

Article

The Effect of Nutrition Counseling on Complementary Feeding Practice of Mothers Having Infant Aged 6-12 Month

Yulia Arifin¹, Masrul², Hirowati Ali³

¹Prodi DIII Kebidanan, STIKes Mercubaktijaya, Padang

²Faculty of Medicine, Universitas Andalas, Padang

³ Faculty of Medicine, Universitas Andalas, Padang

SUBMISSION TRACK

Received: March 20, 2019

Final Revision: May 03, 2019

Available Online: June 28, 2019

KEYWORDS

nutrition counseling, feeding practice

CORRESPONDENCE

Phone: 085263305274

E-mail: youlee24@gmail.com

A B S T R A C T

Nutrition plays an important role in the human life cycle. Nutrition surveillance in the form of Nutritional Status Monitoring in 2016 showed that 38.9% of children under five in Indonesia experienced nutritional problems. One of the efforts to improve the health and nutrition status of the baby is by improving the knowledge and attitude of the mother in giving complimentary food. This study aim is to know the effect of nutrition counseling on feeding practice of mothers having infant aged 6-12 month in pakan rabaa public health center area solok selatan district in 2018.

The design of the study was quasi-experimental with the design of the control group pretest-posttest. The sample of this study was 46 experiment group and 46 control group. Sampling was done by Purposive Sampling technique. Data analysis using the chi-square test

The results of the study were the absence of nutritional counseling on knowledge of mothers with p-value 0.361, there was an effect of nutritional counseling on changes in maternal attitudes with p-value of 0,000 and there was also the effect of nutritional counseling on complementary feeding practice with p-value 0.004.

The presence of the influence of nutritional counseling on attitudes and practices of complementary feeding. Health workers are expected to be able to spend time giving counseling about complementary feeding practice regularly so that the goal of counseling at the public health center can be achieved.

I. INTRODUCTION

Indonesia is a country with complex nutritional problems. Nutritional problems experienced by infants under five in Indonesia are not only malnutrition but also experience problems with chronic malnutrition. Chronic malnutrition is longterm malnutrition and causes stunting in infants and toddlers. The United Nations Children's Fund in 2014 stated that more than 162 million children under five in the world experienced stunting. Stunting problems are still a problem that must be dealt with seriously until now.

The 2013 Ministry of Health's Basic Health Research results showed a tendency towards the short-term prevalence of children under the age of 37.2%. This figure increased compared to the number of cases based on Riskedas 2007 and 2010 which were 36.8% and 35.6% respectively. Likewise with underweight or underweight cases, respectively in 2007 amounted to 18.4%, 2010 amounting to 17.9% and 2013 increased by 19.6% (Ministry of Health, 2013). In the Province of West Sumatra in 2016, there were 1.6% of children under five with poor nutrition and 11.4% of children under five with malnutrition (Ministry of Health, 2017).

Malnutrition in infants is not solely caused by food shortages. Some other factors are the cause of inadequate breastfeeding complementary feeding and too fast weaning. The results of the study report that the condition of malnutrition in infants and children is caused by the habit of giving ASI improper complementary foods and ignorance of the mother about the benefits and methods of giving MP-ASI properly so that it affects the mother's attitude in giving MP-ASI. In addition, the worsening condition of child nutrition can also occur due to ignorance of the mother about the procedure for giving MP-ASI right to their children and lack of knowledge of mothers about how to maintain nutrition and regulate their children's food (Arisman, 2010).

Improving nutrition in the first 1000 days of life can reduce stunted numbers in Indonesia. WHO recommends that babies get breast milk exclusively at the age of the first 6 months, the application of early breastfeeding initiation and the provision of complementary food to infants 6 months and continue breastfeeding until 2 years old (Work Plan Nutrition Improvement Program, 2009). Complementary Food is a food or drink that contains nutrients that are given to babies or children over the age of 6 months to meet nutritional needs other than breast milk. The introduction and administration of complimentary food must be done in stages, both in form and in number, according to the baby's ability infant digestion (Proverawati dan Kusumawati, 2011).

Efforts to improve the health and nutrition status of infants through improving the knowledge and attitude of mothers in complementary feeding are an inseparable part of efforts to improve nutrition as a whole. Efforts to improve this knowledge can be done through nutritional consultation or counseling. Nutrition Counseling is a series of activities as a two-way communication process to instill and increase understanding, attitudes, and behavior so that clients recognize and overcome nutritional problems through food arrangements (Supariasa, 2013).

Provision of nutritional counseling given to mothers is usually through posyandu activities. Providing counseling once a month during the implementation of the Posyandu as an effort to increase the knowledge, attitudes, and behavior of mothers about providing complementary breastfeeding. Counseling at the fourth table in Posyandu services is still a serious problem. During this time, what happens in most posyandu is after the baby weighing is done, then the results are recorded in the KMS. After that, there is no further action for the mothers, such as how to overcome a decreased or static child's weight. This shows that the counseling activities at the posyandu have not been optimal enough so that the counseling has not been able to change the behavior of mothers in providing ASI complementary foods properly and correctly. Therefore, this study was conducted to look at the effect of counseling on the knowledge, attitudes, behavior of breastfeeding and nutritional status of infants aged 6-12 months between the Health Center Working Areas of South Solok Rabaa in 2018.

II. METHODS

The design of the study was quasi-experimental with the design of the control group pretest-posttest. The research conducted in Pakan Rabaa Public Health Center Area Solok Selatan District. The research conducted start in September 2017 - Oktober 2018. The study sample was all mothers who had babies aged 6-12 months in Pakan Rabaa Public Health Center Area Solok Selatan District who entered into inclusion and exclusion criteria with the number of samples in the experimental group 46 respondents and the control group 46 respondents. Sampling was done by Non-Random Sampling with Purposive Sampling technique, where the independent variables in this study were nutritional counseling, and the dependent variable was knowledge, attitudes, and complementary feeding practice. Data analysis using the chi-square test.

III. RESULT

A. Univariate Analysis

Table 1. Frequency Distribution Based on Characteristics of Mothers Who Have 6-12 Months Babies in the Intervention and Control Groups

No	Characteristics	Intervention Groups		Control Groups	
		f	%	f	%
1	Age				
	17-25	7	15,5	7	15,2
	26-35	30	65,2	29	63
	36-45	9	19,6	10	21,8
2	Education				
	Low	13	28,3	6	13
	Medium	26	56,5	24	52,2
	High	7	15,2	16	34,8
3	Occupation				
	Not work	37	80,4	28	60,9
	Work	9	19,6	18	39,1
4	Family Income				
	Poor	22	47,8	17	37
	Not poor	24	52,2	29	63

Based on table 1, it can be seen that the age distribution of mothers who have babies in this study is mostly in the age range of 26-35 years. More than half of the mothers' education in this study were senior high school and did not work. Less than half of the family income per capita is still in the poor category.

Table 2. Frequency Distribution Based on Characteristics of Infant of 6-12 Months in the Intervention and Control Groups

No	Characteristics	Intervention Groups		Control Groups	
		f	%	f	%
1	Gender				
	Boy	21	45,7	26	56,5
	Girl	25	54,3	20	43,5
2	Age				
	6-8	13	27,3	19	41,3
	9-12	33	71,7	27	58,7
3	Birth Weight				
	Normal	43	93,5	41	89,1
	BBLR	3	6,5	5	10,9

Based on table 2, it can be seen that sex distribution in the intervention group more than half were women and in the control group, more than half were men. More than half the age of infants in this study were in the age range of 9-12 months in the intervention group. Babies in this study were small born with low birth weight.

Table 3. Frequency Distribution of Pretest and Posttest Mothers Knowledge in Intervention and Control Groups

Knowledge Level	Intervention Groups				Control Groups			
	Pretest		Posttest		Pretest		Posttest	
	F	%	f	%	F	%	f	%
Good	30	65,2	45	97,8	33	71,7	42	91,3
Pretty good	14	30,4	1	2,2	12	26,1	4	8,7
Not Good	2	4,4	0	0	1	2,2	0	0
Total	46	100	46	100	46	100	46	100

Based on table 3, it can be seen that the intervention group at the pretest, more than half of the respondents had good knowledge about complementary foods. In the intervention group at the time of the posttest, almost all respondents experienced an increase in knowledge into a good category.

Table 4. Frequency Distribution of Pretest and Posttest Mothers Attitude in Intervention and Control Groups

Attitude	Intervention Groups				Control Groups			
	Pretest		Posttest		Pretest		Posttest	
	f	%	f	%	f	%	f	%
Positive	19	41,3	35	76,1	20	43,5	22	47,8
Negative	27	58,7	11	23,9	26	56,5	24	52,2
Total	46	100	46	100	46	100	46	100

Based on table 4, it can be seen that the intervention group at pretest more than half of the respondents had a negative attitude. And when the posttest rise, most of them are a positive attitude about giving complimentary food.

Table 5. Frequency Distribution of Pretest and Posttest Complementary Feeding Practice in Intervention and Control Groups

Complementary Feeding Practice	Intervention Groups				Control Groups			
	Pretest		Posttest		Pretest		Posttest	
	f	%	f	%	f	%	f	%
Good	22	47,8	41	89,1	26	56,5	28	60,9
Not Good	24	52,2	5	10,9	20	43,5	18	39,1
Total	46	100	46	100	46	100	46	100

Based on table 4, it can be seen that the intervention group at the pretest of more than half of the respondents complementary feeding practices that were not good and at the posttest the majority of respondents are good in complementary feeding practice.

B. Bivariate Analysis

Table 6. The Effect of Counseling on the Level of Knowledge of Mothers About Complementary Feeding Practice

Counseling	Knowledge Level						Total		p-Value
	Good		Pretty Good		Not Goog		F	%	
	f	%	f	%	f	%			
Intervention	45	97,8	1	2,2	0	0	46	100	0,361
Control	42	91,3	4	8,7	0	0	46	100	
Total	87	94,6	5	5,4	0	0	92	100	

Based on table 6, it can be seen that the control group had a sufficient level of knowledge of 8.7% while the intervention group was only 2.2%. The results of the statistical test showed that there was no effect of counseling on the level of knowledge about complementary feeding practice after counseling because it had a p-value of <0.05 .

Table 7. The Effect of Counseling on Mothers Attitude About Complementary Feeding Practice

Counseling	Attitude				Total		OR (95% CI)	p-Value
	Positive		Negative					
	F	%	f	%	f	%		
Intervention	35	76,1	11	23,9	46	100	2,917 (1,197-7,109)	0,030
Control	24	52,2	22	47,8	46	100		
Total	59	64,1	33	35,9	92	100		

Based on table 7, it can be seen that the results of the statistical test found that there was an effect of counseling on the attitude of mothers about complementary feeding practice after the intervention because it had a p-value of <0.05 . From the analysis it was also obtained the OR value = 2.917, meaning that mothers who after being given counseling plus demonstration had 2 times the chance to have a positive attitude about the implementation of good in complementary feeding practice

Table 8. The Effect of Counseling on Mothers in Complementary Feeding Practice

Counseling	Complementary Feeding Practice				Total		OR (95% CI)	p-Value
	Good		Not Good					
	f	%	f	%	f	%		
Intervention	41	89,1	5	10,9	46	100	5,271 (1,753-15,855)	0,004
Control	28	60,9	18	39,1	46	100		
Total	69	75,0	23	25,0	92	100		

Based on table 8, it can be seen that the results of statistical tests found that there was an effect of counseling on the practice of mothers in providing complementary feeding because they had a p-value of <0.05 . From the analysis it was also obtained the OR value = 5.271, meaning that mothers who were given counseling plus demonstration had the opportunity 5 times to carry out the practice of providing complementary foods well.

IV. DISCUSSION

A. Univariate Analysis

The results showed that the majority of mothers in the intervention group and the control group were at ages 26-35 years, ie 65.2% in the intervention group and 63% in the control group. Based on the above results it can be said that the average age of the respondents has reached the early adult so that the biological and psychological conditions are ready to provide care and fulfill the needs of the child. Early adult groups allow them to still be able to capture the information provided and can recall and be responsible for caring for babies and toddlers. In addition, when the age is sufficient, the level of maturity and strength of a person will be more mature in thinking and working (Nursalam, 2005).

The results of the study in both groups, more than half of maternal education is high school, which means that the mother's education level is in the middle category, which is equal to 56.5% in the intervention group and 52.2% in the control group. So that it is easy for mothers to capture the information provided and will have an open mindset in terms of the information

provided. Parental education is very influential in child development. Higher education will make it easier for someone to absorb information, especially about how to care, educate and maintain the health of their children. Low maternal education allows a mother to lack in adopting new knowledge, especially regarding matters relating to providing complementary breastfeeding. Low maternal education is at risk of having under-five malnourished children compared to mothers with secondary and high education. Maternal education has a positive effect on children's health (Soetjiningsih and Ranuh, 2015).

The majority of maternal occupational characteristics were not working, ie 80.4% in the intervention group and 60.9% in the control group. Housewives who do not work outside the home to make a living automatically have more time to care for and care for children. This greatly supports them in getting more information. The mothers can get information from midwives at the posyandu and cadres who have received information on caring for babies and complementary feeding practice. Working mothers will have limited time to provide care in terms of preparing good ASI complementary foods so that children tend to experience problems with their growth and development (Ariefiani R, 2009).

Most subjects do not work so that family income comes only from the husband. Per capita, family income in both groups is still in the poor category at 47.8% in the intervention group and 37% in the control group. Because most family heads are farmers and laborers, there are still many family incomes below the poverty line in South Solok Regency. In 2018 the per capita poverty line in South Solok Regency is Rp 347,667, - with a total of 11.89 thousand people (BPS Kab. Solok Selatan, 2018).

A good family economic status is expected to improve parenting for better children so that the growth of children will be normal. Adequate family income will support the fulfillment of the baby's basic needs. Children who are raised in high-economic families will be better off to fulfill their nutritional needs compared to children who are raised in families with moderate or less economic (Fadhilah, 2009).

The results of this study found that the proportion of infants by sex in the intervention group was more than half female (54.3%) while in the control group more than half were male (56.5%). In the intervention and control groups, more than half the age of infants in this study was in the age range of 9-12 months as many as 71.7% in the intervention group and 56.5% in the control group. Age is the most important indicator in determining nutritional status that will be associated with weight, height, and head circumference. Infants aged 9-12 months are the age at which babies are able to receive food in the form of mushy. As children grow, the amount of food needed increases.

A small percentage of the babies in this study were born with low birth weight (LBW) which was 10.9% in the control group and 6.5% in the intervention group. Poor nutrition generally starts inside the uterus which affects babies born with low birth weight. Children born with LBW have the potential to have the next life with poor nutritional conditions and even become malnourished (Devi, 2010).

Based on the results of research that has been done, in the intervention group at the time of the pretest, more than half of 65.2% of respondents had good knowledge and at the time of posttests, almost all 97.8% of respondents experienced an increase in knowledge into a good category. From all the questions about the knowledge of most respondents after getting nutritional plus demonstration counseling, they can correctly answer questions about the form of food according to the child's age, frequency of feeding, age-matched portions of complimentary food and intermittent feeding, many of which were the wrong answer that question. While in the control group, only 91.3% responded well after being given conventional nutritional counseling. Therefore, it can be concluded that there is an increase in knowledge of mothers regarding complementary feeding of breast milk after nutritional counseling.

The results of this study are in line with Ali J's research in 2017 which states that the knowledge of mothers under five about nutrition increased from 47.1% to 97.1% after an intervention in the form of counseling with the demonstration method.

Based on the results of the research that has been done, it can be seen that in the intervention group at the pretest more than half were 58.7% of respondents had a negative attitude and at the posttest, most of the 76.1% were positive towards providing complementary feeding after counseling plus demonstrations. Whereas in the control group only 47.8% of respondents were positive after just being given counseling. Therefore, it can be concluded that there was an increase in maternal attitudes about complementary breastfeeding after counseling plus demonstrations.

The results of this study are in line with the 2016 Hariska P et al. Study which stated that there was an increase in maternal attitudes from 75.6% to 95.1% after intervention in the form of nutritional counseling.

The increase in attitudes that occur to respondents is caused by the knowledge gained so as to give rise to understanding and confidence in the needs of those who indeed have to make efforts to prevent malnutrition in infants through balanced nutrition material given during nutritional counseling. Changes in attitudes are also inseparable from influencing factors such as personal experience, culture, other people who are considered important, information received from various sources, emotions from the mother herself as well as facilities and support from the family including her husband. Attitude is one of the factors that influence a person's health behavior. Continuous attitude changes can change a person's behavior where good feeding behavior can improve children's nutritional status (Azwar, 2003).

Based on the results of the research conducted, in the intervention group before counseling it was found that more than half of the practices of giving ASI complementary foods were not as good as 52.2% of respondents while in the control group less than half of the 43.5% of respondents practiced complementary feeding well. After being given counseling plus demonstration in the intervention group, almost all respondents (89.1%) found, while in the control group 60.9% of respondents practiced good ASI supplementary feeding. Therefore it can be concluded that there was an increase in the practice of providing complementary feeding after counseling plus demonstrations.

The results of this study are in line with Tamiru D research in 2009 entitled Survey on the introduction of complementary foods to infants within the first six months and associated factors in rural communities of Jimma Arjo, which stated that 46.29% of mothers gave introduction to complementary foods before the age of the baby 6 months, of which 46.29% of mothers gave cow milk and 13.9% gave yogurt to their babies.

Complimentary food is a food transition from breast milk to family food. The introduction and administration of complimentary food must be done in stages both in form and in number, according to the baby's abilities. Early complementary food is food or drinks given to babies before 6 months of age. The impact of early Complementary Food administration can result in diarrhea/damage to the digestive system, choking, increasing the risk of allergies, coughing and obesity (Lewis, 2003)

B. Bivariate Analysis

In this study, it was also found that the intervention group experienced more knowledge increase as much as 97.8% while the control group was only 91.3%. This research is in line with Ali J's research in 2017 which states that the knowledge of mothers under five about nutrition increased from 47.1% to 97.1% after an intervention in the form of counseling with the demonstration method.

On the results of statistical tests, there was an increase in maternal knowledge about complementary feeding of breast milk after counseling in both groups. This is because the two

groups both received counseling, but in the intervention group, a greater increase occurred due to the demonstration carried out during counseling. Counseling delivered can add sample information about ASI complementary foods, so that mothers can better understand and be able to answer questions on the questionnaire properly.

A good mother's knowledge of nutrition will have a positive impact on the child's diet. The pattern of feeding to children needs to be done precisely because the condition of the child is different from that of an adult. Children are experiencing the most rapid changes and developments in their lives, namely the development of maturity of the digestive system, maturity of organs, brain and soul. At this time parents need to have adequate knowledge and skills in the selection and method of feeding children.

From the statistical test, this study also found that there was no difference in the level of knowledge between the control group and the intervention. The results of this study are in line with the research results of Dewi M in 2016 on the Effect of Nutrition Education on Feeding Practice Stunting Toddler Mother Aged 6-24 Months, indicating that the knowledge level of most mothers already has good knowledge, this is indicated by the majority of mothers obtaining scores $> 70\%$ of the total score on the knowledge level questionnaire. One of the most important factors in increasing knowledge is the method of delivering information that is tailored to target needs by using appropriate health promotion media (Edberg, 2002).

The government in improving nutrition for infants and toddlers through increasing nutrition-related knowledge, one of which is nutrition education, namely in the form of counseling and nutrition counseling. Efforts to increase nutrition knowledge through counseling plus demonstration are the right steps to be taken by health workers. So that the better the mother's knowledge about complementary breastfeeding, the better the child's growth and development. During the counseling, the intervention group received a demonstration about the provision of complementary breastfeeding, with the demonstration being demonstrated as an example of providing complimentary food ASI can provide information to respondents.

The results showed a change in attitude in the intervention group at 76.1%. This is different from the control group which was only given one-time counseling conventionally and it was found that the result of a change in the mother's attitude to be positive was 52.2%. The results of statistical tests show that there is an influence of counseling on the attitude of the mother after being given nutritional counseling.

The results of this study are in line with the 2016 Hariska P study which stated that there was an increase in maternal attitudes from 75.6% to 95.1% after intervention in the form of nutritional counseling. This shows that there is a tendency to change attitudes in a positive direction.

Attitude is a tendency to act from an individual in the form of a closed response to a stimulus or a particular object. The attitude shows the suitability of the reaction to a stimulus that has involved a person's opinion and emotions. In this case, the mother's attitude has been influenced by counselors who provide knowledge in the form of counseling on how to provide ASI complementary foods that are good and in accordance with the needs of the baby.

Based on the results of statistical tests, it was found that there was an effect of counseling on maternal attitudes about the provision of complementary food. From the analysis, it was also obtained $OR = 2.917$, meaning that mothers who were given counseling had 2 times the opportunity to have a positive attitude about providing complimentary food. This research is in line with the 2013 Hestuningtyas study which stated that there was a significant counseling effect on positive attitudes of mothers about child feeding.

Nutrition counseling interventions include providing knowledge and giving motivation towards changes in feeding attitudes and behavior. Nutrition counseling with media demonstrations on how to make and sample directly (food samples) will be more easily

understood by research subjects because it attracts attention and is not boring. Counseling as a health promotion effort has an influence in increasing the mother's knowledge and attitudes towards providing complementary breastfeeding. This was shown by the intervention group by increasing maternal attitudes to 87% in providing complementary food.

The increase in maternal attitudes in both groups was in accordance with Notoatmojo's opinion in 2012, where knowledge plays an important role for someone in determining attitudes. Because knowledge will form a trust which then becomes the basis for someone in determining attitudes towards certain objects. If some of the respondents have a positive attitude, then their actions and behavior will tend to be positive, so that nutritional problems in children do not occur.

The results of this study indicate that the intervention group of the majority of respondents 89.1% could carry out the complementary feeding practice is good while in the control group more than half of 60.9% of respondents who carried out the practice in providing complementary foods properly.

This is consistent with the 2013 Hestuningtyas study which stated that there was a significant counseling effect on the practice of mothers in feeding children. The practice of mothers in feeding is one of the factors associated with infant nutrition status. Nutritional counseling is able to improve the complementary feeding practice which is characterized by increased child nutritional intake as well as the frequency and form of food accordingly. However, the baby's health is related to his food intake.

Sometimes a mother shows good actions in fulfilling the nutritional needs of her child because providing food for children is very important. However, only some of these mothers understand the diversity of nutrients contained in these foods, how to provide food to be more attractive so as to provide an appetite for babies, and also how to manage and provide good food for babies because of the fact that in feeding for babies not the same in adults. That way even though a mother's actions are good, it still has to be supported by good knowledge and attitude.

Increased maternal knowledge in the control group did not cause attitudes, and maternal practices also experienced a significant increase between the beginning and end of the study. This is because the subject does not get a demonstration that is a combination of subject matter activities by demonstrating how to spread the message, instilling confidence, and showing the community a process, situation, or certain object that is being studied both in its actual form and in an artificial form. In this case, the subject only gets nutritional information from counseling which is done once without demonstration, so that attitudes and behavior show a slight increase.

V. CONCLUSION

The conclusion of this study is the presence of the influence of nutritional counseling on attitudes and complementary feeding practice. To the Public Health Center are expected to hold nutrition education and training on a regular basis to increase midwife or health workers knowledge so that it can provide the latest information about complementary feeding practice especially to mothers with low education, so the goal counseling can be achieved.

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BIOGRAPHY

Yulia Arifin has completed her education Bachelor’s degree from Department of DIV midwife educator, Poltekkes Kemenkes Padang In 2012. Now, I’m completing my education at Midwife Magister at Faculty of Medicine, Andalas University, Padang. I am interested in community midwife.

Masrul is a lecturer in Faculty of Medicine, Andalas University, Padang.

Hirowati Ali is a lecturer in Faculty of Medicine, Andalas University, Padang.