Nutra: Jurnal Gizi Dan Kesehatan
https://saintifypublish.com/index.php/nutra
Volume 02 | Number 01| July |2024
e-ISSN: 3025-9886

THE EFFECT OF EDUCATION USING VIDEO MEDIA ON OPTIMIZING TODDLER NUTRITION ON THE KNOWLEDGE OF MOTHERS OF TODDLERS

Shafa Haya Faradila[1*], Rr. Dewi Ngaisyah[2], Yelli Yani Rusyani [3]
Nutrition Study Program, Faculty of Health Sciences, Respati University Yogyakarta
***Corresponding author email address: Hyashf7@gmail.com**

Article History
Received 23 July 2024
Accepted 31 July 2024

Keyword
Toddlers,
Knowledge,
Education,
Video,
Educational impact.

DOI

Abstract
Background: Data from the Ngemplak Community Health Center shows that 3.41% of toddlers are experiencing malnutrition, with toddlers experiencing malnutrition in Sindumartani sub-district in 6 posyandu in 2022. **Objective:** This research aims to determine the effectiveness of educational media about optimizing toddler nutrition on the knowledge of mothers of toddlers in the Ngemplak 1 Community Health Center Working Area, Yogyakarta City. **Methode:** This type of research is a quasi-experiment, the researcher examines the influence of two variables, namely providing nutritional education to mothers of toddlers on knowledge about optimizing toddler nutrition. The research provided treatment on the subject, namely nutrition optimization education, on the knowledge of mothers of toddlers with 62. Respondents knowledge wa meansured using t-test analysis a questionnaire in bivariate testing using the paired t-test statistical test α=0,05. **Results:** In this study, using t-test analysis based on the Paired Sample t-test, significance = 0.000 was obtained, less than the significance level (α) = 0.05. In tabet t, a negative t count is obtained, namely -19.119, which means the average before treatment is lower than the average after treatment. **Conclusion:** Education using video media is effective in increasing mothers' knowledge about optimizing toddler nutrition at the Ngemplak 1 Community Health Center, Sleman, Yogyakarta.

Introduction

In early childhood, brain growth experiences a tremendous increase. Therefore, this period is often referred to as the most potential period and the most important period for a person's life (1). Based on the research of Keith Osborn, Dr. Burton L. White, and Dr. Benjamin S. Bloom (in Jamaris, 2013), the physical growth of the brain reaches 50% at the age of 0-2 years. At the age of 6 years, brain growth reaches 90%. The brain reaches its optimal growth (100%) at the age of 12 years. Meanwhile, the intellectual development of the brain reaches 50% at the age of 4 years, then at the age of 8 years the child's intellectual development reaches 80% (2). Early childhood is an individual who is experiencing a very

rapid growth and development process, even said to be a developmental leap. Early childhood is a child who is still in a period of play (3). This age is often called the golden age which only comes once and cannot be repeated again, which is very decisive for developing human quality (4).

Growth and development experience an increase where the increase occurs with the start of the functioning of the organs of the body (1), the increase in the nervous system, the progress of motor development and excretory functions that occur at an early age, namely from 0-24. This period is often referred to as the Golden Age. Golden age is a very important period to pay careful attention to the growth and development of children so that as early as possible can be detected if there are abnormalities in children (5). In addition, appropriate treatment of abnormalities during the golden age period can reduce the risk of permanent growth and developmental abnormalities (6).

One of the efforts to find out any deviations in child development is by early detection, so that prevention, stimulation, healing and recovery efforts can be given correctly according to the indications (7). Detection for growth and development is an effort that needs to be supported, because it is one way to prepare future generations with quality (8). One of the health problems faced is malnutrition. Children who are malnourished have low immunity and are susceptible to infectious diseases (9). Parents' feeding behavior plays an important role in meeting children's nutritional needs (10). The age of 0-2 years is an optimal growth and development period (golden period), especially for fetal growth so that if there is a disturbance at this time it cannot be fulfilled in the following period and will have a negative effect on the quality of the next generation (11).

Undernutrition and malnutrition in toddlers not only cause physical growth disorders, but also affect intelligence and productivity in adulthood (12). The results of a survey conducted by the Indonesian Pediatric Association (IDAI) indicate that about 5-10% of Indonesian children experience developmental delays. Additionally, Medise (2013) reported that about 1-3% of toddlers experience general developmental delays. These general developmental delays can occur in two or more domains of development. Another study noted that 3.3%-17% of children experience delays in development. However, previous studies lack comprehensive data and recent statistics to fully understand the current state of developmental delays in Indonesian children. This research aims to fill this gap by providing updated and detailed information, incorporating more recent references and expanding on the findings of prior studies.

Maternal knowledge about balanced nutrition is crucial due to the role of mothers in the family as food managers (13). Mothers who lack nutritional knowledge may serve food that is not nutritionally balanced. Conversely, the more nutritional knowledge a mother has, the more she will consider the type and amount of food she chooses to serve. Those with insufficient nutritional knowledge tend to choose foods based on sensory appeal rather than

nutritional value. In contrast, mothers with more nutritional knowledge make food choices based on rational considerations and the nutritional value of the food. This research aims to contribute to society by highlighting the importance of maternal nutritional knowledge and its impact on family health. By providing evidence and recommendations, this study seeks to inform and educate mothers, ultimately leading to healthier dietary choices and improved overall nutrition within families.

Materials and Methods

This quasi-experimental research examines the effect of nutrition education on the knowledge of mothers with toddlers using a one-group pre-test and post-test design. The intervention, conducted at the Ngemplak 1 Health Center in Sleman, Yogyakarta, consisted of a 4-week nutrition education program with sessions held twice a week, covering topics such as balanced nutrition, vitamins and minerals, portion sizes, and meal planning through videos and interactive discussions. The population included all toddlers aged 0-24 months at the health center, with a sample of 62 mothers selected using Accidental Sampling. The mothers' knowledge was assessed using a validated and reliable questionnaire, administered before and after the intervention. Data collection involved pre-test and post-test questionnaires, and the analysis was conducted using SPSS version 25, employing a paired t-test with a significance level of α=0.05 to measure the effectiveness of the intervention. Inclusion criteria were mothers of toddlers aged 0-24 months, residing in Ngemplak District, and willing to participate, while exclusion criteria included mothers with severe health conditions or those already participating in other nutritional programs.

RESULTS

Respondent Characteristics

Table 1. Characteristics of Respondents

Mother's Characteristics	Frequency	Presentase (%)
Toddler Age		
3-6 Months	20	32%
7-11 Months	22	35%
>1 Year	20	32%
Mother's Education		
Elementary	10	16,1%
Junior high school	15	24,2%
High school	26	42%
S1/Diploma	10	17,7%
Mother's Employment Status		

Nutra: Jurnal Gizi Dan Kesehatan
https://saintifypublish.com/index.php/nutra
Volume 02 | Number 01| July |2024
e-ISSN: 3025-9886

Housewife	30	48%
Private	11	18%
Civil Servant	3	5%
Laborer	18	29%
Mother's Age		
<25 Years	20	32%
26-30 Years	32	52%
31-35 Years	10	16%
Total	**62**	**100**

Based on table 1 shows that the majority of respondents were aged 26-30 years, namely 32 respondents (52%), the last education of the majority of respondents was high school as many as 26 respondents (42%), the majority of respondents' mothers' work status was housewives, namely 30 respondents (48%), and the age of the majority of toddlers was 7-11 months as many as 22 toddlers (35%).

Table 2. knowledge of mothers of toddlers about optimizing toddler nutrition

	N	Minimum	Maximum	Mean	Std. Deviation
Pre Test	62	45	85	65.40	7.908
Post Test	62	80	100	90,32	6,394

The description of the knowledge of mothers of toddlers about nutritional optimization knows the results of univariate analysis research by looking at the highest and lowest values of 62 respondents, then looking at the average value of all respondents with the average value of the intervention group respondents. Based on table 4.2 univariate analysis on maternal knowledge of 62 respondents, it can be seen that the results of knowledge before education Pre-Test value obtained Min-Max 45-85, while after education Post-Test value obtained Min-Max 80-100 there is an increase after education.

Table 3 Effect of education using video media on the knowledge of mothers of toddlers

Kelompok	Min	Maks	t	*p-value*
Pretest	45	85	-19,119	0,000
Postest	80	100		

Based on the Paired Sample t-test table, the significance = 0.000 is less than the significant level (α) = 0.05, so H0 is rejected. This means that there is a significant difference between the average value before treatment and the average value after treatment. In the t table, a negative t is obtained, namely -19.119, which means that the average before treatment is lower than the average after treatment. So it can be concluded that there is an increase in the learning outcomes of the experimental class from pre-test to post-test. The results of these data can be said that there is a difference between before and after being given education, namely there is an increase in knowledge about nutritional optimization.

DISCUSSION

From the results of the pre posttest obtained, good results were obtained by the knowledge of mothers of toddlers with the results of 80-100 the highest value of maternal knowledge obtained. Education using video media effectively increases mothers' knowledge about optimizing toddler nutrition at Puskesmas Ngemplak 1, Sleman, Yogyakarta. This indicates a correlation between maternal knowledge regarding toddler growth and development and the nutritional status of toddlers, influenced by various causal factors impacting their nutritional outcomes. One possible factor is the factor of good knowledge so that it is applied well to the care and feeding that affects nutritional status, however there are still some mothers with less knowledge in the Ngemplak Health Center Region.

This study is in line with previous research which also shows the results of the pre-test questionnaire from a sample of 30 mothers of toddlers, most of the mothers were quite knowledgeable as many as 18 mothers (60%) and a small proportion of mothers with good knowledge as many as 1 mother (3.3%), experienced changes after being given counseling with audio visual media (video) which increased significantly as many as 29 mothers (96.7%) with good knowledge, video media is more effective in providing counseling, it is known that 29 respondents obtained increased knowledge after receiving counseling with audio visual media (video).

This study is in line with previous research with the title Effectiveness of Media Utilization of Moving Pictures and Animated Videos on Increasing Maternal Knowledge and Attitudes about Balanced Nutrition in Toddlers, random sampling of 40 respondents then purposive sampling technique. Data analysis was univariate and bivariate with T-Independent test. The results showed the average knowledge of mothers about balanced nutrition in toddlers using moving image media before intervention (78, 60), after intervention (83, 80); animation media, before intervention (78, 00), after intervention (91, 90) p-value 0.120. Results for the average attitude with moving image media before intervention (76, 05), after intervention (78, 60), animation media, before intervention (78, 55) and after intervention (85, 65) pvalue 0.087. Animation media is more effective in

increasing mothers' knowledge and attitudes about balanced nutrition, it appears from the mean value of using animation media higher than moving pictures.

This study is in line with previous research titled 'The Effect of Cartoon Video Media Education on Increasing Maternal Knowledge and Children's Nutritional Status,' which showed that the knowledge score before education was 14.69, and the score after education was 17.94. This indicates a significant improvement in maternal knowledge about child nutrition due to the education using cartoon video media. However, it is important to note the limitations of this study, such as the small sample size and the short duration of the intervention. These limitations could affect the generalizability and the long-term effectiveness of the findings. Future research should address these limitations by including larger sample sizes and assessing the long-term retention of knowledge and behavior changes (3).

Conclusion

Educational media on optimizing toddler nutrition effectively increases the knowledge of mothers of toddlers in Ngemplak, Sleman Yogyakarta. Before the intervention, the average knowledge score was 65.40 ± 7.908, which significantly increased to 90.32 ± 6.394 after the educational media was provided. These findings underscore the effectiveness of using video media as an educational tool to enhance maternal knowledge about toddler nutrition. By providing accessible and engaging educational content, such interventions can play a crucial role in improving nutritional practices and ultimately the health outcomes of toddlers. Future research should explore the long-term impacts of such educational interventions and their potential scalability to broader populations.

Reference

1. Tojo R, Leis R. GROWTH AND DEVELOPMENT. In: Caballero B, editor. Encyclopedia of Food Sciences and Nutrition (Second Edition) [Internet]. Oxford: Academic Press; 2003. p. 2974–84. Available from: https://www.sciencedirect.com/science/article/pii/B012227055X00571X
2. Handayani ES, Kusumarini E, Rosidi MI, Solong NP, Hasyim DM. Development of A Community Literacy Program To Increase Children's Interest In Reading In Rural Areas.
3. Taurusta C, Fitrani AS, Suryawinata M, Dijaya R, Astutik MWD. Game education for child with disabled handle based on multimedia. J Phys: Conf Ser. 2019 Nov 1;1381(1):012038.
4. Jamaris M. Orientasi baru dalam psikologi pendidikan. Bogor: Ghalia Indonesia [Internet]. 2013 ; Available from: https://scholar.google.com/scholar?cluster=7318175755614175731&hl=en&oi=scholarr

5. Rukayah S, Kristina Y, Ningsih W, Wuriani W, Pella YH, Ariyanti S. The Relationship Between Maternal Employment and The Development of Children Toddler 1-3 Years of Age in The Working Area Puskesmas Kalabbirang, Minasatene Sub-district, Pangkep District. IJHS. 2023 Sep 25;1(3):419–24.
6. Balasundaram P, Avulakunta ID. Human Growth and Development. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024. Available from: http://www.ncbi.nlm.nih.gov/books/NBK567767/
7. Idealistiana L, Yanuarti T. Empowering Toddler Mothers in Toddler Mother Classes to Improve the Ability to Monitor Toddler Growth and Development.
8. Setyatama IP, Siswati S, Masturoh M. Edukasi Stimulasi Perkembangan Balita Dengan KPSP (Kuesioner Pra Skrining Perkembangan) Di Desa Randusari Kecamatan Pagerbarang Kabupaten Tegal. Sejahtera: Jurnal Inspirasi Mengabdi Untuk Negeri. 2023 Apr 27;2(2):105–13.
9. Bourke CD, Berkley JA, Prendergast AJ. Immune Dysfunction as a Cause and Consequence of Malnutrition. Trends in Immunology. 2016 Jun 1;37(6):386–98.
10. Savage JS, Fisher JO, Birch LL. Parental Influence on Eating Behavior. J Law Med Ethics. 2007;35(1):22–34.
11. Budiati B, Hardiany DR, Haryani S. Optimizing Golden Period Through Early Detection of Language Skills And Multilanguage Stimulation. PO. 2021 Dec 22;4(2):98.
12. Soliman A, De Sanctis V, Alaaraj N, Ahmed S, Alyafei F, Hamed N, et al. Early and Long-term Consequences of Nutritional Stunting: From Childhood to Adulthood. Acta Biomed. 2021;92(1):e2021168.
13. Widiyanto J, Laia FS. Mother Knowledge of Nutrition and Effect On Nutritional Status of Children In Community Health Center. 2021;2(1).