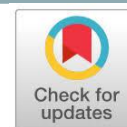


## Kadarsting module increase knowledge and practice of stunting toddlers' family



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### ABSTRACT

Stunting is one of the Sustainable Development Goals (SDGs) targets to eliminating hunger and all forms of malnutrition in 2030. Stunting problems are mainly due to the influence of family parenting. Lack of family knowledge in providing care for stunting toddlers can worsen the situation of toddlers. The purpose of this study was to determine the effectiveness of the content module on the knowledge and practice of stunting toddler family management. Method: quasi-experimental with a total sample of 30 control groups and 30 treatment group respondents. Educational provision to the treatment group was given for 2 days where respondents were given an explanation of the content of the staging module and on day 2 the mother was given a knowledge post-test. For 3 months the mother will be observed about the module practice which is done every 2 weeks. There were differences in knowledge between the treatment (n=30; mean= 2.47) and control groups (n=30; mean= 1.10) with the result p=0.001. There were differences practice between the treatment (n=30; mean rank= 35.63) and control groups (n=30; mean rank= 25.37) with the result p=0.004. The *Kadarsting* module was effective in increasing the knowledge and practice of mothers or families to deal with toddler stunting.



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### INTRODUCTION

Children under five are an age group that is vulnerable to nutrition and disease. Poor nutrition in infants will result in poor quality of human resources. Malnutrition or malnutrition is the cause of death for 3.5 million children under five in the world [1]. The majority of cases of malnutrition are in the twenty countries targeted for assistance with food and nutrition problems. These countries include Africa, South Asia, Myanmar, North Korea, and Indonesia [2].

Stunting is a condition where the body is short and so short it exceeds the -2 SD deficit below the median length or height. Short (stunted) and very short (severely stunted) toddlers are toddlers with body length (PB / U) or height (TB / U) according to their age [3]. Stunting is one of the targets of the Sustainable Development Goals (SDGs) which is included in the 2nd sustainable development goal to eliminate hunger and all forms of malnutrition by 2030 and achieve food security. The target set is to reduce the stunting rate by 40% by 2025 [4].



In Indonesia, a report issued by UNICEF shows that an estimated 7.8 million children under the age of five are stunted. The results of *riskesdas* in 2013 showed a high stunting 37% in children under five. This means that one in three children in the toddler age group is shorter than the standard height for their age. In 2018 the stunting rate was 30.8%, which was 19.3% short and 11.5% very short [5]. The prevalence of cases stunting in Central Java based on *Risikesdas* 2010 was 33.9%, with 17% stunting and 16.9% very short children and an increase in 2013, namely 37.2%. This prevalence rate is still above the universally agreed threshold, where if the problem is stunting above 20% it is still a public health problem [6]. According to the health profile of Blora Regency in 2015, the prevalence of children under five with stunting was 7.39%, in 2016 under five with stunting was 7.40% and in 2017, for children under five with stunting was 9.67% [7].

Stunting can cause developmental problems in children, especially in children under two years of age. Generally, stunted children will experience obstacles in their cognitive and motor development which will affect their productivity as adults. In addition, stunted children also have a greater risk of suffering from non-communicable diseases such as diabetes, obesity, and heart disease as adults [4]. Stunting includes chronic nutritional problems caused by many factors such as socioeconomic conditions, maternal nutrition during pregnancy, infant illness, and lack of nutritional intake in infants. Other causes of stunting are limited health services, lack of clean water and sanitation, lack of access to nutritious food to families, poor parenting practices of families [3].

Implementation of the Healthy Indonesia Program with a Family Approach, efforts made to reduce the prevalence of stunting in infants, namely monitoring infant growth and development, organizing Supplementary Food activities for toddlers, organizing early stimulation of child development and development, and providing optimal health services. This stunting problem is mainly due to the influence of family parenting. Lack of family knowledge in providing care for stunting toddlers can worsen the condition of toddlers [6]. Based on data from the Blora Regency health office 2018, the factors that cause stunting are PHBS, infectious diseases, pregnant women are at risk of anemia, pregnant women are at risk of KEK, not exclusive breastfeeding, not IMD and parenting styles. The most influential factor is parenting as much as 79.3%. Many programs have been implemented to reduce stunting, but they have not been able to reduce the incidence of stunting. The main role in reducing stunting is the role of the family in preventing stunting cases.

The family is the first person who is close to the child. Good parenting can prevent children from stunting. Knowledge and ability in implementing good nutrition-aware family can help toddlers in good nutritional status. Based on research by Amalia and Mardiana (2016), there is a relationship between parenting styles and the nutritional status of toddlers. The care provided is in the form of feeding, psychosocial stimulation, hygiene practices, and health care for toddlers. For mothers of toddlers to pay attention to children's nutritional intake, monitor their children's growth and development, and routinely carry out *posyandu* activities to avoid malnutrition or malnutrition in toddlers [8].

Facilitating access to family information and providing information on children's health and nutrition that is easy for every family to understand and implement are also effective ways to prevent stunting. According to the research of Kusumawati, Rahardjo, and Sari (2015) that the existence of a stunting control model through increasing family empowerment related to the prevention of stunting about infectious diseases, using the yard as a source of family nutrition, and improving environmental sanitation can reduce the incidence of stunting [9].

The *Kadarsting* module is a module that contains how families provide child care to prevent stunting. So far, activities to prevent stunting in Blora Regency are only through socialization and giving media as family reading materials with leaflets only. The difference in this *Kadarsting* Module is that in addition to containing material on how families prevent children from stunting, there is also an observation sheet on whether the child has been given measures to prevent stunting. Based on this background, the researchers examined

## "the Effectiveness of the Sting Level Module on the Knowledge and Practices of Families of Toddler Stunting"

### METHOD

This research has conducted a proper ethical test at the Poltekkes Ministry of Health Semarang with No. 160 / EA / KEPK / 2019. This type of research was quasi-experimental research, namely the provision of treatment with a non-randomized prospective study design. The research period was July - November 2019 in Sidomulyo Banjarejo Village and Temurejo Blora Village, Blora Regency. The population in this study were all stunting mothers in Sidomulyo Village, Banjarejo District, and Temurejo Village, Blora District, Blora Regency. The number of samples is 60 respondents, 30 treatment groups, and 30 control groups. Inclusion criteria are mothers who have stunting children aged 1-5 years, willing to be respondents, can read. The exclusion criteria were respondents who were sick and hospitalized during the study. The sampling technique used was consecutive sampling. The independent variable is the Kadarsting Module. While the dependent variable is knowledge and practice. The instrument used for the knowledge and practice variables was a questionnaire with 20 questions each that had been tested for validity and reliability.

The research was conducted by dividing the mothers into 2 groups, namely the control group and the treatment group. The treatment group of mothers who received the Kadarsting module, while the control group without the staging module was only given general socialization about stunting. Both groups received pre-test and post-test of knowledge and practice before the activity. Education is given for 2 hours for 2 days in which the respondent is given an explanation of the contents of the performance module and on the second day, the mother is given a post-test of knowledge. For 3 months the mother will be observed about the practice of using the string module, which is done every 2 weeks.

The knowledge and practice data used a numerical scale so that the analysis pre and post-test of the control group's knowledge used the dependent t-test (normal data). the knowledge of pre and post-test the treatment group used the test Wilcoxon (data not normal). The practice pre and post-test in both groups used the test Wilcoxon (abnormal data). The analysis between knowledge variables of the treatment and control groups used the dependent t-test (normal data) and the practice variables in the control and treatment groups used the test Mann Whitney (abnormal data). The data used is the difference between knowledge and practice scores.

### RESULTS

#### Characteristics of Respondents

Samples of this study were mothers with stunting children of 60 respondents who met the inclusion and exclusion criteria :

Table 1. Characteristics of Respondents

Characteristics	Treatment Group		Control Group		Total		
	N	%	N	%	N	%	
Age	Productive (15-65 years old)	30	50	30	50	60	100
	Not Productive (<14 and >66 years old)	0	0	0	0	0	0
Education	Elementary	0	0	0	0	0	0
	Middle School	7	43.75	9	56.25	16	100
	High School	22	53.66	19	46.34	41	100
Work	Bachelor	1	33.33	2	66.67	3	100
	Housewife	24	51.06	23	48.94	47	100
	Private work	0	0	1	100	1	100
	Farmers	6	50	6	50	12	100

Characteristics	Treatment Group		Control Group		Total		
	N	%	N	%	N	%	
Knowledge before	Good	16	66.7	8	33.3	24	100
	Enough	8	32	17	68	25	100
	Less	6	54.6	5	45.4	11	100
Knowledge after	Good	21	52.5	19	47.5	40	100
	Enough	5	38.5	8	61.5	13	100
	Less	4	57.1	3	42.9	7	100
Practices Before	Good	22	55	18	45	40	100
	Sufficient	8	40	12	60	20	100
Practices After	Good	25	56.8	19	43.2	44	100
	Sufficient	5	31.2	11	68.8	16	100

Source: Primary data, 2019

The age of respondents is productive age 15-65 years 100% (50% control group and 50% treatment group). The highest education was respondents of high school treatment 53.66% and control of high school 46.34%. The average occupation of Housewife respondents was 48.94% for the control group and 51.06% for the treatment.

### Differences in the use of staging modules for knowledge

Table 2. Differences Test before after knowledge

	before		after		P-value
	Mean	SD	Mean	SD	
Control	13.83	1.877	14.93	1.999	0.000 <sup>a</sup>
Treatment	14.03	2.977	16.50	3.340	0.000 <sup>b</sup>

Source: Primary Data, 2019 (a: test dependent t-test; b: Wilcoxon test)

Table 2 describes the knowledge before and after the control and treatment groups. Normality test is done with the results in the control group that is normal data distribution ( $p > 0.05$ ). The results of paired t-test showed that in the control group there was a difference between before after  $p = 0.000$  ( $p < 0.05$ ). In the treatment group normality test for abnormal data distribution ( $p < 0.05$ ) test used the Wilcoxon test with the results there was a difference between before after  $p = 0.000$  ( $P < 0.05$ ).

Table 3. Test the difference in knowledge between groups

Variable	N	Mean	p-value
Difference in Knowledge Control	30	1.10	0.001
Treatment	30	2.47	

Source: Primary data, 2019

Table 3 shows the differences between the 2 control and treatment groups. The difference in knowledge between the two groups resulted in a normal data distribution ( $p > 0.05$ ). The test used was the independent t-test with a result of  $p = 0.001$  ( $p < 0.05$ ) meaning that there were differences in knowledge between the treatment and control groups. If you see the mean difference in knowledge in the treatment group (2.47) is higher than the control group (1.10).

### Differences in the use of staging modules in practice

Table 4. Differences Test before after practice

	Before		After		P-value
	Mean	SD	Mean	SD	
Control	2.50	1.017	2.63	0.028	0.046 <sup>b</sup>
Treatment	2.80	0.847	3.33	1.028	0.000 <sup>b</sup>

Source: Primary Data, 2019 (a: dependent t-test; b: Wilcoxon test)

The table above explains the pre and post practices in the control and treatment groups. The normality test was carried out with the results in the control group and the treatment group was the data distribution was not normal ( $p < 0.05$ ). The results of the Wilcoxon test showed that in the control group there was a difference between before after  $p = 0.046$  ( $p < 0.05$ ) and in the treatment group there was a difference between before after  $p = 0.000$  ( $P < 0.05$ ).

Table 5. Practice differences between groups

Variable	N	Mean Rank	p-value
Difference Practice	Control	30	25.37
	Treatment	30	35.63

Source: Primary Data, 2019

The table above shows the differences between the 2 control and treatment groups. The difference in normality test practice shows abnormal data ( $p < 0.05$ ). The test used is the Mann-Whitney test with the results of  $p = 0.004$  meaning that there are differences between the two groups.

## DISCUSSION

### Characteristics of Respondents

The age of respondents is productive age 15-65 years 100% (50% control group and 50% treatment group). The population group of 0-14 years old is considered as a group that has not been economically productive and the population group aged 64 years and over as a group that is no longer productive. The highest education was respondents of high school treatment 53.66% and control of high school 46.34%. According to Soetjningsih (2012) states that parental education is one of the important factors in children's growth and development. Because with good education, parents can receive all information from outside, especially about good parenting procedures, how to take care of their children's health, education, and so on [10]. Rahayu and Khairiyati's research (2014) have a significant relationship between maternal education and the incidence of stunting. Mothers with low levels of education are 5.1 times more likely to have stunted children [11].

The average occupation of Housewife respondents was 48.94% for the control group and 51.06% for the treatment. Anisa (2012) mentions parental employment status affects parenting patterns. In working parents, especially mothers, it can cause less time allocation for children less than mothers who do not work [12]. The mother's knowledge in the pre-test treatment group was good (66.7%) and the control group was 68%. Mother's knowledge in the post-test of the two groups was good (47.5% control group and 52.5% treatment). A person's knowledge can become wider by having more sources of information, a person will tend to get information, both from other people and from other media. The

more knowledge one has, the more it will affect the attitude and practice of someone. And vice versa if the respondent has a low level of knowledge, will hinder the development of attitudes and practices in obtaining new information [13]. The practice of mothers in providing care for stunting toddlers is on average good at pre-test and post-test. The control group both pre-test 45% and 55% pre-test treatment. In the post-test both the control group 43.2% and 56.8% treatment group. Practice in providing care can be seen from the high level of knowledge and attitude of a person towards the importance of the problem to be immediately addressed. Research by Niga and Purnomo (2017) that the relationship between the practice of feeding, health care, and child hygiene with the incidence of stunting in children aged 1-2 years. Nutritious feeding practices can reduce the incidence of failure to thrive. Health care practices such as immunization can reduce the incidence of infection in infants. The practice of maintaining cleanliness can reduce infectious diseases that enter the body [14].

### **Differences in the use of staging modules for knowledge**

Nutrition knowledge is the mother's knowledge about nutrition which is very influential on the child's growth. The concept of behavioral adoption put forward by Hapsari (2018) that the process of forming behavior is the evolution of knowledge that can shape attitudes and can then influence the creation of behavior (practice) [15]. Based on the research of Abebe, et al (2016) that the mother's knowledge about child care parenting is related to the child's height. Mothers who have high knowledge of low stunting children. With counseling about stunting child feeding, mothers can have a lot of knowledge so that it can influence the practice of mothers in providing food to children [16]. Ni'mah and Nadhiroh's research (2016) states that factors related to the incidence of stunting are the length of the birth body of a toddler, history of exclusive breastfeeding, family income, mother's education, and nutrition knowledge of mothers towards the incidence of stunting in infants. Ignorance of nutrition information can cause a lack of quality or nutritional quality of family food, especially food consumed by infants. One cause of nutritional disorders is a lack of nutritional knowledge and one's ability to apply information about nutrition in daily life. The level of a mother's nutritional knowledge influences attitudes and behaviors in choosing food ingredients, which will further affect the nutritional situation of her family [17].

Research by Hestuningtyas and Nuer (2014) that there is an effect of counseling on changes in knowledge, attitudes, and practices of mothers in the provision of food and nutrient intake [18]. Based on research by Kusumawati, et al. (2015) that the stunting control model through increased family empowerment related to infectious disease prevention can reduce the incidence of stunting. Family knowledge can determine the right care for stunting children with a family stunting control model that can provide appropriate food, prevention of disease in children, environmental hygiene, or healthy sanitation [19].

### **Differences in the use of staging modules in maternal practice**

Parenting is a behavior of mothers in caring for their toddlers. Own behavior based on Notoatmodjo (2011) is influenced by attitudes and knowledge. Good knowledge will create a good attitude, then if the attitude is considered appropriate, good behavior will also appear. The knowledge itself is obtained from information obtained both from formal education and from the media such as modules. Behavior or practice is decisive in providing appropriate care for stunting children. Parents can provide proper food, prevent infectious diseases, clean environment [20].

Lavado, et al (2017) that there is a relationship between the practice of care to children with the incidence of stunting. The practice of providing care is care patterns in providing appropriate food for children. Sufficient knowledge of stunting child care can help mothers in giving good care to their children. The role of the family, especially mothers in parenting, will determine the child's growth and development stating that the mother's

behavior in breastfeeding or feeding, how to eat healthily, provide nutritious food and control large portions spent will improve the nutritional status of children [21].

Dewi and Aminah Research (2016) that there is an influence of nutrition education on feeding practices in stunted children. Nutrition education can increase knowledge and practice of feeding even though the growth of children does not increase directly. Nutrition education for mothers and caregivers of toddlers is one of the recommendations for alleviating the problem of stunting in Indonesia. Nutrition education can be done individually or in groups. From the research that has been done, nutritional counseling intervention methods are proven to be able to improve the knowledge, attitudes, and behavior/practices of toddlers [13].

## CONCLUSION

There is a difference in the pre-post test of the mother's knowledge and practice about handling toddler stunting in the treatment group and the control group. There is an influence of the Kadarsting (Stunting Conscious Family) module on mother's knowledge and practice of handling toddler stunting

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