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The Effect of Education Using Module and Video on Improvement of Mother's Knowledge and Attitude About Nutrition on Toddler in Integrated Healthcare Center, East Jakarta

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Abstract---*Early Childhood is a period that is very sensitive to the environment and the future is very short. Lack of knowledge about nutrition and health of parents, especially mothers, is one of the causes of malnutrition in toddlers. The purpose of this study was to be able to discuss education using modules and videos to increase mother's knowledge and attitudes about balanced nutrition. The data used are secondary data and primary data. The research design is cross sectional with the main instrument in the form of a questionnaire. The research was carried out at the Integrated Service Post, Cipayung District, East Jakarta in April – October 2019. The population of respondents was mothers with children aged 3-5 years, sampling using the Purposive Sampling technique. Video and module methods that support positive attitudes towards attitude change and increase mother's knowledge about balanced nutrition for toddlers, however, seem to be related to video media which is relatively better in increasing mother's knowledge and attitude change by using module media.*
Keywords---*attitudes, education, knowledge, modules, videos*

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Introduction

Early childhood is a period that is very sensitive to the environment and this period is very short. This period is referred to as the golden period, the window of opportunity and the crtical period. If in that period there is a disturbance in the fulfillment of nutrition, early childhood will experience obstacles in growth and development (Kemenkes, 2017). Non-optimal nutrition is related to poor health, namely an increased risk of disease and its complications, either from malnutrition or overnutrition. Malnutrition in children is associated with poor mental development and learning or school achievement and even abnormalities in behavior (Matrins et al. 2011). It is recorded that 4 million Indonesian children suffering from malnutrition are threatened with falling into malnutrition. Woefully out of 700,000 malnourished people, the government's ability to handle only 39,000 malnourished children per year (Damanik 2015). The results of Riskesdas data in 2013 showed that the prevalence of underweight in 2013 was 19.6%, consisting of 5.7% malnutrition and 13.9% malnutrition. The incidence increased compared to the national prevalence rates in 2007 (18.4%) and 2010 (17.9%). Changes mainly occurred in the prevalence of malnutrition i.e. 5.4% in 2007, 4.9% in 2010 and 5.7% in 2013.The prevalence of malnutrition rose by 0.9% from 2007 to 2013.The 2014 Total Diet Study found that on average 55.7% of toddlers get energy intake that is less than the Energy Adequacy Rate (EAR) (Kemenkes, 2014).

Based on the results of nutritional status monitoring (NSM) of toddlers in 2016, 14.4% were malnourished and 3.4% were malnourished according to the weight per age index. Meanwhile, 19.0% of toddlers are stunted and 8.5% of toddlers are severely stunted according to the height per age index (Kemenkes, 2017). Judging from the target of the Long-Term Health Development Plan (LTHDP) 2005-2025, namely increasing the degree of public health, one of the existing indicators is to reduce the prevalence of malnutrition in toddlers (Kemenkes, 2013). To achieve the sustainable development goals (SDGs) by 2030, the prevalence of malnutrition nationally must be lowered. This is stated in the 2030 SDGs target number two, namely the community nutrition target with the slogan zero hunger, and one of the contents says to end all forms of malnutrition both for babies, toddlers, adolescents, adults, pregnant women and the elderly (Kemenkes, 2013).

In addition, one of the focuses of four health development programs in the 2015-2019 period is to reduce the prevalence of stunting. Efforts to improve the nutritional status of the community, including reducing the prevalence of short toddlers, are one of the national development priorities, which are listed in the main target of the 2015–2019 Medium-Term Development Plan with a target of reducing it to 28% (Kemenkes, 2018). The causes of malnutrition status consist of two factors, namely: (1) Potential resource factors such as politics, ideology, superstructure, and economic structure, (2) Human resource factors that are closely related to people's knowledge and education12. Research conducted by Tioria (2016), on Factors Affecting the Incidence of Malnutrition in Children Under Five in the Work Area of the Glugur Darat Health Center, East Medan District in 2016 gave results that statistically the characteristics (knowledge, family income, number of family members) and parenting patterns (foster feeding, health care) had a significant effect on the incidence of malnutrition (Hutagalung, 2016).

The government has expended many efforts to address the problem of malnutrition and malnutrition in children under five. To support these efforts, since 2011 the Ministry of Health has provided a Health Operational Assistance budget which, among other things, can be used for guidance and counseling at integrated service centers as well as providing food for recovery from malnutrition (Ri, 2019). The government's efforts in terms of nutrition development are still failing. According to Ali (2003), the factors of failure are: 1) Limited access to food due to low purchasing power; 2) Nutritional problems are still only a small part of health affairs; 3) The absence of correct or accurate data will disrupt nutrition programs, interventions will be misdirected, and the coverage achieved is pseudoscientific. These failure factors have great consequences or impacts on the nation such as poor physical quality of children, intellectual impairment, sports achievements are slumped, competitiveness is weakened, and in the long run the country will be far behind in any field by other countries. In addition to having an impact on the growth and development of the child itself, good nutrition or nutrition, especially in toddlers and children, will affect the economic effects of a country. Undernourished toddlers will grow up sicker, often absent from school and less able to learn than their well-nourished peers (Ali, 2003).

The number of nutritional problems is also proven by various studies. One example is a study conducted by Wardani (2012) on factors that affect the nutritional status of toddlers in Pancoran Mas Village, which has results, namely the incidence of malnutrition status in toddlers is higher in children with less maternal knowledge, namely 58.33% while malnutrition status in children with well-informed mothers is only 41.67%16. Not only that, based on the research of Ramli et al. (2016) The prevalence of stunting and severe stunting is higher in children aged 24-59 months, namely by 50% and 24%, compared to children aged 0-23 months. The findings are similar to results from studies in Bangladesh, India and Pakistan where children aged 24 – 59 months were found to be at greater risk of stunted growth. The high prevalence of stunting in children aged 24–59 months indicates that stunting is unlikely to

be reversible (Ramli et al., 2016). In addition, at the age of 3-5 years or what can also be called preschool age the growth velocity has slowed down (Case, 2016).

Lack of knowledge of nutrition and health of parents, especially mothers is one of the causes of malnutrition in toddlers (Kurniawati, 2012). Generally, a mother compiles her family's meal menu every day. To be able to compile a menu, one needs to have knowledge about food ingredients and nutrients, one's nutritional needs and knowledge of dishes and processing. Lack of knowledge in the field of cooking, child consumption, diversity of ingredients and diversity of types of cooking are factors that affect the nutritional status of toddlers (Wahyani & Rusminingsih, 2015). Based on the description above, researchers are interested in conducting research with the title "The Effect Of Education Using Module And Video On Improvement Of Mother's Knowledge And Attitude About Nutrition On Toddler In In Integrated Healthcare Center, East Jakarta" (Cook & Flay, 1978; Tesser, 1978).

Research Method

This research is a quasi-experimental research design using pre-test and post-test group design. In this design, two groups of subjects were used. First, measurements were made by distributing questionnaires, then treatment was given in the form of providing health education materials, one group using media modules and one group using video media, one month later the questionnaires were redistributed to the same group of respondents. This research was conducted in March-October 2019. This research was conducted at the Posyandu, Cipayung Village, East Jakarta. The population in this study were all mothers who had toddlers aged 3-5 years at the Integrated Service Post, Cipayung District, East Jakarta. The sampling technique in this study used the purposive sampling technique. Based on the proportion test from the results of previous research, the results were 29 respondents and because this study was a two-proportion test, the sample results were multiplied by two to 58 respondents. Researchers also anticipate if there is incomplete data, namely by anticipating the number of samples by 10%. The results of the final calculation are obtained 64 respondents (Korthagen et al., 2006; Robinson & Sexton, 1994).

Result and Discussion

Univariate Analysis

Table 1
Frequency Distribution of Respondent Characteristics

Variable	Total	Prcentage
Mother's age		
< 20 years and > 35 years	26	43,4
20 – 35 years	34	56,7
Education		
Low	14	23,3
Hight	46	76,7
Profetion		
Not Working	51	85
Work	9	15
Parity		
1 Person	16	26,7
≥ 2 People	44	73,3
Total	60	100

Source: Primary Data Processed 2019

Based on table 1 above, it is known that most respondents are aged 20-35 years (56.7%), with the majority having higher education (76.7%), most of them are not working (85%) and parity ≥ 2 people (73.3%) (Gazmararian et al., 2003; Kourilsky & Walstad, 1998).

Table 2
Overview of Knowledge Scores Before and After Getting Health Education Through Video Media

Knowledge Score	Mean	SD	Min - Max	95% CI
Before	13,73	2,303	8-10	12,87-14,59
After	16,57	2,269	12-20	15,72-17,41

Sumber : Data Primer Terolah 2019

Knowledge Score	Mean	SD	Min - Maks	95% CI
Before	13,87	2,360	10-18	12,99-14,75
After	14,80	2,265	10-19	13,95-15,65

Based on the results of the research summarized in table 2 above, the knowledge score after getting health education through video media is the lowest to 12 and the highest score is 20, and with 95% CI it is known that the average knowledge score after getting health education through video media is between 15.72 to 17.41 (Forbes et al., 2016; Deal & Alseidi, 2017).

Table 3
Overview of Knowledge Scores Before and After Getting Health Education Through Module Media

Source: Primary Data Processed 2019

Based on table.3 above. Knowledge score after getting health education through module media is the lowest to 10 and the highest score is 19, and with 95% CI it is known that the average knowledge score after getting health education through module media is between 13.95 to 15.65 (Shaffer & Small, 2004; Wilkinson et al., 2004).

Table 4
Overview of Attitude Scores Before and After Getting Health Education Through Video Media

Knowledge Score	Mean	SD	Min - Max	95% CI
Before	8,17	1,206	6-11	7,72-8,62
After	11,43	1,813	7-14	10,76-12,11

Source: Primary Data Processed 2019

Based on table 4. Above. Attitude Score after getting health education through Video media is the lowest to 7 and the highest score is 14, and with 95% CI it is known that the average attitude score after getting health education through video media is between 10.76 to 12.11 (Peter, 2015; Rivas et al., 2020).

Table 5
Overview of Attitude Scores Before and After Getting Health Education Through Media Module

Attitude Score	Mean	SD	Min - Max	95% CI
Before	8,20	1,215	7-11	7,75-8,65
After	10,27	1,202	8-13	9,82-10,72

Source: Primary Data Processed 2019

Based on the table above.The Attitude Score after getting health education through the media the lowest module became 8 and the highest score was 13, and with 95% CI it was known that the average Attitude score after getting health education through booklet media was between 9.82 to 10.72.

Bivariate Analysis

Both data in the video group and the module group, show that the data is normal (the skewness value divided by the error standard produces a number ≤ 2), this result allows researchers to conduct further statistical tests using independent t tests and T dependent tests (T paired tests). The results of advanced calculations can be analyzed again in the following exposure.

Table 6
Test results of the Effect of Health Education on Knowledge Change

Health Education	Mean	F	P	Decision
After Video Media	16,57	0,090	0,004	H_0 rejected
After Module Media	14,80			

Source: Primary Data Processed 2019

Table 6. above shows the values of F = 0.090 and P = 0.004, so it can be concluded that there is a significant difference between the group that received health education using video media and those who used module media against changes in knowledge (0.004 < 0.05).Health education using video media is more effective in increasing respondents' knowledge because the mean is greater than that of module media (16.57 > 14.80).

Table 7
Test results of the Effect of Health Education on Attitude Change

Health Education	Mean	F	P	Decision
After Video Media	11,43	3,877	0,005	H_0 rejected
After Module Media	10,27			

Source: Primary Data Processed 2019

Table 7. above shows the values of F = 3.877 and P = 0.005, so it can be concluded that there is a significant difference between the group that received health education using video media and those who used module media for attitudinal changes (0.005 < 0.05).Health education using video media is more effective in improving respondents' attitudes because the meannya is greater than that of module media (11.43 > 10.27).

Table 8
The Effect of Increasing Knowledge with the Age of Respondents

Knowledge Enhancement	Age				Total		P-Value
	<20 dan >35 years		20-35 years				
	N	%	N	%	N	%	
Doesn't increase	7	35	13	65	20	100	0,519
Increase	19	47,5	21	52,5	40	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the increase in knowledge and the age of respondents, it was found that the P value of 0.519 showed that there was no significant relationship between the increase in knowledge and the age of the respondent.

Table 9
The Effect of Increasing Knowledge With Respondents' Education

Knowledge Enhancement	Education				Total		P-Value
	Low		Hight				
	N	%	N	%	N	%	
Doesn't increase	3	15	17	85	20	100	0,347
Increase	11	27,5	29	72,5	40	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between increasing knowledge and respondents' education, it was, it was found that the P value of 0.347 showed that there was no significant relationship between increasing knowledge and respondents' education.

Table 10
The Effect of Increasing Knowledge on The Work Of Respondents

Knowledge Enhancement	Profetion				Total		P-Value
	Not Working		Work		N	%	
	N	%	N	%			
Doesn't increase	17	85	3	15	20	100	1,000
Increase	34	85	6	15	40	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the increase in knowledge and the work of respondents, it was found that the P value of 1,000 showed that there was no significant relationship between the increase in knowledge and the work of respondents.

Table 11
The Effect of Increasing Knowledge with Respondent Parity

Knowledge Enhancement	Parity				Total		P-Value
	1 person		≥ 2 people		N	%	
	N	%	N	%			
Doesn't increase	6	30	14	70	20	100	0,918
Increase	10	25	30	75	40	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the increase in knowledge and the parity of respondents, it was found that statistical test, a P-value of 0.918 was obtained, this showed that there was no significant relationship between the increase in knowledge and the parity of respondents.

Table 12
The Effect of Improving Attitudes with The Age of Respondents

Knowledge Attitude	Age				Total		P-Value
	<20 and >35 years		20-35 years		N	%	
	N	%	N	%			
Doesn't increase	3	42,9	4	57,1	7	100	1,000
Increase	23	43,4	30	56,6	53	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the increase in attitudes and the age of respondents, it was found that the P value of 1,000this showed that there was no significant relationship between the increase in attitude and the age of the respondent.

Table 13
The Effect of Improving Attitudes with Respondents' Education

Increased Attitude	Education				Total		P-Value
	Low		Hight		N	%	
	N	%	N	%			
Doesn't increase	2	28,6	5	71,4	7	100	0,660
Increase	12	22,6	41	77,4	53	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the improvement of attitudes and the education of respondents, it was found that the P value of 0.660 showed that there was no significant relationship between the improvement of attitudes and the education of respondents.

Table 14
The Effect of Improving Attitudes with Respondents' Work

Increased Attitude	Profetion				Total		P-Value
	Not Working		Work		N	%	
	N	%	N	%			
Doesn't increase	6	85,7	1	14,3	7	100	1,000
Increase	45	84,9	8	15,1	53	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the increase in attitudes and the work of respondents, it was found that that the P value of 1,000 showed that there was no significant relationship between the increase in attitude and the work of respondents.

Table 15
Effect of Attitude Improvement With Respondent Parity

Incrased Attitude	Parity				Total		P Valu e
	1 Person		≥ 2 People		N	%	
	N	%	N	%			
Doesn't increase	3	42,9	4	57,1	7	100	1,370
Increase	13	24,5	40	75,5	53	100	

Source: Primary Data Processed 2019

The results of the analysis of the relationship between the increase in attitudes and the parity of respondents, it was found from the statistical test, a P value of 0.370 was obtained, this shows that there is no significant relationship between the increase in attitude and the parity of respondents.

When viewed from the characteristics of respondents belonging to the productive age category, with relatively high education, but most of the 85% claimed not to be workers or not to work with a parity of more than two people, the condition of respondents who are highly educated and only work as housewives and take care of children is a relatively unique phenomenon today where mothers today there is indeed a tendency to switch as housewives compared to Become a career/employee woman. Based on the results of the study summarized in table.2, it can be seen that there is an average difference between before and after the intervention through the previous video media of 13.73 to 16.57 then by looking at the value of 95% CI it is known that the average knowledge score after getting health education through video media is between 15.72 to 17.41. By looking at such changes in values, we can relatively say that providing education with video media is able to provide the ability for respondents to improve their knowledge for the better.

Based on the results of the research summarized in table 3 above, it is known that in the module group the average knowledge score before getting health education through module media is 13.87 Then after getting health education through module media there is an increase in the average score of respondents' knowledge, which has increased by 14.80 with 95% CI it is known that the average knowledge score after getting health education through module media is between 13.95 to 15.65, By looking at such a change in value, we can relatively say that the provision of education with module media is believed to be able to provide the ability for respondents to improve their knowledge for the better.

Based on the results of the study summarized in table 4, it is known in the Video group that the average attitude before getting health education through video media is 8.17 Then after getting health education through video media, the average respondent's attitude score has increased, namely 11.43 with a standard deviation of 1.813 so relatively we can say that the provision of education with module media is believed to be able to change the attitude of respondents to be able to change attitudes so that getting better. Based on table 5 above, it is known that in the Module group the average attitude before getting health education through the media module is 8.20 with a standard deviation of 1.215.Then after getting health education through the media Module the average attitude score of respondents has increased, namely 10.27 with a standard deviation of 1.202.with 95% CI it is known that the average attitude score after getting health education through module media is between 9.82 to 10.72. So relatively speaking, we can say that the provision of education with module media is believed to be able to provide the ability for respondents to be able to change attitudes so that they are better.

Bivariate analysis aims to explain and analyze the influence of health education through video media and modules on increasing knowledge and attitudes, the statistical test used is the T Dependent Test (T paired test) then based on the results of statistical processing summarized in table 6 above it is known that the data of all variables, both data in the video group and the module group show that the data is normally distributed (skewness value divided by standard error produces the number ≤ 2), with this result, further statistical testing can be carried out. Based on the results of research and data processing, the following results were obtained: In Table 7 it was found that the average value of knowledge before getting health education through video media was 13.73 and after getting health education through video media was obtained an average of 16.57.The results of statistical tests obtained a value of 0.000 based on that, it can be concluded that there is a significant difference between knowledge before and after getting health education through video media, with these results it is seen that video media is able to increase mother's knowledge of balanced nutrition toddlers. In Table 8 The average value of knowledge before getting health education through module media is 13.87 and after getting health education through module media is obtained an average of 14.80 with a standard deviation of 2.265.The results of the statistical test obtained a value of 0.000 this indicates that there is a significant difference between knowledge before and after obtaining health education through module media, with this result the module media is able to increase maternal knowledge about balanced nutrition toddlers.

Changes in mothers' attitudes with Video Media interventions based on the results of research summarized in table 9 it can be seen that the average value of attitudes before getting health education through video media is 8.17 after getting health education through video media obtained an average of 11.43 with a standard deviation of 1.813.The results of the statistical test obtained a value of 0.000 this shows that there is a significant difference between attitudes before and after getting education health through video media, in this connection video media turns out to be able to influence changes in maternal attitudes on balanced nutrition of toddlers. The results of the study on maternal attitudes as summarized in Table 10 before getting health education through the media module were 8.20 and after getting health education through module media obtained an average score of 10.27.Statistical test results obtained a value of 0.000.There is a significant difference between attitudes before and after getting health education through module media. With these results, it shows that the module media is able to change the attitude of mothers towards balanced nutrition of toddlers. Increased knowledge and changes in maternal attitudes in balanced nutrition of toddlers are presented in the following presentations (Adisasmito, 2007; Damanik, 2015; Dewi et al., 2014; Supariasa et al., 2012).

The results showed that the use of learning media both with videos and modules showed that there were differences in results including which one was more effective whether it was video media or module media. Table 11 above shows the values of F = 0.090 and P = 0.004, so it can be concluded that there is a significant difference between the group that received health education using video media and those who used module media for changes in knowledge (0.004 < 0.05). By looking at the mean value of video media and modules, it can be seen that health education using video media is more effective in increasing respondents' knowledge because the mean is greater than that of module media (16.57 > 14.80). The results showed that video media and modules were able to increase knowledge and changes in maternal attitudes in balanced nutrition of toddlers Table 5.12 above showed the value of F = 3.877 and P = 0.005, so it can be concluded that there is a significant difference between the group that received health education using video media and those who used module media towards attitude change (0.005 < 0.05). Health education using video media is more effective in improving respondents' attitudes because the mean is greater than that of module media (11.43 > 10.27) (Indonesia, 2014).

From the results of the tests that have been carried out, this study provides a clear picture of how the two methods, both videos and modules, are equally able to provide positive input on attitude change and increase the knowledge of respondents/mothers in providing balanced nutrition. for toddlers, but if we look at how effective the use of module media and video media is for changes in mother's knowledge and attitudes, it can be seen that video media is relatively more effective in increasing knowledge. and changes in maternal attitudes versus the media module. This study was to determine the effect of education using modules and videos on increasing knowledge and attitudes of mothers about balanced nutrition under five at the Integrated Service Post, Cipayung Village, East Jakarta.

Conclusion

The results of the tests that have been carried out in this study provide a clear picture of how two methods, both video and module, are able to provide positive input on changes in attitudes and increase respondents/mothers' knowledge in providing balanced nutrition for toddlers, but when viewed from how effective the use of module media and video media is to changes in knowledge and attitudes of mothers, it can be seen that video media is

relatively more evektiv increasing knowledge and a change in maternal attitudes compared to media modules. That's why it's recommended in this case for integrated service posts and community health centers in handling and implementing prevention or treatment for mothers who lack insight into the nutrition of their toddlers, especially if the toddler has poor nutritional status or stunting by using effective counseling methods with video media.

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