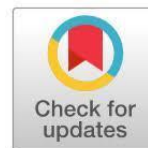


Effect of health education video on knowledge about the first 1000 days of life among women in childbearing age



Anisya Virliana Budiman¹, Puspa Sari², Sri Astuti³, Dini Saraswati Handayani⁴,
Didah Didah⁵

¹Faculty Of Medicine, Universitas Padjadjaran, Sumedang Indonesia, anisvavirlianabudiman@gmail.com

²Faculty Of Medicine, Universitas Padjadjaran, Sumedang Indonesia, saripuspabidan2@gmail.com

³Faculty Of Medicine, Universitas Padjadjaran, Sumedang Indonesia, sriastuti29a@gmail.com

⁴Faculty Of Medicine, Universitas Padjadjaran, Sumedang Indonesia, dhe.zsharaswati@gmail.com

⁵ Faculty Of Medicine, Universitas Padjadjaran, Sumedang Indonesia, didahramdani@gmail.com

ARTICLE INFO

Article history:

Received: Aug 31st, 2020

Revised : Oct 5th, 2021

Accepted: Oct 8th, 2021

Keyword:

Video Media;
Health Education;
Knowledge;
Women of Childbearing Age;
The First 1000 Days of Life.

ABSTRACT

The first thousand days of life, also known as the golden period, began from conception until the children were 2 years old. This period is critical, so if not utilized properly there will be permanent damage such as impaired physical growth, intelligence, and non-communicable diseases. This study aimed to explore the effect of health education using video media on knowledge about the first 1000 days of life among women of childbearing age. This research uses quantitative methods with a pre-experimental design in the form of one group Pretest-Posttest conducted in July-November 2019. Samples of the research are women of childbearing age in the working area of Jatinangor Public Health Center. Sampling technique with Multistage random sampling with a sample count of 221 respondents. Data analysis using the Wilcoxon test. The results showed that there was an influence on health education by using video media in improving women of childbearing age knowledge about the first 1000 days of life with test result Wilcoxon $P = < 0.05$ ($P = 0,000$) and value $R = 0,755$. There is a health education influence using video media in increasing the knowledge of women of childbearing age about the first 1000 days of life.

This is an open-access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Anisya Virliana Budiman

Faculty Of Medicine Universitas Padjadjaran
Hegarmanah, Kec. Jatinangor, Kabupaten Sumedang, Jawa Barat 45363

Email: anisvavirlianabudiman@gmail.com

INTRODUCTION

The first 1000 days of life also known as the golden period, started from conception until the child was 2 years old. The first thousand days of life is a critical period because in this period there is very rapid growth and development of the brain and organs that impact the future so that if not utilized properly there will be permanent damage.(1,2) The first thousand days of life are closely related to nutritional intake, it is an important factor for the growth and development of children's physical and cognitive, lowering the risk of pain in infants and mothers.(3,4) Pregnant women with less nutritional status will cause fetal growth disorder, the main cause of the occurrence of short babies (stunting), and increase the risk of obesity and degenerative diseases in adulthood.(5,6)

According to data from the United Nations International Children's Emergency Fund (UNICEF), the World Health Organization (WHO), and the World Bank Group in 2018, ASIA ranks the first highest in malnutrition in infants. Indonesia is a regional country of Southeast



Asia/South-East Asia Regional (SEAR) with a prevalence of 25.7 million short toddlers (stunting), 8.7 million skinny toddlers (wasting), and 7.3 million obese toddlers (overweight).(7) With the nutritional problems, Indonesia has agreed to be part of the Scaling Up Nutrition (SUN) Movement. In this movement, women play an important role, especially women of childbearing age who are most likely to pregnant and give birth.(8) Research conducted by Dian Nurlaela about the effectiveness of health education using children's love cards about 1000 FDL to increase the knowledge of a couple of childbearing age mates in KUA (Religious Affairs Office) Jatinangor mentions that the knowledge of a couple of childbearing age before given health education is lacking.(9)

One of the ways that can be used to improve knowledge about the 1000 first days of life of women of childbearing age is by providing health education using more interesting and easy-to-understand media. According to Edgar Dale's cone experience theory, 50% of human knowledge is obtained through the eyes and ears. One of the media to provide health education using the senses of sight and hearing is video media.(10,11) This study aimed to explore the effect of health education using video media on the knowledge about the first 1000 days of life among women of childbearing age in the working area of Jatinangor Public Health Center.

METHOD

This study uses quantitative methods with a pre-experimental design in the form of one group pre-test – post-test, researchers compare the increased knowledge of women of childbearing age before and after being given health education about the first 1000 days of life. The study was conducted in July-November 2019. The population in the study is all women of childbearing age who are in the working area of Jatinangor Public Health Center (PHC), namely Cibeusi, Cipacing, Cikuruh, Sayang, Hegarmanah, Cileles, and Cilayung. The sampling techniques in this study used a Multistage random sampling technique. The samples in this study were 221 women of childbearing age who were recorded in the working area of Jatinangor PHC and met the criteria of inclusion and exclusion. After the subject was selected and agreed to follow the study, respondents filled out a pretest sheet then were given a health education about the first 1000 days of life using video media and given the 1st posttest after 30 minutes of watching the video. After 7 days of intervention, the respondent filled out the 2nd post-test sheet. The instrument used in this study was a questionnaire about the first 1000 days of life. To measure the knowledge of women of childbearing age about the first 1000 days of life used a questionnaire from Dian Nurlaela Research added by researchers. Before the research instrument was used in the study of knowledge questionnaires on the first 1000 days of life, the validity and reliability test was carried out. This test has been conducted in the working area of Cisempur PHC because it has the same characteristics as the research place. Analysis of the data used is a univariate analysis to know the description of pre-test knowledge and post-test in the form of frequency tables and bivariate analysis with the Wilcoxon test to see the influence of health education using video media to improve women's childbearing knowledge about the first 1000 days of life. This research has been listed as ethics research with No: 1017/UN6. KEP/EC/2019 at the Research Ethics Faculty of Medicine, Padjadjaran University.

RESULTS AND DISCUSSION

Data retrieval was carried out in 7 villages of the working area Jatinangor, namely Cibeusi, Cipacing, Sayang, Cikuruh, Hegarmanah, Cileles, and Cilayung with respondents as many as 221 people who met the criteria of inclusion and exclusion.

Table 1. Knowledge of women of childbearing age about 1000 first days of life

Knowledge of The First 1000 Days of Life	Pre-Test		1 st Post-Test		2 nd Post-Test	
	N	%	N	%	N	%
Good	68	30.8	140	63.3	140	63.3
Enough	103	46.6	61	27.6	61	27.6
Less	50	22.6	20	9.0	20	9.0
Total	221	100.0	221	100.0	221	100.0

In Table 1 can be known that the respondent's knowledge at the time of pre-test most of the knowledge is enough to reach 103 people (46.6%), while at the time of 1st post-test conducted 30 minutes after being given health education through video media respondents' knowledge became good reached 140 people (63.3%). At the time of 2nd post-test which was done 7 days after health education through the media video most of the knowledge is good as 140 people (63.3%). It can be concluded that there is an increase in knowledge before and after health education through video media.

Table 2. The influence of health education through Video Media to increase the knowledge of women of childbearing age about 1000 first days of life in 1st post-test

Knowledge	Video Media				
	Mean	SD	Median	P Value	R
Pre-Test	65.95	15.51	65.00	0.000	0.810
Post-Test 1	77.27	14.94	81.00	0.000	0.810

Table 3. The influence of health education through Video Media to increase the knowledge of women of childbearing age about 1000 first day of life in 2nd post-test

Knowledge	Video Media				
	Mean	SD	Median	P Value	R
Pre-Test	65.92	15.53	1.044	0.000	0.755
Post-Test 2	77.91	14.21	0.956	0.000	0.755

Table 2 can be known in the average knowledge of women of childbearing age before health education through video media is 65.95 and 30 minutes after health education is 77.27. Wilcoxon analysis Results obtained P Value < 0.05 and the value R = 0,810. Table 3 shows the average knowledge of women of childbearing age before the health education conducted through video media namely 65.92 and after seven days of health education is 77.91. Wilcoxon analysis Results obtained P Value < 0.05 and the value R = 0,755. Thus, it can be concluded that there is a significant influence on the knowledge of women of childbearing age before and after conducting health education through video media and has a very strong correlation.

Knowledge is a result of the knowledge, that get someone from the sensing result of a particular object. A person's process of gaining knowledge is initiated from the know, interpreted as remembering a material that has been learned before. This level is recalled to an entire material that has been studied or the stimuli received.(10) In this research the material or stimulation that has been received by the respondent is through video media. The second level of knowledge is understanding, understanding can be interpreted as an ability to correctly explain what is known and what can be interpreted correctly. People who have been aware of objects or materials and can explain, mention examples, conclude, and forecast an object that has been studied. It can be measured by using a questionnaire. The third level of knowledge is an application, the application is interpreted as the ability to use the material that has been learned in the actual situation or condition. The next level is analysis, synthesis, and evaluation.(10)

The results of the study in Table 1 showed that there was an increase in knowledge before and after the health education through the video media about the first 1000 days of life in both 1st post-test and 2nd post-test. Increased knowledge can occur due to the pre-test distance and post-test being too close in this research 1st pre-test was conducted 30 minutes after the intervention and 2nd post-test was carried out after 7 days of intervention. Factors that affect the increase in knowledge of women of childbearing age can be influenced by the distance between the time of the intervention with the post-test because it relates to memory in storing information (retention).(12) The ideal time-lapse for carrying out the post-test is 15-30 days of intervention.(13) The goal is to avoid respondents who still remember the question at the pre-test because the closer the distance between the pre-test and post-test then the greater the occurrence of the influence retention factor.(12) According to Keeley in Sprenger shows that old intervals will affect the power of retention. Keeley States that 54% of the material recalls after 1 day, 35% of the material is remembered after 7 days, 21% of the material is remembered after 14 days, and 8% of the material is remembered after 21 days.(13)

A person's level of knowledge can be influenced by factors such as internal factors and external factors. Internal factors include education, employment, age, and experience. In addition, the external factors are environment, culture, and information obtained.(10) These factors can influence how a person is going and behaves. If a person's knowledge is less than the knowledge of a woman of childbearing age about 1000 FDL will affect his attitude and behavior in preparing for pregnancy and taking care of his children in the 1000 FDL period.(8) The adverse effects that will arise one of them is that there will be malnutrition in the period in short term the disruption of brain development, and intelligence, physical growth disorders such as stunting, wasting low birth weight, and metabolic disorders in the body. Meanwhile, in the long term bad causes are decreased cognitive ability and learning performance, decreased immunity so that it is easy to ache, and a high risk for the emergence of diabetes, obesity, heart and blood vessels, cancer, stroke, and disability in old age.(3,8) Therefore, a woman of childbearing age needs to know about balanced nutrition from the beginning of pregnancy until a two-year-old child to a healthy birth and avoid various nutritional problems.(8)

One of the efforts that Indonesia has done in solving the problem of nutrition in the first 1000 days of life is to agree to be part of the SUN movement or in Indonesia called the National Movement of the acceleration improvement of nutrition in the framework of the first thousand days of life. Movements of the first 1000 days of life consist of specific nutritional interventions and sensitive nutritional interventions. One specific nutritional intervention is conducting special health education for the target group of 1000 first days of life, starting from women of childbearing age, pregnant woman, breastfeeding mothers, and infants under the age of two years. This health education is an effort to improve one's knowledge, in this research health education is given through video media. Tables 2 and 3 show that health education using video media and post-tests performed 30 minutes after a health education or 7 days after is influential in improving women's childbearing knowledge about the first 1000 days of life.(8,14)

This research is in line with the research conducted by Dahodwala Murtaza which mentions that health education using video media can improve knowledge and change one's attitude.(15) Another study by Michael E. Wilson on the use of video media to enhance patient knowledge of cardiopulmonary resuscitation options in the Intensive Care Unit said that video media further enhances patient knowledge than the regular use of pamphlets.(16) Another study by Julia Supit on the effectiveness of educational education using educational methods with video and Focus Group Discussion is very effective in improving knowledge.(17) The video method is one of the audiovisual media that aims to improve one's affective function by providing motion and sound animations that can increase one's interest in the learning process. The audiovisual method is a method that is very interesting

and presents learning materials using teaching media tools that can listen to or demonstrate these materials. Videos are more attractive to mothers, facilitate understanding of the material provided, provide better learning stimuli so that more knowledge can be absorbed, the content of video material will be easily understood by mothers when delivered in their daily language, involves all learning senses, the content of the material is understood and can be retained in memory, the video is presented orally and with pictures simultaneously to make mothers better understand the content of the video shown. Audiovisual media has many advantages compared to other media, which are currently widely used in various activities because they present images and sound simultaneous so that the public can more easily understand the process of both education and counseling activities. A study by Nicolaou and Kalliris (2020) revealed that audiovisual media could be repeatedly played via a smartphone so that user understanding becomes even better.(19) Public health education through web-based audiovisual media can effectively increase parents' knowledge about monitoring the growth and development of toddlers.(20) The results of the above studies are in line with the theory posed by Edgar Dale which illustrates the level of knowledge acceptance intensity in an experience cone that puts audio-visuals greater than by just reading and listening.(11) Sensory equipment requires understanding and good reason in solving the problems that occur in the human body through learning, the more the senses involved, the better the knowledge gained. Edgar Dale estimates that the acquisition of learning results in a 30% sense of view and a sense of hearing of about 20%.(11,18) Therefore, the media in health education should be designed by these principles to optimize the knowledge gained. This study used video aids as a media health education, it allows respondents to obtain and acquire better knowledge because it involves two senses that is the sense of vision and auditory senses.(11)

CONCLUSION

The results showed there was an increase in the knowledge of women of childbearing age before and after being given health education about the first 1000 days of life through video media. There is an influence on health education about the first 1000 days of life using video media with a very strong correlation.

ACKNOWLEDGEMENTS

Thank you to public health center officers, the Jatinangor district and villages located in the Jatinangor Public Health Center working area who have been permitted to do research, and women of childbearing age who have been willing to participate in this research.

REFERENCES

1. Lombardi Joan d. *The First 1.000 Days: Nourishing America's Future*. Washington D.C.: SUITE 250 2016.
2. Kelly MPJHPJoA. *How to make the first thousand days count*. 2018.
3. Kattula D, Sarkar R, Sivarathinaswamy P, Velusamy V, Venugopal S, Naumova EN, et al. The first 1000 days of life: prenatal and postnatal risk factors for morbidity and growth in a birth cohort in southern India. 2014;4(7):e005404. [https://doi: 10.1136/bmjopen-2014-005404](https://doi.org/10.1136/bmjopen-2014-005404)
4. Christian P, Mullany LC, Hurley KM, Katz J, Black RE, editors. *Nutrition and maternal, neonatal, and child health. Seminars in Perinatology*; 2015: Elsevier.
5. Leroy JL, Ruel M, Habicht J-P, Frongillo EAJTJon. Linear Growth Deficit Continues to Accumulate beyond the First 1000 Days in Low-and Middle-Income Countries: Global Evidence from 51 National Surveys, 2. 2014;144(9):1460-6. <https://doi.org/10.3945/jn.114.191981>
6. Wrottesley S, Lamper C, Pisa PJJodooh, disease. Review of the importance of nutrition during the first 1000 days: maternal nutritional status and its associations with fetal

- growth and birth, neonatal and infant outcomes among African women. 2016;7(2):144-62. <https://DOI:10.1017/S2040174415001439>
7. UNICEF WBG, WHO. Levels and Trends In Child Malnutrition: UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates. UNICEF, WHO and the World Bank Group; 2018. Available from: https://www.who.int/nutrition/publications/jointchildmalnutrition_2018_estimates/en/
 8. BAPPENAS. Pedoman Perencanaan Program Gerakan 1000 Hari Pertama Kehidupan. In: BAPPENAS, editor. Jakarta: BAPPENAS; 2013. Available from: https://www.bappenas.go.id/files/5013/8848/0466/PEDOMAN_SUN_10_Sept_2013.pdf
 9. Nurlaela D, Sari P, Martini N, Wijaya M, Judistiani RTDJKV. Efektivitas Pendidikan Kesehatan Melalui Media Kartu Cinta Anak Tentang 1000 Hari Pertama Kehidupan dalam Meningkatkan Pengetahuan Pasangan Calon Pengantin di KUA Kecamatan Jatinangor. 2018;3(2):62-8.
 10. Wawan AM, Dewi. Teori dan Pengukuran Pengetahuan, Sikap, dan Perilaku Manusia. Yogyakarta: NuMed; 2010.
 11. Davis B, Summers M. Applying Dale's Cone of Experience to increase learning and retention: A study of student learning in a foundational leadership course. Qscience proceedings. 2015:6.
 12. Putri DM, Wahyudi F, Margawati AJJKD. Perbedaan Retensi Memori Pasca Penyuluhan Keluarga Berencana dengan Media Ceramah dan Video pada Wanita Usia Subur. 2016;5(4):682-93.
 13. Shadish WR, Cook TD, Campbell DT. Experimental and quasi-experimental designs for generalized causal inference/William R. Shadish, Thomas D. Cook, Donald T. Campbell: Boston: Houghton Mifflin; 2002.
 14. Notoatmodjo S. Promosi Kesehatan dan Perilaku Kesehatan. Jakarta: PT Rineka Cipta; 2012.
 15. Dahodwala M, Geransar R, Babion J, de Grood J, Sargious PJPE, Counseling. The impact of the use of video-based educational interventions on patient outcomes in hospital settings: a scoping review. 2018;101(12):2116-24. <https://doi.org/10.1016/j.pec.2018.06.018>
 16. Wilson ME, Krupa A, Hinds RF, Litell JM, Swetz KM, Akhondi A, et al. A video to improve patient and surrogate understanding of cardiopulmonary resuscitation choices in the ICU: a randomized controlled trial. 2015;43(3):621-9. <https://doi:10.1097/CCM.0000000000000749>
 17. Supit J, Masi G, Kallo VJJK. Efektifitas pemberian edukasi dengan metode video dan focus group discussion (FGD) terhadap tingkat pengetahuan pasien DM Tipe 2 di Klinik Diabetes Kimia Farma Husada Manado. 2018;6(1).
 18. Huda MJJP. Pembelajaran Berbasis Multimedia dan Pembelajaran Konvensional (Studi Komparasi di MTs Al-Muttaqin Plemahan Kediri). 2016;10(1):125-46.
 19. Nicolaou, C., & Kalliris, G. (2020). Audiovisual Media Communications in Adult Education: The case of Cyprus and Greece of Adults as Adult Learners. European Journal of Investigation in Health, Psychology and Education, 10(4), 967-994.
 20. Ernawati R, Rahman FF, Khoiroh MS, Rahmah FD, Sulistiawan J, Moslehpour M. The Effectiveness of Web-Based Audiovisual Media Applications in Monitoring Children's Growth to Prevent Stunting. Advances in Decision Sciences. 2021 Sep 1;25(3):1-1.