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THE IMPORTANCE OF NUTRITION EDUCATION TO CHANGE MOTHER'S KNOWLEDGE AND BEHAVIOUR IN ACHIEVING ADEQUATE NUTRITION FOR TODDLER

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ABSTRACT
The problem of undernutrition among toddlers is still a problem that cannot be resolved properly. The role of the family in overcoming the problem of undernutrition is very necessary because toddlers are dependent on nutritional requirements. Therefore, efforts are needed to overcome this problem by increasing the provision of appropriate nutritional education for toddlers so that toddlers avoid the problem of malnutrition. This research aims to determine the extent of the influence of providing nutrition education on mothers' knowledge and behavior in fulfilling nutrition for toddlers. The research design used a "Quasi experimental pre-post test design with control" design with 37 respondents in the intervention group and 37 control groups. This research was carried out by providing intervention to 37 families of toddlers, especially education about toddler nutrition and looking at the effect on changes in mothers' knowledge and behavior in fulfilling toddler nutrition. The nutrition education intervention was provided over 4 meetings and continued with assistance through home visits over 2 meetings. The results of the research show that there is an influence between providing nutrition education on family knowledge and behavior. This data can be used as material for consideration by community nurses in providing education about nutrition in an effort to increase mothers' knowledge and behavior in fulfilling nutrition for toddlers to avoid malnutrition problems.

Keywords: behavior; knowledge; malnutrition; nutrition; toddlers

INTRODUCTION
Optimal nutrition is essential for the normal growth, physical and intellectual development of babies, children and all age groups. Growth and development are greatly influenced by nutritional intake. If a child's nutritional intake is inadequate from birth to five years, it will greatly affect the quality of their brain. Under five nutrition in Indonesia is still a problem. Riskesdas (2018) shows that malnutrition among children under five is increasing. Attention to the problem of multiple nutrition needs to be further improved, among others, through efforts to change people's nutritional behavior towards balanced nutritional behavior, which is an important factor in preventing the onset of nutritional problems and maintaining good nutritional status (Kemenkes RI, 2014).

WHO (2013) explains that the number of malnutrished children in the world reaches 104 million. Meanwhile, according to the Ministry of Health (2018), the results of the 2018 Riskesdas show that the prevalence of underweight children under five is 13.8%, and the prevalence of malnourished children under five is 3.9%. This figure increased from 2010 with 4.9% malnutrition and 17,9 % undernutrition. Health profile data from Depok City Health Service in 2014 showed that the number of malnourished children under five was 5,715 (4.72%) and were still below the threshold of 17%. The role of the family is very influential in the problem of malnutrition in toddlers because the child's eating pattern or eating habits depend on the family's eating patterns.

In addition, toddlers are still very dependent on the family, especially in fulfilling their nutritional needs. Therefore, to overcome the problem of malnutrition among toddlers, family empowerment is needed, especially in improving family knowledge and skills through health education.

According to Notoatmodjo (2013) health education is an effort or activity carried out to help individuals, families and communities in improving their behaviour to achieve optimal health. The goal of health education is to help individuals, families or communities to achieve optimal levels (Edelman & Kudzma, 2022). Nies and McEwen (2018) said that healthy behaviours in the family includes the implementation of health promotion and protection. Families with toddlers have an obligation to provide food that meets nutritional needs and receive health services, and adopt a healthy lifestyle. Furthermore, Rector (2018) said that parents model healthy living behaviour which is important for children under five. Another important task for parents is to create a healthy, safe environment around the home, neighbourhood and school. Parents must learn how to effectively carry out the role of caregiver, guide, and guardian of children through the child's developmental stages. Based on this phenomenon, it is necessary to further examine the influence of nutrition education on mothers' knowledge and behavior in fulfilling nutrition for toddlers.

METHOD

The research design used a "Quasi experimental pre-post test design with control" design with 37 respondents in the intervention group and 37 control groups in the Curug sub-district, Depok City. This research was conducted by providing intervention to 37 families of toddlers, especially education about toddler nutrition and looking at its effect on changes in mothers' knowledge and behavior. The health education intervention was conducted in 4 meetings once a week for 1 month. After that, it was continued with 2 assistance sessions by visiting the family's house.

RESULTS AND DISCUSSION

Univariate Analysis

The results of the univariate analysis describe the mother's characteristics such as (age, education and mother's occupation) and the characteristics of the toddler such as the child's age and gender. Apart from that, a picture of the mother's knowledge and behavior in providing nutrition for the toddler is also shown as in the following table:

Table 1.
Frequency distribution of respondent characteristics based on maternal age and toddler age in Curug Village, Cimanggis District (n=74)

Variable	Mean	elementary school	Min-Max
Maternal age	33.1	6,684	23-61
Toddler age	58.03	2,838	48-62

Table 1 shows that the average maternal age is 33.1 years with a standard deviation of 6.684. The minimum maternal age is 23 years and the maximum maternal age is 61 years. The average age of toddlers is 58.03 months with a standard deviation of 2.838. Minimum age of toddlers is 48 months and maximum age of toddlers is 62 months.

Table 2.
Frequency distribution of respondent characteristics based on education, mother's employment status, and toddler's gender in Curug Village, Cimanggis District (n=74)

Characteristics	Amount	
	f	%
Mother's education level		
1. elementary school	4	5.4
2. junior high school	22	29.7
3. high school	46	62.2
4. College	2	2.7
Mother's employment status		
1. Work outside the home	4	5.4
2. Works at home/housewife	70	94.6
Toddler's gender		
1. Male	29	39.2
2. Female	45	60.8

Table 2 shows that the majority of mothers' education has completed high school and at least tertiary level. The majority of mothers work at home/are housewives. The gender of toddlers is mostly female.

Table 3.
Average distribution of knowledge of mothers of toddlers before and after intervention in Curug Village, Cimanggis District (n=74)

Knowledge	Group	Mean	elementary school	Min-Max	95%CI
Before	Intervention	22.73	1,805	19-25	22.17-25.04
	Control	22.55	1.64	17-26	22.21-26.65
After	Intervention	23.35	1.88	20-26	21.26-26.84
	Control	22.78	1.78	20-25	20.90-25.26

The average knowledge of mothers of toddlers in the intervention group was different before and after the intervention was carried out. The mean knowledge before intervention was 22.73 with a standard deviation of 1.805. Meanwhile, the average knowledge after intervention increased to 23.35 with a standard deviation of 1.88. Meanwhile, the average knowledge of mothers of toddlers in the control group was not much different before and after the intervention. The mean knowledge before intervention was 22.55 with a standard deviation of 1.64. After the intervention the average knowledge was not much different, namely 22.78 with a standard deviation of 1.78.

Table 4.
Average distribution of skills of mothers of toddlers before and after intervention in Curug Village, Cimanggis District (n=74)

Skills	Group	Mean	elementary school	Min-Max	95%CI
Before	Intervention	79.38	9,337	49-87	50.24-81.34
	Control	78.21	9,214	48-86	51.32-80.45
After	Intervention	81.46	5,885	69-90	78.22-82.38
	Control	80.21	5,456	68-87	76.27-82.49

The average skills of mothers of toddlers in the intervention group were different before and after the intervention was carried out. The mean skill before intervention was 79.38 with a standard deviation of 9.337. The mean skill after intervention increased to 81.46 with a standard deviation of 5.885. Meanwhile, the average skills of mothers of toddlers in the control group were not much

different before and after the intervention. The mean knowledge before intervention was 78.21 with a standard deviation of 9.214. After the intervention the average skill was not much different, namely 80.21 with a standard deviation of 5.456.

Bivariate Analysis

Table 5.
Analysis of changes in knowledge and skills scores of mothers of toddlers before and after intervention in Curug Village, Cimanggis District (n=74)

Variable	Intervention Group					
	Before		After			
	Mean	elementary school	Mean	elementary school	Different means	p value
Knowledge	22.73	1,805	23.35	1.88	0.82	0.004
Skills	79.38	9,337	81.46	9,214	2.18	0.026
Variable	Control Group					
	Before		After			
	Mean	elementary school	Mean	elementary school	Different means	p value
Knowledge	22.55	1.64	22.78	1.78	0.23	0.160
Skills	78.21	5,885	80.21	5,456	2	0.349

The results of the analysis showed that there was an increase in the average knowledge before and after the intervention in the intervention group of 0.82. The results of statistical tests showed a significant change in respondents' knowledge after providing nutritional health education to mothers of toddlers (p value < 0.05). The average skill in the intervention group also increased by 2.18. Further test results also showed significant changes in respondents' skills after providing nutritional health education to mothers of toddlers (p value < 0.05).

Table 6.
Analysis of differences in knowledge and skills of mothers of toddlers before and after intervention in Curug Village, Depok (n=74)

Variable	Group	Mean	elementary school	p value*
Knowledge	Intervention	23.35	1.88	0.009
	Control	22.78	1.78	
Skills	Intervention	81.46	5,885	0.039
	Control	80.21	5,456	

Table 6 shows that the mean knowledge of respondents after the intervention in the intervention group was 23.35 with a standard deviation of 1.88. The mean knowledge in the control group was 22.78 with a standard deviation of 1.78. The results of further analysis showed that there was a significant difference in knowledge after the intervention between the intervention group and the control group (p value < 0.05). Meanwhile, the mean skill of respondents after the intervention in the intervention group was 81.46 with a standard deviation of 5.885. The mean knowledge in the control group was 80.21 with a standard deviation of 5.456. The results of further analysis showed that there was a significant difference in knowledge after the intervention between the intervention group and the control group (p value < 0.05).

Description of Respondents' Knowledge and Behavior

The results of this research analysis show that there was a significant change in maternal knowledge between before and after the intervention. Parents' nutritional knowledge regarding food ingredients will influence the dishes served by the family. With adequate knowledge, a mother will provide good food for her family, especially children under five, so that it is hoped that children's nutritional intake will be met according to their needs. Parents' lack of nutritional knowledge about their children's nutritional needs will result in nutritional problems that can disrupt the child's growth and development process. The results of this study also showed that there was a change in parental behavior after being given the intervention in both the treatment and control groups. This is in accordance with other research on food preparation behavior which shows that the behavior of cooking dinner at home is related to the food intake of family members, especially children (Taillie & Poti, 2017). Providing food at home, including selecting food ingredients, processing and serving, requires separate management in order to meet the family's nutritional needs. Providing food can also be influenced by the burden of responsibility and commitment or low parental self-efficacy, special challenges of time management including work commitments and lack of time availability, lack of support from both family and environment (Perry, Daniels, Bell & Magarey, 2016). Several studies explain the reasons given by parents for lacking behavior in providing food. Barriers revealed include lack of knowledge and personal taste of family members (Farahmand et al., 2015). Therefore, providing education is expected to reduce behavioral barriers due to lack of family knowledge.

The role of the family in children's eating behavior is very important. Friedman, Bowden and Jones (2003) stated that the family is the center for the formation of children's behavior where children learn by observing. Healthy eating behavior in pre-school children can be developed through the role of parents. Therefore, it is hoped that parents' behavior in providing nutrition for children can fulfill children's nutrition and shape children's healthy behavior.

Differences in Knowledge and Skills of Mothers of Toddlers Before and After Intervention between the Intervention Group and the Control Group

The results of the analysis showed that there was a significant change in the mean knowledge score before and after health education in the intervention group. This is also supported by research conducted by Lalu (2015) who examined the relationship between the level of maternal knowledge about malnutrition and the nutritional status of toddlers in Keruak, East Lombok Regency, West Nusa Tenggara, saying that knowledge is in line with the mother's level of education, the higher the education, the higher the level of education of the mother. the higher the knowledge possessed, the lower the education, the lower the knowledge, this cannot be separated from the personal experience each respondent has regarding the nutritional status of toddlers. The increase in knowledge among respondents was due to the respondents' willingness to know more details about toddler nutrition so that they were enthusiastic about participating in health education.

Based on HPM theory, health promotion through health education is an effort to increase self-awareness for healthy behavior (Alligood, 2017). Parents' nutritional knowledge regarding food ingredients will influence the dishes served by the family. With adequate knowledge, a mother will provide good food for her family, especially children under five, so it is hoped that children's nutritional intake will be met according to their needs. Parents' lack of nutritional knowledge about

their children's nutritional needs will result in nutritional problems that can disrupt the child's growth and development process. The results of the subsequent analysis showed that there was a significant change in the mean skill score before and after health education in the intervention group. In line with Parindah, Wati, Yuniar, (2017) stated that the existence of health education and health promotion media can improve respondents' skills. Kurnia (2014) added that there was an increase in skills scores of 4.11 and statistical tests showed a significant difference between skills before and after the intervention. The mother's behavior in meeting the nutritional needs of toddlers, such as providing good food, will influence the nutritional status of toddlers.This is in accordance with the HPM theory which states that interpersonal factors from the family influence the health promotion process for healthy behavior (Pender, Murdaugh, & Parson, 2019).

The significant increase in mean skills in the intervention group was influenced by health education carried out in series.This is in accordance with the results of research on the skills question variable for the intervention group which shows that there is an increase in each knowledge question variable. Increased knowledge in the question variable can be seen from increased knowledge about the nutritional content of food, how to store food, how to process food, and how to prepare food. This increase in knowledge proves that health education methods carried out on an ongoing basis are able to improve respondents' toddler nutrition skills. Efforts to increase knowledge and behavior in overcoming malnutrition problems require the role of community nurses. Therefore, community nurses need to further improve nursing interventions in the form of intensive and continuous health education so that the problem of malnutrition in Indonesia can be addressed properly and government programs regarding policies to improve nutrition can be achieved.

CONCLUSION

The health education intervention carried out in this research can increase mothers' knowledge and behaviour in improving nutritional needs for toddlers. There are significant changes and differences in mothers' knowledge and behaviour in improving toddler nutrition after health education and mentoring. In this research, the information provided by the mentoring model of health education was very helpful in accessing information about nutritional knowledge.The results of this research can be used as material for consideration by community nurses in providing education about nutrition in an effort to increase mothers' knowledge and behavior to avoid malnutrition problems.

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