KESANS: International Journal of Health and Science
e-ISSN: 2808-7178, p-ISSN: 2808-7380
Web: http://kesans.rifainstitute.com/index.php/kesans/index

The Effect of Health Education Using Video Media on Increasing Knowledge of Pregnant Women About Low Birth Weight (LBW) in the Penyinggahan Primary Health Center

Raudah, Jasmawati, Lukman Nulhakim
Applied Midwifery Student, Midwifery Studies, Nursing Studies, Politeknik Kesehatan Kementerian Kesehatan Kalimantan Timur, Indonesia
raudahrajaby@gmail.com, jasmawati@gmail.com, lukman.kutai78@yahoo.co.id

Article Information
Submitted: **07 December 2022**
Accepted: **09 December 2022**
Online Publish: **20 December 2022**

Abstract
Background: *The proportion of LBW in Indonesia reaches 6.2%. The World Health Assembly (WHA) targets a reduction in the incidence of LBW in 2025 by 30%.* ***Objective:*** *The purpose of this study is to determine the effect of providing health education using the video method on increasing knowledge of pregnant women about LBW in the working area of the Penyinggahan primary Health center.* ***Methods:*** *The design used in this study was a quasi-experimental study with a one-group pre and post-test design. The data collection instrument uses a questionnaire that has been tested for validity and reliability. The population and sample in this study were pregnant women who had a pregnancy check (ANC) at the Penyinggahan primary Health centeras many as 38 respondents. Data analysis using the Wilcoxon test.* ***Results and Discussion:*** *there is a significant difference between the level of knowledge about LBW before and after being given health education using video with the results of the analysis p-value of 0.000<0.05.* ***Conclusion:*** *There is an effect of health education on increasing knowledge of pregnant women about LBW. With the results of this study, it is hoped that it can be considered by the health center to take policies in terms of increasing knowledge using video tools so that it can increase mother's knowledge to prevent the occurrence of LBW.*
Keywords: Low Birth Weight (LBW); Health Education; Video;

How to Cite **Raudah, Jasmawati, Lukman Nulhakim/The Effect of Health Education Using Video Media on Increasing Knowledge of Pregnant Women About Low Birth Weight (LBW) in the Penyinggahan Primary Health Center, Vo. 2, No. 3, 2022**
DOI https://doi.org/10.54543/kesans.v2i3.126
e-ISSN/p-ISSN **2808-7178 / 2808-7380**
Published by **Rifa'Isntitute**

Introduction

The infant mortality rate (IMR) is defined as death that occurs after the baby is born until the baby is not yet one year old per 1000 live births. Infant mortality is one of the health indicators used to determine the degree of public health. One of the causes of infant mortality (IMR) is low birth weight (LBW) (Ministry of Health, 2020).

According to *the World Health Organization* (WHO), low birth weight (LBW) i.e. birth weight <2,500grams has always been a significant health problem globally. Overall, of all births in the world experiencing LBW is estimated at 15-20% which represents >20 million births per year. Most births with LBW occur in low- and middle-income countries and mainly occur in the most vulnerable populations (WHO, 2018).

Based on data from the Indonesian Health Profile in 2020, IMR in 2019 reached 29,322 deaths. The cause of the highest IMR is a low-birth weight condition (LBW) with a total of 7,150 deaths or 35.3%. According to the results of the Indonesian Health Demographic Survey (SDKI, 2017) shows that the number of IMR is 24 per 1,000 live births. IMR is expected to continue to decline through interventions that can support the survival of children aimed at reducing IMR to 16 per 1000 live births in 2024 (Ministry of Health RI, 2020).

Based on data (Riskesdas, 2018), the proportion of LBW in Indonesia reaches 6.2%. *The World Health Assembly* (WHA) is targeting a 30% reduction in the incidence of LBW by 2025. This will result in a relative reduction of 3.9% per annum between 2012-2025. Therefore, to reduce mortality and morbidity in neonatal and perinatal, it is very important to have accurate prevalence data on the population and risk factors for LBW that can be used as planning specific care patterns for prevention and management in LBW infants (Ministry of Health RI, 2018).

Based on a preliminary study, the incidence of LBW in West Kutai Regency in 2021 was 10.25%, and in The Technical Implementation Unit, Penyinggahan Community Health Center in 2021 it was 13.51%. One of the efforts that can be made to reduce the risk of LBW is the provision of health education to mothers since pregnancy. Health Education can use various media such as leaflets, videos and lectures containing how to prevent and treat LBW (Kasi Kesga and Gizi Dinkes Kab. Kutai Barat 2021).

The cause of the occurrence of LBW is premature birth. Other maternal factors are age, parity and others. Placental factors such as vascular disease, twin/multiple pregnancies, and fetal factors are also causes of LBW. Research conducted (Indrasari, 2016) showed a significant relationship between parity and the incidence of low birth weight (LBW), where mothers with multiple pregnancies, have a 3.4 times greater risk of low birth weight (LBW) than mothers who do not have multiple pregnancies. In multiple / twin pregnancies there can be excessive strain of the uterus. Multiple pregnancy is one of the factors that lead to the birth of LBW. In multiple pregnancies the distension of the uterus is excessive, so it crosses the tolerance limit and often occurs premature partus. (Saifuddin, 2006).

Mother's knowledge can more or less affect the risk of the baby being born with LBW, the mother's knowledge of nutrition during pregnancy can affect consumption patterns that affect the state of the baby she is carrying. In addition, the habit of smoking, consuming alcohol, maternal diseases are also one of the causes of inhibition of fetal growth while in the womb. Knowledge of LBW during pregnancy has an important role where mothers can prevent and avoid babies born with LBW (Rosela et al., 2016).

The incidence of LBW can be prevented since pregnancy, many studies have been carried out to find out the causes of LBW, one of which was carried out by (Sundani, 2020) where knowledge is one of the causative factors of LBW events. To increase the knowledge of pregnant women about LBW, education can be carried out using various media such as those carried out (Isnaini & Bahrah, 2019) and (Sarimin et al., 2018) which obtained the results of an increase in knowledge after education so that it is expected to reduce the risk of LBW. The difference between the research conducted by the researcher and the previous research is that the researcher uses the lecture method with educational media tools in the form of videos. In addition to using video the method used is lectures and can communicate both ways (Sarimin et al., 2018).

Method

Research Location and Time

This research was conducted from March to June 2022 in the working area of the The Technical Implementation Unit, Penyinggahan Community Health Center.

Research Design

The design used in this study is a *quasi-experiment* study with *a one group pre and posttest design.*

Population and Sample

The population in this study was pregnant women recorded in the ANC register book at the Penyinggahan Health Center, the number of samples in this study was 38 respondents who had inclusion criteria

Data Collection Methods

The data collection method is carried out by providing questionnaires to respondents that have been determined by the researcher in accordance with the inclusion criteria. The questionnaire used in this study is a knowledge questionnaire about LBW that has been tested for validity and reability.

Data Analysis

The data that had been collected were analyzed univariately, and bivariately using the *Wilcoxon* test.

Results and Discussion

Result

1. *Analyzes Univariat*

Characteristics of Respondents

Table 1

Distribution of Characterisitic Frequency of Pregnant Women Respondents in the Penyinggahan Public Health Centre Area in 2022 (n=38)

Characteristic	n	%
Age		
< 20 Years	2	5,3
20-35 Years	29	76,3
> 35 Years	7	18,4
Parity		
Nulipara	12	31,6
Primipara	10	26,3
Multipara	10	26,3
Grandemultipara	6	15,8
Education		
Basic (elementary, junior high)	24	63,2
Intermediate (High School)	10	26,3
High (PT)	4	10,5
Work		
Work	6	15,8
Not working	32	84,2
Total	38	100

Source: Processed Primary Data, 2022.

Based on table 1 above, it is known that most of the respondents were at a healthy reproductive age (20-35 years) of 29 people (76.3%) and a small percentage had a young age of <20 years as many as 2 respondents (5.3%). Based on parity or the number of children, almost some respondents do not have children (nulipara), namely 12 respondents (31.6%) and a small number of mothers have children with 4 or more (grandemultipara) as many as 6 respondents (15.8%). Based on the level of education, most respondents had a basic education level (elementary and junior high school) of 24 people (63.2%) and a small percentage of respondents studied up to college as many as 4 people (10.5%). And when viewed from the characterization of work, most of the non-working mothers (housewives) were 32 respondents (82.4%) and a small percentage of working mothers were 6 respondents (15.8%).

Knowledge Level Before Health Education

Table 2

Frequency Distribution of Knowledge Levels of Pregnant Women Before Getting Health Education Using the Video Method About LBW in the 2022 Penyinggahan Public Health Centre Area (n=38)

Category	Before	
	Frequency	**%**
Good (76-100)	20	52,6
Enough (56-75)	13	34,2
Less (<56)	5	13,2
	38	**100**

Source: Primary Data Analysis, 2022

Table 2 shows that the frequency distribution based on the level of knowledge of pregnant women before getting health education using videos about LBW most respondents have good knowledge, namely 20 respondents (52.6%), almost some respondents have sufficient knowledge as many as 13 people (34.2%) and a small percentage have less knowledge as many as 5 people (13.2%). Of the 5 mothers who had less knowledge, 3 mothers (60%) attended only until Junior High School, and 1 mother (20%) only studied until Elementary School. Of the mothers who have less knowledge, all 5 mothers (100%) have the status of not working. Of the 5 mothers who have less knowledge, 1 mother (20%) has experience giving birth to a baby with a low birth weight

Knowledge Level After Health Education

Table 3

Frequency Distribution of Knowledge Levels of Pregnant Women After Obtaining Health Education Using the Video Method About LBW in the 2022 Penyinggahan Public Health Centre Area (n=38)

Category	Before	
	Frequency	**%**
Good (76-100)	38	100
Enough (56-75)	0	0
Less (<56)	0	0
	38	**100**

Source: Primary Data Analysis, 2022

Based on table 3 frequency distribution based on the level of maternal knowledge after being given health education with a video about LBW, all repondents had good knowledge of 38 people (100%).

2. *Bivariate Analysis*

Uji *Wilcoxon*

Table 4

Average Difference Test for Increasing Knowledge of Pregnant Women Before and After Health Education Using Video Method About LBW in the 2022 Penyinggahan Public Health Centre Area (n=38)

Variable	n	Average ±SD	Mean difference	p
Before Health Counseling	38	74,47± 14,46	22,63	000
After Health Counseling	38	97,10 ± 3,96		

Source: Primary Data Analysis, 2022.

Table 4 shows that the analysis shows a *p value* of 0.000<0.05, thus it can be concluded that there is an influence of health education on increasing pregnant women's knowledge of LBW.

Discussion

1. *Analyzes Univariat*

Respondent Characteristics Include Age, Parity, Education and Employment

Low birth weight is one of the factors causing infant pain and death (Malin et al., 2014). The age of the mother during pregnancy and childbirth is one of the factors causing the occurrence of LBW, where pregnant women with an age of less than 20 years have a high risk because the reproductive organs are immature and have not achieved optimal growth, while women who give birth at the age of over 35 years of reproductive devices have begun to experience a decline in function (Prawirohardjo, 2014) . This is in line with research conducted at Solok Regional Hospital in 2018 where data obtained on 53.2% of mothers who gave birth with a risky age (<20 years or > 35 years) tended to give birth to babies with LBW compared to mothers who gave birth in the healthy reproductive age range, namely in the age range of 20-35 years (Putri et al., 2018). However, according to research conducted by (Reyes et al., 2018) maternal age is not directly related to the incidence of LBW but clinically and literature *review* of pregnancy or childbirth of adolescence is usually closely related to the conditions of injustice and misfortune faced by adolescent mothers compared to more mature mothers. Mothers who give birth with adulthood are assumed to have better socioeconomics and experience compared to adolescents so that more mature mothers are more able to maintain their health and pregnancy (Reyes et al., 2018).

Parity or jumah of children is one of the factors that influence the occurrence of LBW (Eaton, 2022). Parity of the number of births after 20 weeks of gestation regardless of whether the baby is alive or dead. Maternal parity is the frequency with which mothers

have given birth to children alive or dead but not abortions (Prawirohardjo, 2014). High parity will cause various health impacts for both mothers and babies who are being conceived and born. Repeated pregnancy and childbirth will risk damage to blood vessels on the uterine wall and decreased elasticity or bending power of tissues that have been repeatedly stretched due to the pregnancy process so that there tends to be abnormalities in the location or abnormalities of placental growth and fetal growth so that they risk giving birth to LBW (Handayani et al., 2019).

Another factor causing the occurrence of LBW is the level of maternal education, where the level of education is closely related to the level of maternal knowledge about pregnancy care and pregnancy nutrition (Kristiana & Juliansyah, 2017). Women who have good education and knowledge will be better able to make decisions that health services during pregnancy can prevent disorders as early as possible for the mother and the fetus they contain (Pristya et al., 2020). Therefore, one of the efforts that can be made to prevent and control babies born with LBW is by providing health education about LBW to pregnant women (Rosela et al., 2016a).

Work is one of the important aspects in assessing maternal health, this is because excessive physical activity from pregnant women who work outside the home is likely to affect physical condition or stamina. Pregnant women who work other than as housewives are at risk of experiencing fatigue due to demands for responsibility from work (Mohammed et al., 2019). Based on several research results, it shows that mothers' work has no meaningful relationship with LBW events (Permana & Wijaya, 2019). Other studies have also shown that maternal work is not significantly related to the incidence of LBW (Vitaloka et al., 2022).

According to the researchers' assumptions, 5 mothers who experience an increase in knowledge are influenced by several things that are included in the characteristics of the repondent, mothers who are mature and ready to have a baby, can digest information well through the videos provided, mothers with a fairly mature age can also apply well the knowledge gained and with good consideration so that an increase in knowledge is very likely to occur. In the characteristics of respondents, mothers' jobs also influence the ability of mothers to receive information, mothers with dense work routines will find it difficult to focus on listening to the videos that are given, besides that the amount of parity also affects the mother's knowledge of LBW because mothers with more parity experience will generally understand more about pregnancy nutrition in order to prevent LBW from occurring.

Pregnant women who have a lack of knowledge before receiving health education with video media about LBW have a low level of education and all pregnant women do not work, and all have never received health education about LBW, but there is one pregnant woman who has a history of giving birth to babies with LBW. After getting health education with video media about LBW, all pregnant women have increased their knowledge to be good, this is because pregnant women watch LBW videos repeatedly because mothers are not working so that they have more free time than pregnant women

who work. Mothers who have a history of LBW also have an effect on increasing knowledge because the knowledge gained can be from the experience of the mother herself. Information will have an effect on a person's knowledge even if a person has a low education, but if he gets good information from media such as video, TV, radio, and others. Then it will increase one's knowledge. So, it can be concluded that the knowledge of 5 pregnant women has increased significantly because, the information obtained from good media, can be watched repeatedly and mothers have free time and experience about LBW.

2. ***Bivariate Analysis***

Increasing Mothers' Knowledge about LBW after Providing Health Education through Video Media

Increasing knowledge is one of the efforts to change behavior, good knowledge is the beginning of changes in attitudes and behaviors that encourage humans to be more concerned about their health. In *the Preced-Proceed theory, Lawrence Green* explained that behavior is motivated or influenced by three main factors, namely predisposing factors, supporting factors and reinforcing factors (Terry, 2021). In this study, most of them had good knowledge, namely 20 respondents (52.6%) and there were still a small number of mothers who had less knowledge, namely 5 respondents (13.2%). Maternal knowledge is one of the factors that can influence the occurrence of LBW, this is in line with research conducted in the work area of the Baregbeg Health Center in 2018 where results were obtained that there was a significant relationship between the level of maternal knowledge and the risk of LBW events (Fatimah & Kania, 2019). Mothers who have a good level of knowledge will better maintain their pregnancy by routinely checking pregnancy (ANC), consuming foods with a balanced menu so as to improve the nutritional status of pregnant women so as to reduce the risk of LBW (Eaton, 2022).

Given that knowledge plays an important role in the risk of LBW events, one of the steps that can be taken is to provide health education about LBW. Health education can be done by various methods including lectures, counseling or through print, electronic media such as video. The use of video is one of the alternatives with the consideration of the rapid use of gadgets or smart phones, based on a survey there are 66.3% of Indonesians who have smart telephones (Syaifullah, 2019).

In this study, respondents received an intervention in the form of providing health education using video, where the factor given by the intervention was the disposition factor. Based on the results of the study, there was an increase in the average knowledge of 22.63 points after obtaining health education using video and the p-value result < 0.05 this means that the increase in the average knowledge before and after health education with video significantly. Health education using video has various advantages including a short video duration, contains information that is easily accepted and the use of attractive visuals and can expose something complicated and complex into an audio-visual stimulus so that it is more easily accepted by the general public. The use of video

is also more effective because it can be done repeatedly. Health education with video media is broadcast and captured by involving various sensory devices, such as sight and hearing. The more senses used, the easier the entry of information will be. This is in line with the theory proposed by (Listyarini & Fatmawati, 2020), under approximately 75%-87% of a person increases his knowledge by seeing or obtained from the sensory. The theory proposed by (Maulana, 2014) also says the same thing, that the sensory that most channels knowledge to the brain is the eye (about 75%-87%), while 13%-25% of human knowledge is obtained and channeled through other sensory systems (Mulyadi et al., 2018).(Mulyadi et al., 2018)

Conclusion

There is an influence of health education on increasing pregnant women's knowledge about LBW. With the results of this study, it is hoped that it can be considered by Community Health Center to take policies in terms of increasing knowledge using video tools so that they can increase maternal knowledge to prevent LBW.

Reference

Eaton, T. (2022). *Low Birth Weight and Maternal Education*.

Fatimah, S., & Kania, N. D. (2019). Hubungan Tingkat Pengetahuan Ibu Hamil Tentang Anemia Dengan Risiko Kejadian BBLR. *Journal of Midwifery and Public Health*, *1*(1), 1–8. https://doi.org/http://dx.doi.org/10.25157/jmph.v1i1.1998

Handayani, F., Fitriani, H., & Lestari, C. I. (2019). Hubungan Umur Ibu dan Paritas dengan Kejadian BBLR di Wilayah Public Health Centre Wates Kabupaten Kulon Progo. *Midwifery Journal: Jurnal Kebidanan UM. Mataram*, *4*(2), 67–70.

Kemenkes, R. (2020). *Profil Kesehatan Indonesia*.

Kemenkes RI. (2018). *Riset Kesehatan Dasar; RISKESDAS 2018*. Balitbang Kemenkes RI.

Kemenkes RI. (2020). Profil Kesehatan Indonesia. In *Short Textbook of Preventive and Social Medicine*. https://doi.org/10.5005/jp/books/11257_5

Kristiana, N., & Juliansyah, E. (2017). Umur, pendidikan, pekerjaan dan pengetahuan dengan kejadian berat badan lahir rendah (BBLR). *Jurnal Ilmiah Ilmu Kesehatan: Wawasan Kesehatan*, *4*(1), 7–14.

Listyarini, A. D., & Fatmawati, Y. (2020). Edukasi Gizi Ibu Hamil Dengan Media Booklet Tentang Perilaku Pencegahan Balita Stunting Di Wilayah Public Health Centre Undaan Kabupaten Kudus. *Jurnal Ilmu Keperawatan Dan Kebidanan*, *11*(1), 100–105.

Malin, G. L., Morris, R. K., Riley, R., Teune, M. J., & Khan, K. S. (2014). When is birthweight at term abnormally low? A systematic review and meta-analysis of the association and predictive ability of current birthweight standards for neonatal outcomes. *BJOG: An International Journal of Obstetrics & Gynaecology*, *121*(5), 515–526.

Maulana, H. D. (2014). *Promosi Kesehatan*. EGC.

Mohammed, S., Bonsing, I., Yakubu, I., & Wondong, W. P. (2019). Maternal obstetric and socio-demographic determinants of low birth weight: a retrospective cross-sectional study in Ghana. *Reproductive Health*, *16*(1), 1–8.

Mulyadi, M. I., Warjiman, W., & Chrisnawati, C. (2018). Efektivitas Pendidikan Kesehatan Dengan Media Video Terhadap Tingkat Pengetahuan Perilaku Hidup Bersih Dan Sehat. *Jurnal Keperawatan Suaka Insan (JKSI)*, *3*(2), 1–9.

Permana, P., & Wijaya, G. B. R. (2019). Analisis faktor risiko bayi Berat Badan Lahir Rendah (BBLR) di Unit Pelayanan Terpadu (UPT) Kesehatan Masyarakat (Kesmas) Gianyar I tahun 2016-2017. *Intisari Sains Medis*, *10*(3). https://doi.org/https://doi.org/10.15562/ism.v10i3.481

Prawirohardjo, S. (2014). Ilmu Kebidanan Sarwono Prawirohardjo. *Jakarta: PT. Bina Pustaka Sarwono Prawirohardjo*.

Pristya, T. Y. R., Novitasari, A., & Hutami, M. S. (2020). Pencegahan dan Pengendalian BBLR di Indonesia: Systematic Review. *Indonesian Journal of Health Development*, *2*(3), 175–182.

Putri, T. A., Oviana, A., & Triveni, T. (2018). Hubungan Umur dan Paritas dengan Kejadian Bayi Berat Lahir Rendah (BBLR) di RSUD Solok. *Prosiding Seminar Kesehatan Perintis*, *1*(2), 78.

Reyes, M., Ardila, E. G., & Fernando, C. (2018). Maternal factors associated with low birth weight in term Neonates: A case-controlled study. *Revista Brasileira de Ginecologia e Obstetrícia*, *40*, 444–449. https://doi.org/https://doi.org/10.1055/s-0038-1667341

Rosela, K., Taviane, E., & Alestari, R. O. (2016a). Pengaruh pendidikan kesehatan terhadap tingkat Pengetahuan ibu hamil dalam pencegahan terjadinya Kelahiran bayi berat badan lahir rendah (bblr) di wilayah Kerja uptd Public Health Centre pahandut palangka raya. *Dinamika Kesehatan: Jurnal Kebidanan Dan Keperawatan*, *7*(2), 60–67.

Rosela, K., Taviane, E., & Alestari, R. O. (2016b). *PENGARUH PENDIDIKAN KESEHATAN TERHADAP TINGKAT PENGETAHUAN IBU HAMIL DALAM PENCEGAHAN TERJADINYA KELAHIRAN BAYI BERAT BADAN LAHIR RENDAH (BBLR) DI WILAYAH KERJA UPTD PUBLIC HEALTH CENTRE PAHANDUT PALANGKA RAYA*. *53*(1), 33–38.

Syaifullah, A. (2019). *66, 3% masyarakat Indonesia Memiliki Smartphone. Indonesiabaik. id*.

Terry, P. E. (2021). Health promotion planning and an interview with Dr. Lawrence Green. In *American Journal of Health Promotion* (Vol. 35, Issue 6, pp. 760–765). SAGE Publications Sage CA: Los Angeles, CA.

Vitaloka, R. D., Aisyah, S., & Anggraini, H. (2022). Factors Associated With The Incidence Of Low Birth Weight. *Jurnal Kebidanan Malahayati*, *8*(3), 532–537. https://doi.org/10.33024/jkm.v8i3.5649

WHO. (2018). *World health Statistics 2018: Monitoring Health For The SDGs, Suistainable Development Goals*. WHO.