

NUTRITION EDUCATION IMPROVES MOTHER’S KNOWLEDGE AND ATTITUDE IN THE PROVISION OF COMPLEMENTARY FOODS

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Abstract

The provision of complementary foods in infants is very important for their development and growth. Prior knowledge and experience of mothers regarding complementary feeding determine how they provide the complementary foods for children. This study aimed to investigate the effects of nutrition education on knowledge and attitude of mothers in providing complementary foods. The study design was quasi-experiment with non-randomized control pre and post-test group. The intervention group consisted of mothers who received education on nutrition about complementary feeding through lecture and simulation for two days; whereas, the control group was a group without any intervention. The differences of knowledge and attitude between the intervention and the control group were analyzed by using independent t-test or Mann Whitney test. Some significant differences were found between the intervention and the control group in knowledge ($p = 0.001$) and attitude ($p = 0.018$). Thus, nutrition education gave a positive effect on knowledge and attitude of mothers in the provision of complementary foods.

Keywords: nutrition education, knowledge, attitude, complementary foods

Presenting Author’s biography



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BACKGROUND

The Indonesian Basic Health Research (called Riskesdas) of 2013 reported the increase of malnutrition in children. The prevalence of severe malnutrition increased from 4.9% in 2010 to 5.7% in 2013. The cases of malnutrition were higher in infant aged 6-24 months [1]. One of the causes is an inappropriate provision of complementary feeding. The provision of complementary feeding for infants should concern on the nutrient contents such as energy, protein, vitamin and mineral as nutritional requirement. Complementary feeding is very important for optimal growth and development of children [2]. The provision of complementary food for infant during the age of 6-24 months is one of WHO/UNICEF

recommendations to maintain nutritional status and reduce infectious diseases among infants [3].

A good complementary feeding consists of the quality, quantity, frequency and consistency. The proper of breastfeeding and complementary feeding in infants can reduce the infant mortality up to 19% [4]. The previous studies in several developing countries reported that the complementary foods are still low in quality side, especially for micronutrients [5]. The wrong provision of complementary feeding can have negative effect to the growth and development of children [6].

The first two years of age is a critical period for infant's growth. The survey study showed that low quality of complementary feeding and incompatibility with their nutritional requirement such as energy and vitamin and minerals was one cause of growth disorder of children aged 6-24 months in Indonesia [2]. Children get the weaning food containing less fat and less animal protein sources [7].

The interference problem of nutritional status and growth development of infants is a problem that needs to be addressed seriously. In order to overcome this problem, it can be done through giving the nutrition education to mothers about a good practice of complementary feeding. Several factors that may affect the provision of complementary feeding are mother's age, educational background, knowledge, attitude, experience, and culture. The exposure of other information can be an enabling factor affecting the practice of complementary feeding [8].

One effort to change the healthy behavior is to increase the knowledge through organizing education on nutrition. Health education is a process of change ability, appearance or behavior of people. Changes in behavior constituted with the change or addition to knowledge and attitude about a good practice of complementary feeding. This process can involve the health workers. In addition, one factor that may affect the success of giving education is the selection method of appropriate media. Module is a media that can be studied independently by participants [9]. Counseling by using lecture and leaflet can enhance the knowledge and attitude of mothers in the provision of complementary feeding [10].

This study aimed to investigate the effect of nutrition education to mothers on the changes of knowledge and attitude in providing the complementary foods.

METHODOLOGY

This study used Quasi experiment research design with non-randomized control group pre test and post test design. The study was conducted on September to November 2014. The intervention group was given nutrition education about complementary feeding by using module that had been developed and measured its validity test. The module was developed through identifying the problems faced by mothers in the provision of complementary feeding. The contents of module were about the definition and benefits of complementary feeding, the criteria of complementary foods according to the age, the kinds of complementary foods and good procedure of making complementary foods. The pilot of module was implemented by using Focus Group Discussion (FGD) among mothers. The validity test was conducted by implementing the Product Moment Correlation and Pearson Test. The reliability test was done by using Cronbach Alpha > 0.60 [11].

The research population was 167 mothers who had child at the age of 6-24 months in Puskesmas Basuki Rahmat and Puskesmas Lempuing, Bengkulu City. The subjects consisted

of 25 mothers for the intervention group and 25 mothers for the control group, who were selected by purposive sampling. The inclusion criteria of sample were mother who has child age of 6-24 months, resided within the working area of Puskesmas and were willing to follow the steps of research. The intervention group was given nutrition education about complementary feeding for mothers. The intervention group was given two times by face-to-face meeting, carried out by researchers as facilitator using lecture, simulation and discussion by using module as a teaching guide.

Pre and post test were measured by using questionnaire to assess the knowledge and attitude of mothers. The post tests were carried out three times: immediately after intervention, two weeks after and one month after. The bivariate analysis was tested by using Paired t-test, independent sample t-test, Wilcoxon Signed Ranks Test, and Mann Whitney Test [12].

RESULTS AND DISCUSSION

Characteristics of subject

Tab. 1 showed that for the most part of the intervention group (84%) and the control group (68%) was educated. The age of subjects in both groups showed dominantly less than 30 years old. Mainly, the subjects in the intervention group and control group were unemployed (or housewife). The statistical test showed that there was no significant difference between the intervention group and control group for the characteristics of subject (educational background, age, and occupation of mother). It was described that both intervention and control groups were homogeneous and were allowed to accept the intervention research.

Table 1. Characteristics of subject

Characteristics of subject	Intervention Group		Control Group		P
	f	%	f	%	
Educational background					
1. Educated (SMA , PT)	21	84	17	68	0.185
2. Less educated (SD, SMP)	4	16	8	32	
Age of mother					
1. < 30 years old	19	76	21	84	0.480
2. >= 30 years old	6	24	4	16	
Occupation					
1. Employed	5	20	3	12	0.440
2. Unemployed	20	80	22	88	

Change in the knowledge of subject

There was no difference of knowledge between the intervention and control group before intervention. At pre test, mainly subjects still did not understand some of the questions such as basic ingredient of complementary food, frequency of feeding, the forms of food, and quantity of food which were in accordance with the age of infant.

Different test of knowledge was done for both groups. The changes of knowledge after the intervention were significant in both groups; however, the greater difference occurred in

the intervention group. The post test result reported that there was an increment of knowledge of the subjects. This was due to the nutrition education about complementary feeding that was given to the subjects (shown in Tab.2).

This result was in accordance with the previous research, which reported that nutrition education gave a significant influence on nutrition knowledge of elementary students [13]. Other researches also reported that pregnant women who received nutrition information through SMS (Short Text Messages) showed an increase of knowledge and improved behavior in iron tablet consumption [14].

Previous study also stated that humans' sense which mostly responsible to distribute the information into the mind was eyes (approximately 75 to 87%), while 13-25% was channeled through other senses [9]. The result of this study was in accordance with the study conducted in Raden Mattaher Jambi Hospital at postpartum mothers, which found the changes of knowledge after breastfeeding training [15].

Change in the attitude of subject

Attitude is a closed reaction or response of someone to the stimulus or object and a readiness or willingness to act. The function of attitude is not an act but closed predisposes of actions or reactions [16]. The pre test result in both groups showed same level of attitude. The post test result showed that it found significant difference of attitude in the intervention group (shown in Tab. 2). In other words, the nutrition education gave a positive effect to the mother's attitude in the effort to provide good complementary feeding. One of the results or positive impact of learning process was a change in the affective domain creating awareness and positive attitude [17]. The correlation with this study was the given intervention could significantly increase the awareness and generate a positive attitude towards better ways. Likewise, the previous intervention research on mothers reported that the nutrition attitude of the intervention group (score 76.92) was higher than the control group (score 70.17) [18].

This result was in accordance with the theory stating that knowledge is a stimulant for the change of attitude. WHO described the attitude as a person's like or dislike against an act and attitude derived from their or other people's experience. Someone with positive attitude does not always implement her or his positive attitude in action [19].

Tab 2. The changes of knowledge and attitude pre and post intervention

Variable	Pre Intervention							p
	Intervention Group (n=25)			Control Group (n=25)				
	Min	Max	Mean± SD	Min	Max	Mean± SD		
Knowledge	33.6	76.2	54.6± 10.1	33.6	76.2	55.9 ±10.0	0.427 ^a	
Attitude	33.3	66.7	55.6±8.1	33.3	66.7	55.6 ± 9.6	0.508 ^b	
Variable	Post Intervention							p
	Intervention Group (n=25)			Control Group (n=25)				
	Min	Max	Mean± SD	Min	Max	Mean± SD		
Knowledge	57.1	76.2	66.7± 5.9	38.1	76.0	58.4 ± 9.1	0.001 ^b	
Attitude	44.4	88.9	66.7± 10.1	33.3	77.8	55.6 ± 9.9	0.018 ^b	

Retention of subject’s knowledge and attitude

The statistical test result showed that there were significant differences in knowledge ($p = 0.001$) and attitude ($p = 0.001$) of subject during retention time.

Table 3. Difference of score of knowledge and attitude of subject on two weeks and one month after intervention

Variable	2 weeks	1 month	p
Knowledge	65.3 ± 6,9	66.4 ± 6,8	0.001 ^d
Attitude	66.7 ± 10,5	77.8 ± 10,6	0.001 ^d

CONCLUSION

The study found that nutrition education could significantly improve the knowledge and attitude of mothers in the provision of complementary feeding. Nutrition education about complementary feeding should be done regularly in communities to reduce the nutritional problems among children so that the existing health program in Bengkulu could be implemented.

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