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**Nutritional Parenting as an Effort to Prevent Stunting in Toddlers on Mantang Island**

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**ABSTRACT**

The quality and quantity of nutrition in children's food needs attention because it is a support for body growth. Good nutritional intake for children needs to be supported by the mother's ability to provide good care, in terms of providing food, maintaining personal and environmental hygiene, as well as seeking treatment. This study aims to analyze the differences in nutritional parenting patterns for toddlers before and after being given nutritional counseling using booklets for stunting prevention (BOCESTING) in Mantan Island, Bintan Regency, Riau Islands. The design of this experimental research is one group pretest and posttest. The sample is 43 mothers of children under five. Differences in the level of knowledge and nutrition parenting between before and after the intervention were analyzed using paired sample t-test. The results of the analysis showed the value of  $p = 0.000$ , so it can be interpreted that there is a difference in the level of knowledge between before and after giving counseling using BOCESTING. Thus, it can be concluded that counseling using BOCESTING is effective for increasing knowledge in the context of preventing stunting by mothers of children under five.

**Keywords:** stunting; BOCESTING booklet; knowledge**INTRODUCTION**

The main public health problem in developing countries, including Indonesia, is nutrition <sup>(1)</sup>, which is indicated by the high prevalence of stunting in children, which is a chronic problem related to poverty, low education, and inadequate health and environmental health services <sup>(2)</sup>. Stunting is a form of growth failure due to lack of nutrition and health during the prenatal and postnatal periods. Stunting appears as a result of a state of malnutrition that has accumulated over a long period of time so that its physical manifestations will be more visible at the age of up to 59 months <sup>(3)</sup>.

According to the WHO Child Growth Standards, stunting can be based on an index of body length for age (PB/U) or height for age (TB/U) with a limit (z-score) of less than -2 SD <sup>(4)</sup>. Stunting in children is caused by several interrelated factors, one of which is nutritional factors found in food. The quality and quantity of food as intake for children needs attention because it is often low in nutrients needed to support growth for the body. This shows that to support good nutritional intake, it is necessary to support the mother's ability to provide good care for children, in terms of feeding practices, personal/environmental hygiene maintenance practices and medical seeking practices <sup>(5)</sup>.

Parenting patterns in stunting cases are also influenced by behavioral aspects, especially in poor parenting practices in feeding infants and toddlers <sup>(6)</sup>. A mother as a parent needs to understand what nutrition and nutrients should be given to children, including in terms of food hygiene and environmental hygiene as well as good use of health facilities to overcome problems that occur in children, especially those related to child nutrition <sup>(7)</sup>.

The incidence of stunting in Indonesia is still a health problem, especially in children under five, although the incidence rate is gradually decreasing, one of which is in the Riau Archipelago Province which is one of the provinces with a geographical landscape in the form of an archipelago and most of the area is surrounded by the sea <sup>(8)</sup>. Based on data from the Riau Islands Provincial Health Office, the number of stunting cases in 2020 was 7.2%.

The incidence of editing will increase if the causes of stunting are not addressed. Parenting patterns from parents to toddlers are very influential in the process of growth and development of toddlers. If there is a disturbance in the pattern of parenting for toddlers, then this can affect the nutritional status of toddlers. Nutritional intake that is not optimal can cause growth and brain development disorders which can result in the inhibition of children's intelligence levels. So, one of the efforts to reduce the incidence of stunting is the application of good parenting by parents.

**Purpose**

The purpose of this study was to determine the difference in the level of knowledge of mothers under five about nutritional parenting, between before and after being given nutritional counseling using booklets for stunting prevention (BOCESTING) on Mantan Island, Bintan Regency, Riau Islands Province.

**Hypothesis**

The hypothesis of this research is: Counseling using BOCESTING has an effect on mother's knowledge about nutritional parenting patterns for toddlers.

**METHODS**

This study was a quasi-experimental research that applies one group pre-test and post-test design. The independent variable in this study was the provision of the Prevent Stunting Booklet (BOCESTING) while the dependent variable was the mother's knowledge of nutritional parenting. Meanwhile, the confounding variables were age, education, occupation, and family income. The population of this study were all mothers of children under five in the Mantang Island area from January to August 2020, with a population size of 75 people. The sample size was 43 mothers of children under five in the work area of the Mantang Health Center based on the formula from Slovin. The sample was selected using a simple random sampling technique.

In the first phase, the level of knowledge about nutrition parenting was measured using a questionnaire (pre test), then health education was carried out using BOCESTING, and in the second phase, knowledge was measured again (post test). The difference in knowledge level between before and after treatment was analyzed using the Wilcoxon test because the data were not normally distributed (p value of the normality test using Shapiro-Wilk was less than 0.05).

**RESULTS**

Table 1. Distribution of the characteristics of subjects

Subject characteristics	Frequency	Percentage
Age		
• <20 years	1	2.3
• 20-35 years old	37	86.1
• >35 years old	5	11.6
Education		
• Elementary and Secondary school	5	11.6
• High school	22	51.2
• Higher education	16	37.2
Job		
• Does not work	27	62.8
• Work	16	37.2
Income		
• Low (< IDR 2,500,000)	14	32.6
• High (≥ IDR 2,500,000)	29	67.4

Based on table 1, it can be seen that the research subjects were dominated by mothers of toddlers aged 20-35 years (86.1%), high school education (51.2%), not working (62.8%) and income up to the minimum wage regionally (67.4%).

Table 2. The results of measuring the level of knowledge in the pre-test and post-test phases

Knowledge	Pre test	Post test	p	Percentage of improvement
Mean	62.64	97.6	0.000	33
Standard deviation	9.130	3.513		
Median	63.33	100		
Range	43-77	83-100		

Table 2 shows that there has been an increase in the mean level of knowledge from 62.64 to 97.6 with a p value of 0.000. Thus, it can be interpreted that there is a significant difference in knowledge between before and after the provision of education using BOCESTING, with an increase of 33 percent.

Table 3. Differences in knowledge improvement based on the characteristics of respondents

Subject characteristics	Knowledge		
	Median	Range	p
Age			
• <20 years	56.67	50-97	0.006*
• 20-35 years old	73.33	43-100	
• >35 years old	80.00	57-100	
Education			
• Elementary and Secondary school	66.67	10-100	<0.001 **
• High school	76.67	9.1-85.7	
• Higher education	73.33	7.1-50	
Job			
• Does not work	72.67	7.1-85.7	0.004 ***
• Work	60.33	8.3-92	
Income			
• Low (< IDR 2,500,000)	65.33	9.1-100	0.622 ***
• High (≥ IDR 2,500,000)	68.67	7.1-100	

\*: Anova, \*\*: Kruskal Wallis, \*\*\*: Mann Whitney

Based on table 3, it can be seen that age, education and occupation had a p-value of less than 0.05, while family income had a p-value of more than 0.05. Thus, age, education, and occupation are confounding factors that affect the increase in maternal knowledge.

## DISCUSSION

The characteristics of the subjects in this study were maternal age, education, occupation and family income. These characteristics need to be observed because they are confounding variables. Based on the results of the analysis, it can be seen that the research subjects are dominated by the age of 20-35 years. The results of the analysis of increasing knowledge based on age, there was the most significant increase in knowledge at the age of less than 20 years. Age can affect a person's perception and mindset, so that the knowledge gained is getting better. A person's knowledge is related to exposure to mass media such as print and electronic media. Someone who is often exposed to electronic media and mass media such as television, radio, newspapers, magazines, cellphones and others will get more information than those who are less exposed. Thus, older age does not guarantee that their level of knowledge is better <sup>(9)</sup>.

Based on the level of education, most of the mothers of children under five had high school education. Education is a process of empowering students as subjects and objects in building a better life. Education is also a conscious and systematic process in schools, families, and communities to convey an intention from a predetermined concept. Afrilia stated that the incidence of malnutrition that occurs in pregnant women is generally from the education level group. There is a relationship between mother's education and knowledge of balanced nutrition. Another researcher <sup>(10)</sup> reported that education level affects mother's level of knowledge. Education is closely related to the perspective or knowledge of a person in perceiving something to making certain decisions for their own health problems. The higher a person's education, the wider his knowledge. But that does not mean that low education will always have low knowledge. This is because an increase in one's knowledge is not only obtained from formal education, but can also be obtained from non-formal education.

The results showed that most of the mothers under five did not work. The results of the analysis show that mothers who do not work have better knowledge. This happens because mothers who do not work have more free time to seek information about nutritional patterns for their children.

The work of the husband or wife also determines the nutritional adequacy of pregnant women in a family. Work is related to the amount of salary received. The higher the position in the work automatically the higher the income received, and the greater the amount of money spent to meet adequate nutrition in the family. Work-related income is the most decisive factor regarding the quantity and quality of food. Increased income can

encourage improved health and family problem solving related to nutritional status. Low income will affect purchasing power, so other ways are needed to overcome wrong eating habits that can have a negative impact on their children <sup>(11)</sup>.

Most family incomes are above the regional minimum wage. The results showed that there was a difference in the increase in knowledge after giving counseling using BOCESTING based on family income. Another finding showed that the higher the income, the greater the nominal value spent on food, although the percentage decreased. One of the factors that determine nutritional adequacy is income. Income shows that the family's ability to buy food is low, it is not enough to buy the food needed. Although spending on food is more than half of family income, due to low family income, the amount spent on food is also low. Low purchasing power causes the availability of food at the family level is also less which in the end results in the level of family consumption being lower than sufficient <sup>(12)</sup>.

The knowledge gained can come from own experience or the experience of others. Based on the results of the study, there was an increase in knowledge after being given counseling using BOCESTING. The results of this study are in line with other findings <sup>(13)</sup> which state that factors related to parental knowledge about stunting are age, education and information factors, but in this case the most dominant information factor has an influence on parents' (mother's) knowledge about stunting. Based on the odd-ratio, the information factor also has the largest value, namely 30.988, meaning that the information factor that has been received by parents has a 30.998 chance of forming parents' knowledge about stunting. Parents who have received information about stunting must have understood, interpreted, and remembered the message conveyed from the information obtained so as to form good knowledge. Information is the most dominant factor so that it can change one's knowledge even though other factors that affect knowledge are not changed. Providing information about stunting can be the main solution to increase parental knowledge.

The results of this study indicate that booklets can help mothers of toddlers easily and efficiently in increasing knowledge about nutritional parenting for mothers of toddlers in the work area of the Mantang Health Center. This is in accordance with the theory which states that the increase in knowledge can be influenced by several factors, one of which is the mass media. The use of media in health education aims to raise attention to a problem and remind the information conveyed so that it causes changes in knowledge. Although there are other methods, namely counseling which is a government program carried out by health workers in the work area, the results obtained are not good enough to increase the knowledge of mothers under five about nutritional parenting.

## CONCLUSION

Based on the results of the study, it can be concluded that counseling using BOCESTING is effective for increasing knowledge.

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