

# KNOWLEDGE AND APPLICATION OF BALANCED NUTRITION ON TODDLERS DURING PANDEMIC

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## KNOWLEDGE AND APPLICATION OF BALANCED NUTRITION ON TODDLERS DURING PANDEMIC

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ABSTRACT	Keywords
<p>Toddlers are an age group that is vulnerable to nutritional disorders. A balanced nutritional intake will have an impact on children's development and also play an important role in immunity to prevent and fight COVID-19, especially in early childhood. Nutrition education is an effective effort in changing the behavior of mothers. The purpose of this study was to determine the effect of health education on knowledge and behavior of mothers in the application of toddler's balanced nutrition in Sidoarjo region. This study used a pre-experimental design with a one group pre post test approach. The sample of this research is mothers who have children aged 1-5 years in the village of Sukodono Sidoarjo totaling 30 respondents, the sampling technique is purposive sampling. The statistical test used are the Paired T test and Wilcoxon test. The Paired t test results obtained p value 0.011 (<math>\alpha = 0.05</math>), which means that there is an effect of health education on the level of knowledge about balanced nutrition in toddlers, while the Wilcoxon test results on the practice of implementing toddler's balanced nutrition obtained p value 0.091 which means there is no effect health education on the practice of implementing balanced nutrition in toddlers. Thus it can be concluded that there is a significant difference in the level of knowledge of respondents before and after being given health education, while the practice of implementing toddler's balanced nutrition has no difference before and after being given health education.</p>	<p style="text-align: center;"><i>Health education, toddler's balanced nutrition</i></p>

### INTRODUCTION

The COVID-19 pandemic is causing many changes in daily life. Maintaining a pattern of eating a balanced nutritious diet is very important in boosting the immune system during the COVID-19 pandemic (Akbar & Aidha, 2020). Increased immunity through intake of nutritious foods is needed to prevent and fight COVID-19, especially in early childhood (Amirullah et al., 2020).

Toddlers are an age group that is vulnerable to nutritional and health disorders. At this time the child's immune system is still not strong, so it is easy to get infected with diseases (Marimbi, 2010). The body really needs nutrients for the process of growth and development of children. Daily food must be chosen properly, if the food is not chosen properly, the body will experience a deficiency of certain essential nutrients. Good nutrition is a balanced nutrition,

meaning that the intake of nutrients must be in accordance with the needs of the body. In the balanced nutrition guidelines prepared by the Ministry of Health, there are recommendations for the number of food portions according to energy adequacy for various age groups. For ages 1-6 years the recommended food is 3-4 servings of rice, 1.5-2 servings of vegetables, 3 servings of fruit, 1-2 servings of vegetable and animal protein, 1 cup of milk, 3-4 spoons of oil and sugar 2 spoons. The role of vitamins and minerals in the immune system has been widely researched, nutrients that contain vitamin D, antioxidant vitamins such as A and C, and minerals such as zinc have shown a role in maintaining a healthy immune system (Menteri Kesehatan RI, 2014).

The Ministry of Health (2011) explained that some of the bad eating habits of children include the lack of consuming vegetables (93.6%) and fruits (62.1%), consuming sweet foods and drinks (65.2%), skipping breakfast time (60 %) and consuming salty foods (24.5%) (Fadhilah et al., 2018). Nutritional problems in toddlers are directly caused by nutritional intake, parenting practices, and disease. The nutritional status of children under five is largely determined by family care practices. The nutritional status of toddlers is a reflection of the fulfillment of the nutritional needs of toddlers, which is obtained from the intake and use of nutrients by the body (Suryani & Andrias, 2015).

Prevention of these nutritional problems requires the socialization of balanced nutrition guidelines which can be used as a guide for eating, physical activity, clean living and monitoring body weight regularly to maintain a normal weight. In an effort to optimize the delivery of the Balanced Nutrition message to the community, proper and community-based communication, information and education are needed (Menteri Kesehatan RI, 2014).

Effective feeding and stimulation can only be obtained by children if the mother or caregiver has good knowledge, attitudes and motivation related to feeding (Amirullah et al., 2020). Maternal nutritional knowledge that is lacking can be one of the determinants of nutritional status because it determines the attitude or behavior of the mother in choosing the food to be consumed as well as the diet related to the amount, type and frequency that will affect food intake in the family (S, 2011). Nutritional knowledge is knowledge about food and nutrients. The attitudes and behavior of mothers in choosing food to consume are influenced by various factors, including the level of a person's knowledge of nutrition which affects nutritional status (Setyaningsih & Agustini, 2014).

Riskesmas 2010, 2013 shows that Indonesia still has malnutrition problems. The prevalence of wasting in children under five has decreased from 13.3% to 12.1% (Menteri Kesehatan RI, 2014). The nutritional status of toddlers in Sidoarjo Regency in 2019 based on the under-five weight / age index shows the percentage of underfives with underweight is 8.27%, short toddlers (TB / U) 12.9%, and underweight toddlers (BB / TB) 9.29%. In the village of Sukodono there are toddlers with underweight 13%, short toddlers (TB / U) 16.9%, and thin toddlers (BB / TB) 12% (Dinas Kesehatan Kabupaten Sidoarjo, 2019). This shows that the nutritional status of under-nutrition in the Sukodono area is relatively higher than the overall average in Sidoarjo regency.

In a study conducted by Subarkah (2016), it was concluded that there is a relationship between feeding patterns and nutritional status of children aged 1-3 years. In the proper feeding pattern, most of the children have normal nutritional status. The nutritional status of children is the result of the diet established by the parents and the behavior of the parents who pay attention to

nutritional intake and the amount of food (Subarkah & Rachmawati, 2017). Meanwhile, the results of research by Van der Horst (2017) explained that protective parenting practices related to food are known to be beneficial for children's nutritional intake, such as by exemplifying healthy food intake (Van Der Horst & Sleddens, 2017).

Based on the description above, researchers feel the need to conduct research by providing interventions in the form of health education, so that it can play a role in changing maternal behavior to implement balanced nutrition for toddlers during the pandemic in Sukodono Village, Sidoarjo Regency because in that area the prevalence of underfives who are classified as thin reaches 12%.

## METHOD

This study used a pre-experimental design with a one group pre post test approach. This research was conducted in January 2021. The purpose of this study was to determine the effect of health education on knowledge and behavior of mothers in implementing balanced nutrition in children under five in Sukodono village, Sidoarjo district.

The population were 354 mothers who have children aged 1 to 5 years in the village of Kontakrejo, with a sample of only 30 mothers in one of the posyandu in the village of Terkrejo who were selected based on inclusion criteria using purposive sampling technique. The inclusion criteria in this study are mothers who have children aged 1-5 years, the maximum number of children is 2, have a Whatsapp number and are willing to be respondents.

Respondents who have filled out a letter of willingness to become respondents are then formed a Whatsapp group to make it easier to convey information. Primary data collection using an online questionnaire. Respondents filled out questionnaires via the

google form link that researchers shared on the Whatsapp Group. Previously, the questionnaire had been tested for validity using Pearson's Product Moment Correlation with a 95% confidence level.

The pretest questionnaire was given before the intervention, consisting of 20 questions to know the level of toddlers balanced nutrition knowledge and 18 statements with answers in the form of a Likert scale to assess the practice of mothers in implementing balanced nutrition in toddlers. Then the researchers intervened by providing health education in the form of material in the form of youtube videos. The video explains the guidelines for balanced nutrition in toddlers and the principle of feeding for toddlers with a duration of approximately 15 minutes each video and given at different times. To follow up on the intervention, the researcher facilitated question and answer on the Whatsapp group. The Posttest questionnaire was conducted 2 week after giving the material. This study used the Paired T test and Wilcoxon test with a significance level of  $\alpha = 0.05$  using SPSS software.

## RESULTS

**Table 1. Respondents' Characteristic**

Categories	n (30)	%
Age		
▪ < 20	0	0
▪ 20-35	26	87
▪ > 35	4	13
Education		
▪ Elementary – Junior High School	0	
▪ Senior high school	21	70
▪ University	9	30
Parity		
▪ 1	12	40
▪ 2	18	60
Work		
▪ Yes	25	83
▪ No	5	17

Based on the table above, it is known that almost all respondents (87%) are aged 20 to 35 years, most of the respondents' last education (70%) was senior high school, the parity was two children (60%) and almost all of them (83%) doesn't work.

**Table 2 The effect of health education on knowledge about balanced nutrition in toddlers**

Knowledge	n	Mean ± SD
Before	30	76,1 ± 6,8
After	30	76,3 ± 7,7

Based on table 2, the average level of knowledge before was 71.3 ± 12.7 and after being given health education the average level of knowledge increased to 78.5 ± 11.4.

**Table 3 The effect of health education on practice balanced nutrition in toddlers**

Practise	n	Mean ± SD
Before	30	76,1 ± 6,8
After	30	76,3 ± 7,7

Based on table 4, the mean value of practice before and after health education was given no difference.

**Table 4. Data Analysis**

Variable	Catego- ries	Before		After		Data Analy- sis
		n	%	n	%	
Knowledge e level	Good	1	40	2	73	<i>Paire d T Test p value = 0,011 &lt;0,05</i>
		2		2		
	Enough	1	43	6	20	
		3		2	7	
Less	5	17	2	7		
	0		0	0		
Balanced Nutrition	Good	2	80	2	80	<i>Wilco xon test p value = 0,091 &gt;0,05</i>
		4		4		
Implement ation Practices for Toddlers	Enough	6	20	6	20	
		0	0	0	0	
Less	Total	3	10	3	10	
		0	0	0	0	

## DISCUSSION

Based on table 2, the p value = 0.011 < α (0.05). So it can be concluded that there is an influence on the level of maternal knowledge about balanced nutrition in toddlers before and after being given health education in the form of videos.

According to Notoatmodjo (2014), several factors influence changes in a person's knowledge, including the source of the message, the content of the message and the recipient of the message. The source of the message can be someone or something the recipient of the message believes in. Audiovisual media that present real-life knowledge and experiences on a daily basis will be more easily accepted by mothers so that they can quickly increase their knowledge and understanding. In this study, Audiovisual media contains an explanation of the basic messages of balanced nutrition in toddlers which are presented in an attractive manner and in language that is easy to understand so as to facilitate the reception of balanced nutrition information conveyed. This is in accordance with Utari's research (2014) which concluded that there are differences in knowledge before and after being given health education using audiovisual media to increase family knowledge. Maternal nutritional knowledge can be one of the determinants of nutritional status because it determines the attitude or behavior of the mother in choosing the food to be consumed as well as the diet related to the amount, type and frequency that will affect the food intake in the family (S, 2011).

Based on table 2, the p value = 0.091 > α (0.05). So it can be concluded that there is no influence of maternal behavior in the application of balanced nutrition to toddlers before and after being given health education in the form of videos. This is not in accordance with the research conducted by Purnamasari (2017), which explains that there are changes in the behavior of school

students and mothers after education with pictorial story media with audiovisual media. Likewise, the research of Kapti et al. (2013) which showed an increase in knowledge and attitudes of mothers after being given counseling using audiovisual media (Pumamasari et al., 2017).

According to the basic theory developed by Lawrence Green in Nursalam (2014), behavioral causes and non-behavioral causes are the main factors affecting a person's health. The causes of behavior are influenced by three factors, namely: predisposing factors (age, occupation, education, knowledge and attitudes), enabling factors (physical environment and distance to health facilities), and strengthening factors (support provided by family and community leaders) (Notoatmodjo, S., 2015). The behavior change process requires five stages until the behavior can be adopted into the daily life of the individual. The first stage is awareness of the influence that stimulates it. Second, there is interest in the stimulus. Third, evaluation, at this stage the individual chooses and thinks about the influence of the stimulus whether or not it is good and whether it is suitable or not if it is applied to their life. Fourth, there is an experiment, a stage where a person tries the behavior of the stimulus to conclude that it is not in accordance with themselves. Finally, the fifth, adoption is a phase of acceptance to

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be applied to everyday life (Agustin et al., 2018). According to Permenkes 2014, maternal balanced nutrition behavior includes four things, that are diversification of food types, clean lifestyles, physical activity, and monitoring of body weight. In this study, most of the respondents were in the good category regarding food diversification, so it can be concluded that most of the respondents have paid attention to the nutrition of children under five in their daily diet.

## CONCLUSIONS

There is an effect of providing health education through video media on the knowledge of mothers about balanced nutrition in toddlers, while in the practice of mothers in the application of balanced nutrition to toddlers there is no effect.

Deployment the message of balanced nutrition for the community requires strategies and methods of education are appropriate and community-based in order to have an impact on changing people's behavior towards Balanced Nutrition and healthy living behaviors. Strategies that can be carried out by practitioners are to develop Balanced Nutrition messages according to culture and use local languages and appoint Balanced Nutrition Ambassadors to become role models in the feeding of toddlers.

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