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The Effect Of Video-Based Education On Pregnant Women's Knowledge Of Pregnancy Danger Signs

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Abstract

Background : Pregnancy danger signs are important indicators of complications that require early recognition and prompt medical Adequate attention knowledge of these signs can encourage pregnant women to seek appropriate health Video- based services education provides visual and auditory information that May facilitate understanding and retention of health information. **Objective :** This study aimed to determine the effect of video- based education on pregnant women's knowledge of pregnancy danger signs. **Methods :** This study used a quantitative pre-experimental design with a one-group pretest-posttest approach . The sample consisted of 64 pregnant women selected using purposive sampling. Respondents completed knowledge questionnaire before and after receiving video- based education about pregnancy danger signs . Data were analyzed using the Wilcoxon Signed Rank Test with a significance level of 0.05. **Results :** Before the intervention , 24 respondents (37.5%) had good knowledge , 28 (43.8%) had moderate knowledge , and 12 (18.7%) had poor knowledge . After the intervention , 51 respondents (79.7%) had good knowledge , 12 (18.8%) had moderate knowledge , and 1 (1.5%) had poor knowledge . Statistical analysis showed a significant difference in knowledge before and after the intervention ($p < 0.001$). **Conclusion :** Video- based education significantly improved pregnant women's knowledge of pregnancy danger signs . Video can be used as a complementary educational medium in antenatal care services.

Keywords : Video Education, Pregnancy Danger Signs, Knowledge, Pregnant Women, Antenatal Care

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1. Introduction

Pregnancy is a physiological process that requires continuous monitoring. While most pregnancies proceed normally, complications can arise at any stage. Therefore, a mother's ability to recognize pregnancy danger signs is a crucial aspect of early detection.

Danger signs of pregnancy can include bleeding from the birth canal, severe headache, visual disturbances, swelling of the face or hands, high fever, severe abdominal pain, excessive vomiting, discharge from the birth canal, seizures, and decreased fetal movement. These signs require medical attention as they can indicate complications that could endanger both the mother and the fetus.

WHO includes education on childbirth preparedness and complication preparedness as part of antenatal care throughout pregnancy. In the third trimester, counseling on childbirth preparedness and emergencies becomes even more important.

A mother's knowledge of pregnancy danger signs can be influenced by various factors, including education, age, residence, socioeconomic status, parity, access to health services, and media exposure. Research in Indonesia of more than 85,000 women showed that media exposure was associated with an understanding of pregnancy danger signs.

Health education is one way to improve mothers' knowledge. Using video media has the advantage of conveying information through a combination of images, sound, text, and movement. This medium allows information about pregnancy danger signs to be presented in a more concrete way than verbal communication alone.

Research on the use of educational videos among pregnant women showed an increase in knowledge after the intervention. The Indonesian study used a *one-group pretest-posttest* design. A *pretest-posttest* also found an increase in knowledge scores after video education on pregnancy danger signs. Other research with intervention and control groups also showed that video education can improve pregnant women's knowledge and attitudes regarding pregnancy danger signs.

The use of video as a health education medium has the potential to be an effective strategy in antenatal care. Based on this description, this study aims to determine the effect of video-based education on pregnant women's knowledge of pregnancy danger signs.

2. Research Methods

This research employed a quantitative pre-experimental design using a one-group pretest-posttest approach. The study was conducted in the work area of a health service facility providing antenatal care to pregnant women from June to August 2026. The population consisted of all pregnant women who underwent pregnancy check-ups in the research area, with a sample of 64 pregnant women selected using purposive sampling based on predetermined inclusion and exclusion criteria.





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The inclusion criteria were pregnant women who were willing to participate as respondents, able to read and understand the questionnaire, able to follow the video-based education until completion, and willing to complete both the *pretest* and *posttest*. The exclusion criteria were respondents who did not complete the questionnaire, did not follow the intervention until completion, or withdrew from the study.

The independent variable was video-based education, while the dependent variable was knowledge of pregnancy danger signs. Video-based education was defined as the provision of information regarding pregnancy danger signs using audiovisual media, while knowledge was defined as the mother's ability to answer questions concerning pregnancy danger signs, appropriate actions, and early management, categorized as good, adequate, or poor.

The research instrument was a knowledge questionnaire concerning pregnancy danger signs, while the educational video covered the definition and types of pregnancy danger signs, risks of complications, appropriate actions when danger signs were identified, and the importance of seeking immediate assistance from health professionals. The intervention began with an explanation of the study and completion of the *pretest*, followed by video-based education for approximately 10–15 minutes and completion of the *posttest*. The *pretest* and *posttest* results were then compared to assess changes in knowledge following the intervention.

Data were analyzed using univariate analysis to describe respondent characteristics and knowledge levels, while bivariate analysis was performed using the Wilcoxon Signed-Rank Test to determine differences in knowledge before and after the intervention. Statistical significance was set at $\alpha = 0.05$. The study adhered to research ethics principles, including informed consent, confidentiality, anonymity, voluntary participation, and the respondents' right to withdraw from the study at any time without consequences.

3. Research Results and Discussion

a. Research result

Table 1. Respondent Characteristics

Characteristics	n	%
Age		
<20 years	5	7.8
20–35 years	49	76.6
>35 years	10	15.6
Education		
Elementary/intermediate	36	56.3
Tall	28	43.7
Parity		
Primigravida	29	45.3





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Multigravida	35	54.7
Total	64	100

Most respondents, 49 (76.6%), were aged 20–35. Based on education, 36 (56.3%) had primary/secondary education. Based on parity, the majority of respondents, 35 (54.7%), were multigravida.

Table 2. Level Of Knowledge Before Intervention

Level of Knowledge	n	%
Good	24	37.5
Enough	28	43.8
Not enough	12	18.7
Total	64	100

Before receiving the video education, most respondents had sufficient knowledge (28 respondents, 43.8%). Twenty-four (37.5%) had good knowledge, and 12 (18.7%) had poor knowledge.

This situation indicates that some pregnant women still lack an optimal understanding of pregnancy danger signs. This is important because knowledge is one factor that can influence a woman's ability to recognize danger signs. National research in Indonesia also shows a link between media exposure and understanding of pregnancy danger signs.

Table 3. Level of Knowledge After Intervention

Level of Knowledge	n	%
Good	51	79.7
Enough	12	18.8
Not enough	1	1.5
Total	64	100

After receiving video-based education, the number of respondents with good knowledge increased from 24 (37.5%) to 51 (79.7%). Meanwhile, the number of respondents with poor knowledge decreased from 12 (18.7%) to just 1 (1.5%). These changes indicate that delivering material via video can help improve mothers' understanding of pregnancy danger signs.

Table 4. Wilcoxon Test Results

Measurement	Median	Minimum–Maximum	p- value
Pretest	70	45–90	<0.001
Posttest	85	60–100	

The results of the analysis showed an increase in the median knowledge score from 70 in the pretest to 85 in the posttest. Wilcoxon test produced $p < 0.001$, so there was a significant difference in knowledge before and after being given video-based





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education. Video-based education has an impact on increasing pregnant women's knowledge regarding danger signs of pregnancy.

b. Discussion

The study results showed an increase in knowledge among pregnant women after receiving video-based education. This improvement was evident in changes in the distribution of knowledge categories and an increase in the median knowledge score. Before the intervention, most respondents were in the adequate knowledge category. This indicates that some mothers were aware of pregnancy danger signs, but not all had an optimal understanding.

Wilcoxon test showed $p < 0.001$, indicating a significant difference between knowledge before and after the intervention. These findings align with research on video education on pregnancy danger signs, which showed an increase in pregnant women's knowledge after receiving the video intervention. One study, involving 32 pregnant women, found a median increase in knowledge scores from 75 to 85, with a $p = 0.000$.

Other studies use *nonequivalent designs, pretest-posttest with control A group study* of 64 pregnant women also showed that the group receiving video education experienced increased knowledge and attitudes regarding pregnancy danger signs. These results can be explained through the characteristics of video media, which combines visual and audio elements. Information about danger signs such as bleeding, swelling, visual disturbances, severe headaches, abdominal pain, and changes in fetal movement can be presented more concretely.

Videos also allow for structured and repeatable presentations, helping to reinforce understanding. This is particularly relevant in health education, as pregnant women have diverse educational backgrounds and experiences. Recent research on video-based education also reported increased knowledge among pregnant women after the intervention and supports the use of video as an educational tool regarding pregnancy danger signs.

Knowledge of danger signs is not only important for improving knowledge scores but also for encouraging appropriate action. Mothers who are able to recognize danger signs are expected not to delay seeking help when experiencing symptoms that require evaluation by a healthcare professional. WHO places education on childbirth preparedness and complications as part of antenatal care. Therefore, education on danger signs can be routinely integrated into antenatal care.

Video media can complement, not replace, direct communication between healthcare professionals and pregnant women. Healthcare professionals are still





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needed to provide explanations, ensure understanding, answer questions, and provide guidance on when to seek immediate care.

This study has limitations because it uses a *one-group design*. A *pretest-posttest* without a control group. Therefore, it is not entirely certain that the increase in knowledge was solely due to the video intervention, as other factors may have influenced it. Future research could use a quasi-experimental design with a control group.

4. Conclusion

Video-based education has a significant effect on increasing the knowledge of pregnant women regarding danger signs of pregnancy, with the results of the Wilcoxon test. $p < 0.001$. The proportion of respondents with good knowledge increased from 37.5% before education to 79.7% after education. The median knowledge score also increased from 70 to 85. Video media can be used as a supporting medium in health education in antenatal services to improve mothers' ability to recognize danger signs of pregnancy.

5. Compliance with Ethical Standards

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b. Disclosure of Conflict of Interest

The authors declare that there is no conflict of interest related to the implementation, analysis, or publication of this research. The research was conducted collaboratively and independently, with all authors contributing in accordance with their respective roles and responsibilities.

c. Statement of Informed Consent

Informed consent was obtained from all participants before their participation in the study. The participants were provided with adequate information regarding the purpose, procedures, benefits, and voluntary nature of the research. Participation was based on the participants' willingness and agreement, and they were informed of their right to withdraw from the study at any time without any consequences.





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Volume 4 | Number 3 | September 2026 |



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Volume 4 | Number 3 | September 2026 |



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