

The Effect of Family-Based Nutrition Education on the Intention of Changes in Knowledge, Attitude, Behavior of Pregnant Women and Mothers With Toddlers in Preventing Stunting in Puskesmas Batakte, Kupang Regency, East Nusa Tenggara, Indonesia Working Area

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ABSTRACT

The golden period of development of a child starts from the time the child is in the womb to the age of two. Pregnant women and children under 5 years of age are at the highest risk of micronutrient deficiencies (MNDs), growth problems, intellectual decline, perinatal complications and an increased risk of morbidity and mortality. Therefore, pregnant women and mothers with toddlers need an educational program about proper nutrition for the health of both mother and fetus. Family-based education according to a healthy family program can increase the intention to change health behavior. According to Theory of Planned Behavior (TPB), the intention to change behavior is influenced by attitudes, subjective norms and perceptions of behavior control. This study aims to identify the effect of family-based education on the intention of pregnant women to optimize nutrition in the first 1000 days of life so as to prevent stunting in the working area of the Batakte Health Center, Kupang Regency. The research design used a quasi-experimental, pre-test and posttest one group design. Sampling with total sampling technique of all pregnant women recorded at the Puskesmas amounted to 13 people, and mothers with toddlers as many as 33 people. Educational activities are carried out through three home visit meetings. Data analysis using *Paired T-Test*. The results showed that there was a significant influence between family-based education on the intention of knowledge, attitudes, behavior of pregnant women and mothers with toddlers to optimize nutrition in preventing stunting ($p = 0.00$).

Keyword: pregnant women, mothers with toddlers, nutrition education

INTRODUCTION

Stunting or a short child is described as a toddler who has a height lower than the standard height of his age. Stunting is one of the characteristics that indicates the occurrence of recurrent nutritional problems and for a long time. Stunting in early childhood is known to have lower levels of intelligence, motor skills, and neurosensory integration. Thus, stunting during infancy will affect the quality of life at school age, adolescence, and even adults¹.

According to a study by Unicef Indonesia, there are various obstacles that cause the high rate of stunting children aged 6-23 months in Indonesia. One of the main obstacles is inadequate knowledge and inappropriate nutrition practices. In particular, it was explained that the knowledge and practice that became the main obstacle was the lack of exclusive breastfeeding and the lack of appropriate complementary feeding (41%)².

Nutrition education is a part of health education activities, defined as a planned effort to change the behavior of individuals, families, groups and communities in the health sector³. Academic Nutrition and Dietetics (AND) defines nutrition education as a formal process to train client skills or increase client knowledge in choosing food, physical activity, and behavior related to health maintenance or improvement⁴. Thus, the activities that must be carried out to improve knowledge, attitudes, and nutrition behavior are nutrition education. Nutrition education is able to increase knowledge and feeding practices of mothers even though children's growth does not increase directly⁵. Nutrition education for mothers and caregivers of toddlers is one of Unicef Indonesia's

recommendations to alleviate the problem of stunting in Indonesia. Nutrition education can be carried out individually or in groups. From the research that has been done, nutrition extension intervention methods have been shown to be able to improve the knowledge, attitudes, and behavior of mothers under five years of age⁶.

The research was aimed at studying the effect of providing nutrition education on the intention to change the knowledge, attitudes and behavior of pregnant women and mothers with toddlers in preventing stunting.

RESEARCH METHODS

This type of research is quantitative research and the research design used is a quasi-experimental pre-post test. The independent variable of this research is nutrition education with the *Brief Strategic Family Therapy* (BSTF) model and the dependent variable is behavior change.

Intervention activities are carried out twice a month. Some of the activities include one pre-test, 2-time education, one-time cooking demonstration, one-time post test. One week before the implementation of the intervention, a pre-test was carried out. The steps for nutrition education are the researchers asking pregnant women and mothers under baduta about balanced nutrition, using the *form food frequency* (FFQ) and then the respondents wrote down the type, amount and frequency of family meals. Furthermore, providing counseling about balanced nutrition for families, pregnant women and mothers with toddlers. The frequency of intervention is enough to be done twice because the repetition is an optimal measure. If more than three times, it will cause

boredom. Furthermore, a balanced nutrition menu cooking demonstration was carried out to increase knowledge, improve attitudes and sampling skills and efforts to improve the quality of local food-based family menus. A week after the final intervention, a *post test* was performed.

The data that had been collected were analyzed by univariate and bivariate. Univariate analysis using descriptive analysis. The bivariate analysis used was the *Paired T-test*.

RESEARCH RESULT

Characteristics of Research Subjects

The total research subjects of this study were 46 people with 33 mothers with toddlers and 13 pregnant women.

Table 1. Characteristics of mothers with toddlers

Characteristics	Category	n	%
Father's occupation	Employed	30	91
	Unemployed	3	9
Mother's occupation	Employed	4	12.1
	Does not work	29	87.9
Father's education	High	9	27.3
	Low	24	72.7
Mother's education	Low	19	57.6
	High	14	42.4
Number of family members	<= 4 people	16	48.5
	> 4 people	17	51.5
Early Initiation of Breastfeeding	Yes	26	78.8
	No	7	21.2
Breastfeeding status	Exclusive	10	30.3
	Not Exclusive	23	69.7

From the table above, it can be seen that based on the work of the mothers with toddlers, it is known that most of the fathers work 30 people (91%) and most of the mothers with toddlers work as housewives as many as 29 people (87.9%). Most of the fathers and mothers of toddlers have low education, respectively 24 people (72.7%) and 19 people (57.6%). Characteristics of the

number of family members, mostly > 4 people as many as 17 people (51.5%). Characteristics of the history of Early Breastfeeding Initiation (IMD), most of them performed BMI of 26 people (78.8%). Characteristics of the history of exclusive breastfeeding, most of them did not give exclusive breastfeeding as many as 23 people (69.7%).

The table above shows the characteristics of pregnant women. Based on the job characteristics of the husband, all husbands work as much as 100%, the characteristics of the work of pregnant women, most of them do not work as much as 84.6%. Educational characteristics, most of the husbands have low education as much as 69.2%, some of the pregnant women have high education as much as 53.8%. Characteristics of the number of family members, mostly > 4 people as much as 53.8%. Characteristics of ANC, most pregnant women performed ANC <4 times as much as 53.8%. Characteristics of LiLA, all pregnant women did not experience KEK as much as 100%, and characteristics received iron tablet tablets, most pregnant women received iron tablet as much as 76.9%.

Table 2. Characteristics of Pregnant Women

Characteristics	Category	N	%
Husband's occupation	Employed	13	100
	Unemployed	0	0
Respondent's occupation	Employed	2	15.4
	Unemployed	11	84.6
Husband's education	High	4	30.8
	Low	9	69.2
Respondent's education	High	7	53.8
	Low	6	46.2
Number of family members	≥4 people	6	46.2
	> 4 people	7	53.8
ANC	<4 times	7	53.8
	≥4 times	6	46.2
LILA	No KEK	13	100
	KEK	0	0
Accepts TTD tablets	Yes	10	76.9
	No	3	23.1

Table 3. Characteristics of respondents before and after the intervention

Characteristics	Category	Before		After	
		n	%	n	%
Nutritional knowledge	Good	27	58.7	40	87
	Less	19	41.3	6	13
Attitude nutrition	Good	31	67.4	43	94
	Less	15	32.6	3	6
Behavior	Good	22	47.8	37	80.4
	Less	24	52.2	9	19.6

Table 4 Results of Bivariate Analysis

No.	Characteristics	Before intervention	After the intervention	P-Value
1	Knowledge:			0.000
	Minimum	64.43	67.50	
	Mean	15	28	
2	Attitude:			0.000
	Minimum	51.70	54.93	
	Mean	25	30	
3	Behavior:			0.000
	Minimum	48.65	53.43	
	Mean	30	40	
	Maximum	56	60	

DISCUSSION

The characteristics of the research sample in terms of education level, occupation, number of family members did not differ between groups of women with toddlers and pregnant women. Most of the parents of toddlers and pregnant women and their husbands have low education. This educational history may be a factor affecting the level of understanding of the sample towards a given intervention. Most of the mothers with toddlers do IMD but do not provide exclusive breastfeeding. Most pregnant women do ANC less than 4 times.

From the results of the paired t test analysis, it is known that the differences in the pre-test and post-test of family-based nutrition education on changes in knowledge, attitudes and behavior of poor women and pregnant women respectively with a value of $p = 0.000 < \alpha 0.05$. This means that there is an effect of family-based nutrition education on the knowledge, attitudes and behavior mothers with toddlers and pregnant women in the prevention of stunting under five in the Batakte Community Health Center, Kupang Regency.

The higher a person's education level, the easier it will be for someone to receive the information obtained so that they can increase their knowledge, conversely, the lower the level of one's education, the more difficult it will be for someone to receive information so that the knowledge obtained is less than optimal. The process of developing attitudes in response to the new values introduced will also be hampered. On the other hand, low education can also cause a person's intellectual power to be limited so that they are still influenced by the surrounding environment, such as local culture and the influence of other people who dominate a person in shaping their knowledge⁷.

Knowledge is a stimulus that is obtained by a person through the senses, giving rise to stimulation of attitudes and behavior⁸. The sense of sight is the sense that most transmits knowledge into the human brain. About 75% -87% of human knowledge is obtained through the sense of sight, 13% through the sense of hearing and 12% through the other senses⁹. Knowledge of balanced nutrition can be reflected in the way mothers choose food for their family needs. Therefore, the knowledge of nutrition and the skills of mothers in choosing food greatly influence the family's diet so that the knowledge of mothers about nutrition is very necessary to determine the consumption of good food in an effort to improve the nutritional status of children under five.

The results of this study are in line with Tambuwun's research (2019) where health promotion uses lecture and leaflet methods, which are very effective for sharing health information in increasing the knowledge of pregnant women, because it includes the delivery of oral and written information¹⁰. Another study, Febriantika (2017) with the results of statistical tests with the t test obtained a value of $p = 0.000$, so it can be concluded that there is an effect of knowledge education about nutrition of pregnant women¹¹. Azria (2015) where there are differences in knowledge and behavior between the control and intervention groups that were given education about nutrition¹².

The level of nutritional knowledge of a person

affects the attitude and behavior in choosing food which determines whether it is easy for a person to understand the benefits of the nutritional content of the food consumed. Good nutritional knowledge is expected to affect the consumption of good food, so that it can lead to a good nutritional status as well. Nutritional knowledge also has a very important role in shaping a person's eating habits. So that the family-based nutrition education that is given can influence the behavior of mothers about balanced nutrition so as to prevent stunting.

The results of statistical tests showed that there were differences in the attitudes of pregnant women and poor women after being given nutrition education with a value of $p < 0.05$. The results of this study are in line with Aindrawati (2014) using the Wilcoxon test that there is an effect of counseling on the attitude of parenting nutrition for parents. The improvement of the attitudes of most parents cannot be separated from the factors that support a positive attitude, including spiritual factors and enthusiasm / enthusiasm factors¹³. In line with Prentice's (2013) research, there is an effect of nutrition education on maternal behavior in providing a balanced menu, namely an increase in knowledge, attitudes, and actions in providing a balanced menu for toddlers¹⁴.

Notoadmodjo (2012) states that analyzing human behavior starts from the health level. Health is influenced by 2 factors, namely behavior causes and non-behavior causes¹⁵. Adriani (2012) states that there are 3 factors that determine a behavior, in this case the behavior in question is the fulfillment of nutrition in toddlers¹⁶.

Based on statistical analysis, there is an effect of nutrition education on the behavior of pregnant women and mothers with toddlers at Batakte Health Center. These results are in line with research conducted by Pratiwi (2020) that there is a change in behavior in pregnant women after being given education about balanced nutrition in early prevention of stunting¹⁷. Another study similar to Amalia (2018) where there is an effect of nutrition education on the behavior of prospective mothers in preventing SEZ for pregnant women¹⁸.

Nutrition education interventions include providing knowledge and providing motivation towards changing attitudes and feeding behavior. Nutrition education with media in the form of booklets and direct samples (food samples) will be easier for the research subjects to understand because it attracts attention and is not boring. This was shown by the two groups through an increase in the scores of knowledge, attitudes and behavior of pregnant women and mothers with toddlers. According to sensory experts, 75% to 87% of human knowledge is transmitted through the sense of sight. Images contained in the PMBA book, how to wash hands properly and sample dishes are stimuli that may be easily remembered by the sample so that the value of knowledge, attitudes and behavior of feeding increases¹⁹.

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