JOURNAL MIDWIFERY (JM)
Jurnal Jurusan Kebidanan, Poltekkes Kemenkes Gorontalo
P-ISSN (2407-8506), E-ISSN (2808-523X)
http://jurnal.poltekkesgorontalo.ac.id/index.php/JM/index
DOI: http://dx.doi.org/10.52365/jm.v2i1.1078

Effectiveness of Explainer Video-Based Anemia Prevention Education on Pregnant Women's Knowledge and Attitudes

Tiara Pia Amelia[1], Sukesi[2], Dwi Wahyu Wulan Sulistyowati[3], Dina Isfentiani[4]
[1 2 3 4] Polkekkes Kemenkes Surabaya, Jl. Karang Menjangan No.12, Airlangga, Kec. Gubeng, Surabaya, Jawa Timur 60286, Indonesia
Email: tiarapiaamelia46@gmail.com [1], sukesi.maritim64@gmail.com [2], dwwulan1@gmail.com [3], isfentiani@gmail.com [4]

ABSTRACT

Anemia in pregnant women is a global health issue, often caused by a lack of knowledge and awareness regarding its prevention. Health education is one approach to improving the knowledge and attitudes of pregnant women toward anemia prevention. This study aims to evaluate the effectiveness of health education using explainer videos on the knowledge and attitudes of pregnant women. The research used a quasi-experimental method with a population of 76 primigravida pregnant women and a sample of 44 respondents selected through Simple Random Sampling. The independent variable was health education using explainer videos, while the dependent variables were the knowledge and attitudes of pregnant women. Data were analyzed using the Wilcoxon Signed Rank Test and Mann Whitney U Test. The results showed a significant improvement in the knowledge and attitudes of pregnant women in the intervention group after watching the explainer videos, with a p-value of 0.000. The Mann-Whitney U Test indicated that explainer videos were more effective than leaflets. In conclusion, anemia prevention education using explainer videos effectively improves the knowledge and attitudes of pregnant women. Future studies should include an additional variable, such as the nutritional status of pregnant women.

Keywords: Attitude, Health Education, Knowledge, Video Explainer

* Tiara Pia Amelia, Polkekkes Kemenkes Surabaya, Jl. Karang Menjangan No.12, Airlangga, Kec. Gubeng, Surabaya, Jawa Timur 60286, Indonesia, tiarapiaamelia46@gmail.com

INTRODUCTION

Anemia is one of the largest global health issues, especially for women of reproductive age and pregnant women. A healthy pregnancy is the hope of all expectant mothers, but in Indonesia, many women suffer from iron deficiency, resulting in low hemoglobin levels. Many women and pregnant mothers in Indonesia are still unaware of how to prevent anemia and the potential impacts, leading to a continued contribution of anemia to morbidity and mortality rates each year. Pregnant women with anemia are referred to as “Potential Danger to Mother and Child,” as they pose a risk to both themselves and their babies. Anemia also leads to chronic debility, which affects social and economic well-being, as well as physical health (Astuti & Ertiana, 2018). Anemia in pregnant women is defined as a condition where the mother's hemoglobin (Hb) level is below 11 g/dL (Fatimah & Kania, 2019).

The prevalence of anemia in Indonesia remains quite high. According to the 2021 Indonesian Health Profile, based on data from the 2018 Riskesdes survey, the prevalence of anemia among pregnant women in Indonesia is 48.9%. As much as 84.6% of anemia cases in pregnant women occur in the age group of 15-24 years, 33.6% in the 35-44 years age group, and 24% in the 45-54 years age group (Safitri, 2020). Based on data from the East Java Health Profile in 2022, 63.522 out of 590.205 pregnant women in East Java Province suffered from anemia. One of the regions contributing to the number of pregnant women with anemia in East Java is Surabaya, where in 2022, 1.619 out of 44.012 pregnant women were affected. According to a preliminary study conducted at PMB Farida Hajri, SST., Bd., from October to December 2023, there were 53 pregnant women with anemia, most of whom had a middle school or high school education.

Physiological changes during pregnancy can lead to anemia in pregnant women due to iron deficiency. Anemia in pregnant women is caused by inadequate dietary intake or increased nutritional needs, as well as a lack of consumption of substances that aid iron absorption, such as animal protein and vitamin C. Other causes include parasites (worms), infections like malaria and tuberculosis, and the presence of inhibitors of iron absorption, such as oxalates, tannins, and phytates (Rahmawati, 2021). A pregnancy that is further complicated by a lack of nutrients, vitamin B12, folic acid, and vitamin C can lead to severe anemia (Solehati et al., 2018), can disrupt energy metabolism, leading to a decrease in the functional capacity of the body's organs. (Fitria, 2018). In addition, pregnant women with anemia face a high risk of low birth weight (LBW) in infants, infections in both the fetus and the mother, miscarriage, preterm birth, fetal abnormalities,

and infant mortality (Solehati et al., 2018). For the mother, the impact includes difficulty in fighting infections and a higher risk of losing significant amounts of blood during childbirth, which can lead to death (Rahmawati, 2021).

Various efforts have been made to prevent and manage anemia in pregnant women, but they have not yet shown a significant reduction in anemia rates. Therefore, behavioral changes in pregnant women are necessary. According to Lawrence Green (1993) in Notoatmodjo (2014), an individual's or community's health behavior is influenced by knowledge and attitudes. According to Wiknjosastro in Teja et al (2021) the level of knowledge among pregnant women about anemia is one of the factors influencing the occurrence of iron deficiency anemia in pregnant women. The higher the knowledge of pregnant women regarding anemia and the importance of iron-rich and folic acid-rich nutrition, which is crucial during pregnancy, the greater the impact on hemoglobin levels. (Safitri, 2020). Anemia prevention can be supported by pregnant women who have a positive attitude, such as routinely undergoing prenatal check-ups, consuming nutritious foods, and taking iron supplements. (Devi et al., 2021). Good knowledge and a positive attitude can support pregnant women in taking preventive measures against anemia.

Efforts to enhance pregnant women's knowledge and attitudes regarding anemia prevention can also be supported by using engaging and easily understandable media. Several educational media developments utilizing advanced technology have been implemented, particularly through audiovisual methods (videos). Not only are the visuals appealing, but explainer videos also make the information more memorable and satisfying, which can lead to a more enjoyable learning experience. (Goad et al., 2018). From the research conducted by Rohmatika et al (2023) at Puskesmas Gambirasari Surakarta the results showed an effect on the level of knowledge before and after the provision of the DEDIMA (Deteksi Dini Anemia) animated video. The use of video media is very effective in health education for improving knowledge about health because it is engaging and artistic, easy to understand, as well as effective and informative. (Rohmatika et al., 2023).

This study aims to determine the effectiveness of anemia prevention education based on explainer videos on the knowledge and attitudes of pregnant women.

METHOD

This study uses a quasi-experimental design with a pretest-posttest with control group design. The research was conducted from December 2023 to May 2024 at PMB Farida Hajri, SST., Bd in Surabaya. The population of the study consisted of all primigravida pregnant

women at PMB Farida Hajri, SST., Bd in Surabaya from October to December 2023, totaling 76 pregnant women. The sample size is 44 pregnant women, selected using Simple Random Sampling according to inclusion and exclusion criteria, and calculated using the Slovin formula. The inclusion criteria in this study are Primigravida pregnant women, women who do not suffer from anemia, those willing to attend a series of activities, and those willing to be respondents. The exclusion criteria in this study are multigravida pregnant women, pregnant women in an unhealthy condition, and women who are unable to attend and participate in the series of activities. In this study, the independent variable is providing anemia prevention education to pregnant women through explainer videos, while the dependent variables are the knowledge and attitudes of the pregnant women. Data collection was carried out using a questionnaire that had undergone validity and reliability testing. Before the validity test, a trial was conducted with 20 participants. Data analysis was performed using SPSS for Windows, including normality tests, the Wilcoxon Signed Rank Test, and the Mann-Whitney U Test."

RESULT AND DISCUSSIONS

Result

Respondent Characteristics

In this study, there were 44 pregnant women divided into two groups: 22 pregnant women in the experimental group and 22 pregnant women in the control group. The characteristics of the respondents are presented as follows:

Table 1: Frequency Distribution of Maternal Characteristics by Age, Maternal Occupation, Husband's Occupation, Pregnancy Trimester, and Exposure to Information on Anemia Prevention

		Treatment Group		Control Group	
No.	Characteristics	f	%	f	%
1.	**Usia**				
	< 20 Year	2	9,1	3	13,6
	20-35 Year	20	90,9	19	86,4
	>35 Year	0	0	0	0
2.	**Education**				
	Basic	14	63,6	5	22,7
	Secondary	6	27,3	16	72,7
	Higher	2	9,1	1	4,5
3.	**Mother's Employment**				
	Employed	8	36,4	9	40,9
	Not Employed	14	63,6	13	59,1
4.	**Husband's Employment**				
	PNS/TNI/Polri	0	0	0	0
	Self-Employed	6	27,3	7	31,8
	Privat Sector	16	72,7	14	63,6
	Not Employed	0	0	1	4,5
5.	**Trimester**				
	Trimester I	10	45,5	9	40,9
	Trimester II	5	22,7	7	31,8
	Trimester III	7	31,8	6	27,3
6	**Exposure to Information on Anemia Prevention**				
	Had Exposure	8	36,4	5	22,7
	No Exposure	14	63,6	17	77,3

Table 1 shows that the characteristics of pregnant women in the treatment group are mostly aged 20-35 years (90.9%), with the majority having a basic education level (63.6%). Most are not employed (63.6%), and the majority of their husbands work in the private sector (72.7%). Nearly half of the respondents are in the first trimester of pregnancy (45.5%), and the majority of pregnant women have either not received or have never received information about anemia prevention (63.6%).

Table 2 Frequency Distribution of Pregnant Women's Knowledge Before and After Receiving Anemia Prevention Education Using Explainer Videos

Knowledge	Treatment Group				Control Group			
	Pretest		Posttest		Pretest		Posttest	
	f	%	f	%	f	%	f	%
Good	3	13,6	15	68,2	1	4,5	7	31,8
fair	8	36,4	7	31,8	8	36,4	15	68,2
Poor	11	50,0	0	0	13	59,1	0	0
Total	22	100	22	100	22	100	22	100

Source: Primary Data (2024)

Table 2 shows that, in the treatment group before the intervention (anemia prevention education using explainer videos), half of the pregnant women had poor knowledge (50%). After the intervention, which involved anemia prevention education using explainer videos, nearly all the pregnant women had good knowledge (68.2%).

Table 3 Frequency Distribution of Pregnant Women's Attitudes Before and After Receiving Anemia Prevention Education Using Explainer Videos

Attitudes	Treatment Group				Control Group			
	Pretest		Posttest		Pretest		Posttest	
	f	%	f	%	f	%	f	%
Positive	11	50,0	16	72,7	11	50,0	11	50,0
Negative	11	50,0	6	27,3	11	50,0	11	50,0
Total	22	100	22	100	22	100	22	100

Source: Primary Data (2024)

Table 3 shows that in the treatment group, before the intervention (anemia prevention education using explainer videos), half of the pregnant women had a negative attitude (50%). After receiving the intervention, which involved anemia prevention education using explainer videos, nearly all the pregnant women had a positive attitude (72.7%).

Table 4. Results of the Wilcoxon Pretest-Posttest Test

Variable	Treatment Group				*Wilcoxon Sign Rank Test*	Control Group				*Wilcoxon Sign Rank Test*
	Pretest		Posttest			Pretest		Posttest		
	Mean	SD	Mean	SD		Mean	SD	Mean	SD	
Knowledge	12,55	2,32	16,32	1,64	0,000	11,64	2,42	14,00	1,85	0,000
Attitudes	57,91	6,77	77,82	2,56	0,000	56,90	5,44	74,90	4,26	0,000

Source: Primary Data (2024)

Based on Table 4, the results of the Wilcoxon Signed Rank Test show an increase in both knowledge and attitudes in both the treatment and control groups. In the treatment group, the mean pretest knowledge score was 12.55, which increased to 16.32, with a p-value of 0.000 (p-value < 0.05). The mean pretest attitude score was 57.91, which increased to 77.82, with a p-value < 0.05. Thus, H1 is accepted and H0 is rejected, indicating the effectiveness of health education on anemia prevention using explainer videos in improving the knowledge and attitudes of pregnant women.

Table 5 Differences in Knowledge and Attitudes of Pregnant Women After Receiving Anemia Prevention Education with Explainer Videos in the Treatment Group and Control Group

Respondent Group	Knowledge			Attitude		
	Mean	SD	*P*	Mean	SD	*p*
Treatment Group	16,32	1,64		77,82	2,56	
Control Group	14,00	1,85	0,000	74,90	4,26	0,011

Source: Primary Data (2024)

Based on Table 5, the results of the Mann-Whitney U Test show a p-value of 0.000 for knowledge (which is less than 0.05) and a p-value of 0.011 for attitudes (which is also less than 0.05). This indicates a significant difference between the treatment group and the control group. The increase in knowledge and attitudes among pregnant women who received education through explainer videos was higher compared to those who received education through leaflets. Therefore, using explainer videos for anemia prevention education is more effective than using leaflets.

DISCUSSIONS

Based on the research results, the explainer videos in the treatment group were able to improve pregnant women's knowledge about anemia prevention to a good level and change their attitudes to a positive one. The explainer videos also significantly impacted both knowledge and attitudes in the treatment group and were effective in enhancing these aspects before and after the health education. The use of appropriate media in health education can improve the efficiency and effectiveness of delivering health education to pregnant women. (Indrawati, 2020). The use of videos is a modern interactive tool that aligns with advancements in technology, encompassing media that can be both seen and heard. (Indah & Junaidi, 2021).

Knowledge is the result of human sensory perception, or the understanding a person has of an object through their senses (such as sight, smell, hearing, taste, etc.). It is greatly influenced by the intensity of a person's attention to an object and their perception of it. The senses most commonly used by individuals to acquire knowledge are hearing and sight. (Notoatmodjo, 2014). A person acquires knowledge approximately 83% through the sense of sight, 11% through the sense of hearing, and the remaining percentage through the senses of taste, touch, and smell. (Merita, 2019). In this study, knowledge can be acquired from explainer videos presented by the researcher using the senses of hearing and sight. Using video media for education or learning can enhance success rates and improve the overall learning outcomes. (Putri et al., 2021), This is because explainer videos have an informative narrative structure, combined with engaging illustrations or animations, and include audio or voice-over explanations. (Schorn, 2022). According Putri et al (2021) as an educational medium, videos can provide more tangible information, are widely accepted, and can be repeated or paused according to the viewer's needs.

This study aligns with the research by Herron et al. (2019) which indicates that using video media for education is more effective in enhancing knowledge. According to the research conducted by Rahmawati (2021) there is an impact of using video media on the improvement of knowledge among pregnant women.

A person's attitude is a state of readiness or willingness to act. Attitude itself is not an action but rather a predisposition towards behavior or a closed reaction. (Notoatmodjo, 2014). According Rahmayanti et al. (2018) There are several factors that can influence a person's attitude, including personal experience, the influence of significant others, cultural influences, educational institutions, religious institutions, emotional factors, and

information media. In this study, the information media used is explainer videos, which employ visual and audio

elements to enhance knowledge and thereby change a person's attitude. This study is consistent with the findings of Yulinda & Fitriyah (2018) which state that health education using audiovisual methods has an impact because the messages are well received by respondents. This implies that the success of outreach can be influenced by media, as it can affect knowledge, attitudes, and emotions. Additionally, Zhang et al. (2019) found that using videos is also effective in changing respondents' attitudes.

The researcher believes that using explainer videos is more effective in enhancing knowledge and attitudes in health education about anemia prevention among pregnant women compared to leaflets. This is because explainer videos are informative and engaging, featuring visuals and audio that are more readily processed by the brain.

CONCLUSION

Based on the research conducted at PMB Farida Hajri, SST., Bd. Surabaya, and discussed in the previous chapter, the researcher concludes that health education using explainer videos is effective in changing knowledge and fostering positive attitudes among pregnant women. Explainer videos have proven to be more effective in enhancing knowledge and attitudes compared to leaflets. For future research, it is recommended to include direct monitoring and add an additional variable concerning nutritional status among pregnant women.

BIBLIOGRAPHY

Astuti, R. Y., & Ertiana, D. (2018). *Anemia dalam kehamilan*. Pustaka Abadi.

Devi, D., Lumentut, A. M., & Suparman, E. (2021). Gambaran Pengetahuan dan Sikap Ibu Hamil dalam Pencegahan Anemia pada Kehamilan di Indonesia. *E-CliniC*, *9*(1).

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.

Fitria, N. E. (2018). Hubungan Pengetahuan Ibu Hamil tentang Tablet Fe dengan Kejadian Anemia. *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, *3*(1), 1–6.

Goad, M., Huntley-Dale, S., & Whichello, R. (2018). The use of audiovisual aids for patient education in the interventional radiology ambulatory setting: a literature review. *Journal of Radiology Nursing*, *37*(3), 198–201.

Herron, E. K., Powers, K., Mullen, L., & Burkhart, B. (2019). Effect of case study versus video simulation on nursing students' satisfaction, self-confidence, and knowledge: A quasi-experimental study. *Nurse Education Today*, *79*, 129–134.

Indah, J., & Junaidi, J. (2021). Efektivitas penggunaan poster dan video dalam meningkatkan pengetahuan dan sikap tentang buah dan sayur pada siswa Dayah Terpadu Inshafuddin. *Jurnal SAGO Gizi Dan Kesehatan*, *2*(2), 129–135.

Indrawati, A. (2020). Efektifitas Promosi Kesehatan Melalui Audio Visual dan Leaflet tentang SaDaRi (Pemeriksan Payudara Sendiri) terhadap Peningkatan Pengetahuan Remaja Putri tentang SaDaRi di SMAN 1 Kampar Tahuan 2018. *Jurnal Ners Universitas Pahlawan*, *30*(1), 27–36.

Merita, M. (2019). Tumbuh Kembang Anak Usia 0-5 Tahun. *Jurnal Abdimas Kesehatan*

(JAK), *1*(2), 83–89.

Notoatmodjo, S. (2014). *Ilmu Perilaku Kesehatan* (Edisi Kedua). PT Rineka Cipta.

Putri, H. P., Andara, F., & Sufyan, D. L. (2021). Pengaruh Edukasi Gizi Berbasis Video Terhadap Peningkatan Pengetahuan Remaja Putri Di Jakarta Timur. *Jurnal Bakti Masyarakat Indonesia*, *4*(2).

Rahmawati, E. (2021). Pengaruh Media Video Terhadap Peningkatan Pengetahuan Pada Ibu Hamil Anemia. *Journal Of Midwifery Science*, *1*(1), 1–10.

Rahmayanti, S., Asfeni, A., & Niriyah, S. (2018). Tingkat Pengetahuan Dan Sikap Wanita Pasangan Usia Subur (Pus) Terhadap Imunisasi Vaksin Hpv. *Jurnal Ners Indonesia*, *9*(1), 33–40.

Rohmatika, D., Apriani, A., & Ernawati, E. (2023). PENGARUH EDUKASI DENGAN VIDIO ANIMASI DEDIMIA (DETEKSI DINI ANEMIA) TERHADAP UPAYA PENCEGAHAN ANEMIA KEHAMILAN. *Jurnal Kesehatan Kusuma Husada*, 114–119.

Safitri, S. (2020). Pendidikan Kesehatan tentang Anemia kepada Ibu Hamil. *Jurnal Abdimas Kesehatan (JAK)*, *2*(2), 94–99.

Schorn, A. (2022). Online explainer videos: Features, benefits, and effects. *Frontiers in Communication*, *7*, 1034199.

Solehati, T., Sari, C. W. M., Lukman, M., & Kosasih, C. E. (2018). Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Deteksi Dini Dan Pencegahan Anemia Dalam Upaya Menurunkan Aki Pada Kader Posyandu. *Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal)*, *4*(1), 7–12.

Teja, N. M. A. Y. R., Mastryagung, G. A. D., & Diyu, I. A. N. P. (2021). Hubungan pengetahuan dan paritas dengan anemia pada ibu hamil. *Menara Medika*, *3*(2).

Yulinda, A., & Fitriyah, N. (2018). Efektivitas penyuluhan metode ceramah dan audiovisual dalam meningkatkan pengetahuan dan sikap tentang sadari di SMKN 5 Surabaya. *Jurnal Promkes*, *6*(2), 116–128.

Zhang, H., Mörelius, E., Goh, S. H. L., & Wang, W. (2019). Effectiveness of video-assisted debriefing in simulation-based health professions education: a systematic review of quantitative evidence. *Nurse Educator*, *44*(3), E1–E6.