentation process there is a tendency to increase the degree of unsaturation of fat, so PUFA (polyunsaturated fatty acids) fatty acids increase in amount which will result in a decrease in the serum cholesterol content so as to neutralize the negative effects of cholesterol in the body. Protein needs being fulfilled is an alternative way to suppress the case of vegetable protein deficiency. Tofu and tempeh are Indonesian traditional foods that contain vegetable protein. Foodstuffs in the pyramid Foodstuffs are grouped into four groups: green, yellow, orange and red.

Proteins are included in the orange group, which is a source of building blocks for body tissue repair, growth and metabolism. The protein content in tempeh is 20.8 mg per 100 gr. Protein requirements for toddlers is 10-15% of total energy. Factors that influence knowledge include: (1) Education level is an attempt to provide knowledge so that positive behavior changes occur, (2) Information, someone who has more sources of information will have wider knowledge, (3) Culture , human behavior or human groups in meeting the needs that include attitudes and beliefs, (4) Experience, something that someone has experienced will increase knowledge about something that is information, and (5) Social Economy, a person's ability to meet the needs in life (Hestuningtyas TR, 2014)

The results of this study are in line with the results of the study (Olsa, Sulastri, & Anas, 2017) which says that the level of education and knowledge of the mother can affect one's learning process, the higher one's education and knowledge will be easier to accept existing

information. The more information that comes in, the more knowledge is obtained, including information about the right food for children. The higher one's education, the higher one's knowledge will be. But someone who has low education is not necessarily knowledgeable too. High curiosity, and progress in the field of science and technology affect mothers in getting information about the right food for children.

Mother's behavior in caring for her toddler has a close relationship with the incidence of wasting in toddlers. Mothers with good parenting will tend to have children with good nutritional status, and vice versa, mothers with poor parenting are more likely to have children with poor nutritional status (Virdani, 2012). Parenting is a behavior of mothers in caring for their toddlers, their own behavior based on Notoatmodjo (2013) is influenced by attitudes and knowledge. Good knowledge will create a good attitude, then if the attitude is considered appropriate, then good behavior will emerge. The knowledge itself is obtained from information obtained both from formal education and from the media (non-formal), such as radio, TV, internet, newspapers, and magazines.

The level of education affects a person in receiving information. People with better levels of education will be easier to receive information than people with less education levels. This information is used as a provision for the mother to care for her toddler in daily life. The level of education also influences the level of knowledge. A good level of knowledge helps food selection wisely and appropriately, as well as handling health disorders properly (Cumber, 2016).

According to (Hestuningtyas T.R, 2014) that there is a significant relationship between parental knowledge about nutrition and stunting in children aged 4-5 years. This is in accordance with research conducted by (Anindita, 2012) that there is a significant relationship between parental knowledge and the incidence of stunting in children. This study is also in line with research conducted (Widanti, 2013) where there is an influence between the provision of nutritional counseling on knowledge, attitudes, practices of mothers and nutrient intake, where only knowledge has a relationship between providing nutritional counseling to mother's knowledge, so that the mother can apply her knowledge to toddlers in preventing stunting.

Relationship Between Mother's Attitude In Giving Tempeh Broth As An Effort To Prevent Stunting In Infants

This research shows that the mother's bad attitude is more dominant when compared to her good attitude. According to (Nurma Yuneta, Hardiningsih, & Yunita, 2019) attitude as an expression of the values held by someone. Attitudes can be formed so that the desired behavior occurs. This can be interpreted that the existence of high knowledge supported by a good attitude will reflect good behavior about healthy food. Attitudes cannot be directly seen, but can only be interpreted in advance from closed behavior that is not an open reaction or open behavior. Attitude is a readiness or willingness to act, not an implementation or an action. Attitudes affect the experience of an individual that comes from the insistence in the heart, habits and influences from the environment around the individual.

This study is in line with (Septamarini et al., 2019) which states that maternal attitudes are highly correlated with providing nutritious food to infants, one of which can be processed is tempeh. From the results of the study also mentioned that the mother's knowledge is important in supporting the actions of mothers in providing adequate nutrition for toddlers, so they can avoid the occurrence of stunting.

According to (Suryagustina, Araya, & Jumielsa, 2018) factors that influence the formation of attitudes, namely: Personal experience, 2) Other people, (3) Culture, (4) Mass media, (5). Educational institutions and religious institutions, and (6) Emotional Factors. The high attitude of students in providing healthy food to children is due to several factors, namely: technological developments in the present so that access to health is very easy depending on how it is used. With a lot of health media witnessed or accessed by mothers, it makes it easy for students to be influenced by these advertisements or broadcasts. The eating habits taught by the mother to the child will affect the child's eating patterns so that the child can decide on the food he consumes.

Other research also states that there is a significant relationship between maternal attitudes and the incidence of stunting (Olsa et al., 2017). Olsa also said that nutritional problems especially stunting in infants can inhibit children's development, which will last in later life such as intellectual decline, vulnerability against non-communicable diseases, decreased productivity to cause poverty and the risk of giving birth to babies with low birth weight.

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