

THE EFFECT OF AUDIOVISUAL MEDIA ON KNOWLEDGE AND ATTITUDES OF WOMEN OF REPRODUCTIVE AGE TOWARD CERVICAL CANCER SCREENING

Ratna Indah Kartika Sari¹, Utin Siti Candra Sari², Ratna Suparningsih³

Poltekkes Kemenkes Ponitianak
Email: azzueraindah@gmail.com

ABSTRAK : PENGARUH MEDIA AUDIOVISUAL TERHADAP PENGETAHUAN DAN SIKAP PEREMPUAN USIA REPRODUKTIF TERHADAP SKRINING KANKER SERVIKS

Latar Belakang: Kanker serviks merupakan penyebab kematian di negara berkembang. Salah satu cara mendeteksi melalui pemeriksaan Inspeksi Visual Asam Asetat (IVA). Pemeriksaan IVA merupakan metode skrining yang sederhana, mudah dilakukan, dan efektif, terutama di fasilitas kesehatan tingkat primer. Rendahnya pengetahuan tentang skrining merupakan faktor penghambat pentingnya mendeteksi dini pencegahan kanker. Upaya mengatasi hal tersebut dapat dilakukan edukasi menggunakan media audiovisual. Pemanfaatan media audiovisual mampu menyampaikan informasi yang mudah dipahami karena melibatkan unsur suara dan gambar, sehingga membentuk sikap positif deteksi dini kanker serviks dengan pemeriksaan IVA. Penelitian ini bertujuan untuk menganalisis pengaruh media audiovisual terhadap pengetahuan dan sikap wanita usia subur tentang skrining kanker serviks di Puskesmas Manis Mata Kabupaten Ketapang.

Metode: Penelitian ini menggunakan desain pre-eksperimental dengan pendekatan one group pretest-posttest. Populasi penelitian adalah seluruh wanita usia subur (WUS) dengan hasil perhitungan sampel 57 responden yang memenuhi kriteria inklusi dan eksklusi. Instrumen penelitian menggunakan kuesioner pengetahuan dan sikap tentang skrining kanker serviks.

Hasil: Hasil analisis uji Wilcoxon terdapat peningkatan skor median pengetahuan sebelum dan sesudah yaitu 59,1 menjadi 79,4 dan peningkatan skor sikap 64,5 menjadi 87,5 dengan nilai $p < 0,05$.

Kesimpulan: Edukasi melalui media audiovisual berpengaruh terhadap peningkatan pengetahuan dan sikap wanita usia subur tentang deteksi dini kanker serviks. Media audiovisual ini dapat dijadikan alternatif edukasi di fasilitas pelayanan kesehatan primer.

Kata Kunci: audiovisual, skrining IVA, Pengetahuan, Sikap

ABSTRACT

Background: Cervical cancer is one of the leading causes of death in developing countries. One method used for detection is the Visual Inspection with Acetic Acid (IVA) examination. IVA screening is a simple, easy-to-perform, and effective method, particularly in primary healthcare facilities. Low levels of knowledge about screening represent a significant barrier to the early detection and prevention of cancer. Efforts to address this issue can be carried out through educational interventions using audiovisual media. The use of audiovisual media can deliver information in a way that is easier to understand because it involves both sound and visual elements, thereby helping to foster positive attitudes toward the early detection of cervical cancer through IVA screening. This study aims to analyze the influence of audiovisual media on the knowledge and attitudes of women of reproductive age regarding cervical cancer screening at the Manis Mata Community Health Center in Ketapang Regency.

Methods: This study used a pre-experimental design with a one-group pretest–posttest approach. The study population consisted of all women of reproductive age (WUS), with a sample size calculation resulting in 57 respondents who met the inclusion and exclusion criteria. The research instrument used questionnaires measuring knowledge and attitudes regarding cervical cancer screening.

Results: The results of the Wilcoxon test analysis showed an increase in the median knowledge score before and after the intervention, from 59.1 to 79.4, and an increase in the attitude score from 64.5 to 87.5, with a p -value < 0.05 .

Conclusion: Education through audiovisual media has an effect on improving the knowledge and attitudes of women of reproductive age regarding the early detection of cervical cancer. Audiovisual media can be used as an alternative educational tool in primary healthcare facilities.

Keywords: audiovisual, IVA screening, knowledge, attitude

INTRODUCTION

Cervical cancer is a malignant tumor that develops in the cervix, the lower part of the uterus that connects to the vagina. It is primarily caused by persistent infection with high-risk types of Human Papillomavirus (HPV), particularly types 16 and 18 (Yang *et al.*, 2024). Although most of the more than 100 HPV types are harmless and may resolve spontaneously, persistent infection with high-risk HPV can lead to abnormal cellular changes that gradually develop into cervical cancer (Singh D, no date). This progression generally occurs over 15–20 years but may develop more rapidly, within 5–10 years, among women with weakened immune systems, such as those living with untreated HIV (Novalia, 2023).

Globally, cervical cancer remains a major public health problem among women. According to the World Cancer Research Fund International, cervical cancer ranks as the fourth most common cancer among women worldwide, with 662,301 new cases and 348,189 deaths reported in 2023 (Khyavy *et al.*, 2024). The burden of the disease is disproportionately higher in low- and middle-income countries, where approximately 94% of cervical cancer deaths occur, largely due to limited access to vaccination, screening, and treatment services, as well as socioeconomic disparities (Kessler, 2019).

In Indonesia, cervical cancer continues to contribute substantially to female morbidity and mortality. In 2022, 36,964 new cases and 20,708 deaths were reported nationally (Astuti *et al.*, 2023). The 2023 Indonesian Health Survey (SKI) also showed that the prevalence of cancer in West Kalimantan was 0.8 per thousand population, with women aged 35–60 years accounting for approximately 75% of high-risk cases (Kemenkes RI, 2023). These data highlight the urgent need to strengthen preventive strategies, particularly early detection and screening programs (WHO, 2021)

One of the recommended screening methods for cervical cancer is Visual Inspection with Acetic Acid (IVA). IVA is a simple, affordable, and relatively accurate screening procedure that can be performed by trained health workers using 3–5% acetic acid to detect precancerous lesions (Wang S, 2024). Compared with cytology-based screening methods, IVA requires fewer resources and is therefore considered suitable for primary health care settings in resource-limited areas (Lydia Sihotang, Mala Kurniati, Dhiny Easter, Anita Bustami, 2025). Evidence indicates that effective screening coverage can significantly reduce cervical cancer morbidity and mortality (Teimoori *et al.*, 2018)

Despite the availability of screening methods, awareness and participation in cervical cancer screening remain low. In Indonesia, the coverage of IVA screening among women aged 30–50 years during 2021–2023 was only 14.6%, far below the World Health Organization (WHO) target of 75%. In West Kalimantan, screening coverage was 3.3%, while in Ketapang Regency it reached only 4% by the end of 2023 (Kemenkes RI, 2023). At Manis Mata Community Health Center, participation in IVA screening was extremely limited, with coverage of only 0.8% in 2023 and 1% in 2024. Health education in this area has mainly relied on posters and has not yet maximized the use of more interactive educational media, such as audiovisual tool

Audiovisual media has been widely recognized as an effective educational strategy because it integrates visual and auditory stimulation, which can improve comprehension, learning retention, and motivation (Jannah *et al.*, 2025). Previous studies have shown that audiovisual-based health education can positively influence knowledge and attitudes toward preventive health behaviors (Jannah *et al.*, 2025). However, the use of audiovisual media in cervical cancer education, particularly in primary health care settings in rural areas such as Ketapang Regency, remains limited.

Therefore, considering the low level of awareness and screening coverage, as well as the limited use of innovative educational strategies, this study aims to analyze the effect of audiovisual media on the knowledge and attitudes of women of reproductive age regarding cervical cancer screening at Manis Mata Community Health Center, Ketapang Regency.

RESEARCH METHODS

This study is a quasi-experimental study with a one-group pretest-posttest design (Notoatmodjo, 2018). This study was conducted at the Manis Mata Community Health Center, Ketapang Regency. The population in this study were women of reproductive age with an age range (15–49 years) who were registered and met the inclusion and exclusion criteria. The calculation of a large sample of 57 people with sampling using a purposive sampling technique.

The research data consisted of primary data and secondary data. Primary data were obtained directly from respondents by measuring their level of knowledge and attitudes regarding cervical cancer screening through the IVA test. The study began by measuring the knowledge and attitude scores before the intervention, followed by the

provision of audiovisual media about cervical cancer screening, after which the post-intervention scores were assessed. The instrument used in this study was a questionnaire. Secondary data were used to complement the research data in describing the background of the problem. Data analysis was carried out using the non-parametric Wilcoxon signed rank test, which was previously carried out with a prerequisite test in the form of the Kolmogorov Smirnov normality test.

RESEARCH RESULTS

Based on Table 1, among the 57 respondents, the majority were aged over 35 years (91.2%), while only 8.8% were aged 20–35 years. Most participants had a secondary education level (senior high school/vocational school) (75.4%), and only 7.0% had higher education. More than half of the respondents were employed (52.6%), while 47.4% were unemployed. In terms of parity, most were multigravida (93.0%), with only 1.8% being primigravida. Regarding marital status, the majority were in their first marriage (87.7%), while 12.3% had been married more than once.

Tabel 1
Frequency Distribution of respondent based on characteristics (n=57)

Characteristics Respondent	n	%
Age		
20-35 years	5	8.8
>35 years	52	91.2
Education		
Basic (SD,SMP)	10	17.6
Intermediate (SMA/SMK)	43	75.4
Advance	4	7.0
Work		
Civil servant	30	52.6
House wife	27	47.4
Parity		
Primipara	1	1.8
Multipara	53	93.0
Grandemulti	3	5.2
Marital Status		
First married	50	87.7
Married more than once	7	12.3

Table 2
Normality Test Knowledge and Attitude WUS

Variable	Kolmogrov-Smirnov	
	n	p value
Knowledge		
Pretest	57	<,001
Posttest		<,001
Attitude		
Pretest	57	0,004
Posttest		<,001

The results of the Kolmogorov–Smirnov normality test in Table 2 show that the knowledge scores before and after the intervention were 0.000. The attitude score results in the data above also show values of 0.000 for both the pre-test and post-test attitude scores. This indicates that both the knowledge and attitude data are not normally distributed. Therefore, the data analysis was continued using a non-parametric test, namely the Wilcoxon test.

Tabel 4
Analysis of differences in knowledge scores regarding cervical cancer screening

Variable	Median	SD	<i>p value</i>
WUS Knowledge Skor			
<i>Pretest</i>	59.1	1.677	0,001
<i>Posttest</i>	79,4	1.714	

Based on the data presented in Table 4, the knowledge scores of women of reproductive age (WUS) increased after the intervention. The score difference was 34 points before the intervention and 41 points after the intervention. The median value increased by 20 points, while the standard deviation increased by 0.037.

The Wilcoxon test results showed a significance value of $p < 0.05$. Therefore, H_a was accepted and H_0 was rejected, indicating that audiovisual media had a significant effect on improving the knowledge of women of reproductive age regarding cervical cancer screening at Manis Mata Community Health Center, Ketapang Regency.

Tabel 5
Analysis of differences in attitude scores regarding cervical cancer screening

Variable	Median	SD	<i>p value</i>
Attitude			
<i>Pretest</i>	64,5	4.264	0,001
<i>Posttest</i>	87,5	2.831	

Based on the data presented in Table 5, the attitudes of women of reproductive age (WUS) toward IVA screening improved after the intervention. The score difference was 29 points before the intervention and 25 points after the intervention. The median value increased by 23 points, while the standard deviation decreased by 1.433 points.

The Wilcoxon test results showed a significance value of $p < 0.05$. Therefore, H_a was accepted and H_0 was rejected, indicating that audiovisual media had a significant effect on improving the knowledge and attitudes of women of reproductive age regarding cervical cancer screening at Manis Mata Community Health Center, Ketapang Regency.

Based on the normality test results, most knowledge and attitude scores of women of reproductive age (WUS) regarding cervical cancer screening before and after the intervention were not normally distributed ($p < 0.05$). The findings showed an increase in knowledge scores, with a difference of 34 points before the intervention and 41 points after the intervention. The median increased by 20 points, and the standard deviation increased by 0.037. Attitude scores toward IVA screening also improved, with a difference of 29 points before and 25 points after the intervention. The median increased by 23 points, while the standard deviation decreased by 1.433 points. The Wilcoxon test indicated a significance value of $p < 0.05$, meaning

H_a was accepted and H_0 was rejected. Thus, audiovisual media significantly influenced the knowledge and attitudes of WUS regarding cervical cancer screening at Manis Mata Community Health Center, Ketapang Regency.

Most respondents were aged over 35 years (91.2%), had secondary education (75.4%), were employed (52.6%), were multigravida (93.0%), and were in their first marriage (87.7%).

The improvement in knowledge and attitudes was influenced by the educational media used. Audiovisual media, which combines visual and auditory elements simultaneously, has been shown to be effective in delivering educational messages (Wijayanti and Raidanti, 2023). Health promotion media, including printed, electronic, and outdoor media, play an essential role in improving public knowledge and encouraging positive behavioral change (Nilawati S, 2020). The more senses involved in receiving information, the greater the likelihood that the message will be understood and remembered (Handayani and Pujiati, 2025).

Cervical cancer is a malignant tumor of the cervix, with approximately 80% of cases caused by Human Papillomavirus (HPV) infection (Id *et al.*, 2023). Screening aims to detect precancerous changes early, allowing timely diagnosis and treatment to prevent cancer progression (Mahanani, Festy, 2023). IVA screening, which involves applying acetic acid to the cervix, is simple and effective in primary healthcare settings (Kemenkes

RI, 2022). However, low levels of knowledge and negative attitudes remain barriers to screening participation. Health education, particularly through audiovisual media, can enhance understanding and foster supportive attitudes toward screening (Nikmah, Prasetyanti and Rif, 2022).

The increase in knowledge after the audiovisual media intervention occurred because this type of media can provide a more realistic depiction of the disease, its risk factors, and the procedures for the IVA examination. Information delivered through video or other audiovisual media is generally easier to understand and remember compared to lecture-based methods or printed media alone. This is due to the involvement of more than one sense in the learning process, which enhances information absorption and memory retention among respondents. Studies indicate that the use of audiovisual media in health education can significantly improve public understanding of cervical cancer screening compared to the level of understanding before the intervention was provided. Audiovisual media also influenced changes in respondents' attitudes toward cervical cancer prevention. More positive attitudes emerged because respondents received clearer information about the importance of early cervical cancer detection and the benefits of the IVA test (Nikmah, Prasetyanti and Rif, 2022).

Research (Utami, 2021), found that providing education using audiovisual media significantly improves the knowledge and attitudes of women of reproductive age regarding the IVA examination. Education delivered through audiovisual media has proven to be more effective because it can present visual illustrations, animations, and simulations of the examination procedure, making the information easier for the public to understand.

Theoretically, one of the important components influencing changes in an individual's attitude is the increase in knowledge. Knowledge regarding health issues can encourage preventive behavior. Increased knowledge about risk factors, symptoms, and the importance of Visual IVA screening will promote supportive attitudes toward undergoing routine examinations for the prevention of cervical cancer. Audiovisual media can serve as an effective health education strategy within health promotion programs, particularly in increasing women's awareness of the importance of preventing cervical cancer through VIA screening. The utilization of audiovisual media in clinics, community health centers, and community outreach programs can enhance public awareness regarding the importance of early detection of cervical cancer.

The study results showed that audiovisual-based health education was effective in increasing women's participation and readiness for cervical cancer screening. Audiovisual media increased participants' attention, interest, and motivation in participating in health education activities. This resulted in increased awareness among women of childbearing age about the importance of routine early cervical cancer screening.

These findings are consistent with the study by (Utami, 2021), which demonstrated that audiovisual interventions significantly improved knowledge and supportive attitudes toward IVA screening among WUS. Supported by relevant theories and previous research, this study concludes that audiovisual media is an effective educational tool for increasing knowledge and improving attitudes of women of reproductive age regarding cervical cancer screening at Manis Mata Community Health Center, Ketapang Regency.

CONCLUSION

This study concluded that health education through audiovisual media significantly improved the knowledge and attitudes of women of childbearing age (WUS) regarding cervical cancer screening through the IVA test. Audiovisual media has the primary advantage of facilitating the understanding of complex material through the simultaneous combination of images and sound. This can improve memory because it engages both senses. The use of interactive and engaging educational media can support health promotion programs and increase participation in early detection initiatives. The study concluded that audiovisuals can serve as an effective strategy in health promotion programs for women of childbearing age.

SUGGESTION

It is necessary to disseminate educational information about cervical cancer screening through the IVA test by utilizing audiovisual media as one of the health education strategies in cervical cancer promotion and prevention programs in health care facilities. This media can be used routinely in outreach activities at community health centers, integrated health posts (Posyandu), and mothers' classes to increase public understanding of the importance of early detection through IVA examinations. The use of this media can also be applied in educational facilities in educational practices. In addition, audiovisual media that is easy to understand and appropriate to the characteristics of the community needs to be continuously

implemented so that health messages can be received more effectively.

REFERENCES

- Astuti, T. D. *et al.* (2023) 'Risk Factors Associated with the Participation of Women of Reproductive Age (WRA) in Early Detection of Cervical Cancer Using Visual Inspection with Acetic Acid (VIA) Method in Maros Regency , Indonesia', 14(10), pp. 650–657. doi: 10.55489/njcm.141020233276.
- Handayani, D. and Pujiati, N. (2025) 'Early Detection And Prevention Of Cervical Cancer Thourgh Education', 5(1), pp. 65–71.
- Id, G. B. A. *et al.* (2023) 'PLOS ONE Epidemiology of pre-cancerous cervical lesion and risk factors among adult women in Tigray , Ethiopia', pp. 1–12. doi: 10.1371/journal.pone.0280191.
- Jannah, A. M. *et al.* (2025) 'Pengaruh Edukasi Audiovisual Berbasis Syariah terhadap Pengetahuan , Perilaku , dan Sikap Pencegahan Kanker Serviks dengan Deteksi Dini di Puskesmas Tlogosari Kulon Semarang Fakultas Ilmu Keperawatan , Universitas Islam Sultan Agung , Indonesia dunia dan', *Jurnal Inovasi Riset Ilmu Kesehatan*, 3 (2) Mei. doi: <https://doi.org/10.55606/detector.v3i2.4920>.
- Kemendes RI (2022) *Pedoman nasional pelayanan kedokteran kanker serviks*. Jakarta: Kemendes RI.
- Kemendes RI (2023) *Survei Kesehatan Indonesia (SKI) Dalam angka Tahun 2023*.
- Kessler, T. A. (2019) 'Cervical Cancer: Prevention and Early Detection.', *Seminars in Oncology Nursing*, 33(2), p. 172183. doi: <https://doi.org/10.1016/j.soncn.2017.02.005>.
- Khyavy, M. A. *et al.* (2024) 'Global , regional , and national quality of care index of cervical and ovarian cancer : a systematic analysis for the global burden of disease study 1990 – 2019', *BMC Women's Health*, 9, pp. 1–12. doi: 10.1186/s12905-024-02884-9.
- Lydia Sihotang, Mala Kurniati, Dhiny Easter, Anita Bustami, N. M. (2025) 'Factors Assosiated With Cervical Cancer Screening In Women Of Reproductive Age Using VIA Method', *Health, Malahayati Journal, Student*, 5, pp. 5324–5335. doi: <https://doi.org/10.33024/mahesa.v5i11.19053>.
- Mahanani, Festy, et all (2023) *Asuhan Kebidanan Pada Kesehatan Reproduksi*. Cetakan Pe. Penerbit Nuansa Fajar Cemerlang Jakarta.
- Nikmah, A. N., Prasetyanti, D. K. and Rif, F. (2022) 'Effect of Audiovisual as an Educational Medium to Increase Knowledge and Participation in Acetic Acid Visual Inspection Examination (IVA)', 7(2), pp. 186–190.
- Nilawati S (2020) 'The Effect of Health Education on Audio Visual with Visual on Early Detection of Cervical Cancer Through IVA Examination of Knowledge and Mother's Attitude at Hinai Kiri Puskesmas Kecamatan Secanggang Kabupaten Langkat Tahun 2018', *Scientific Journal of Midwifery*, 6 (2).
- Notoatmodjo, S. (2018) *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Novalia, V. (2023) 'Kanker Serviks', *Jurnal Kedokteran dan Kesehatan Mahasiswa Malikussaleh*, 2(1), pp. 45–56. doi: eISSN 2830-6473.
- Singh D, et all (no date) 'Global estimates of incidence and mortality of cervical cancer in 2020: a baseline analysis of the WHO Global Cervical Cancer Elimination Initiative', *Lancet Glob Health*, 11(2). doi: doi: 10.1016/S2214-109X(22)00501-0. Epub 2022 Dec 14.
- Teimoori, B. *et al.* (2018) 'Comparison of Efficacy between Pap Smear and VIA as Cervical Cancer Screening', pp. 29–36.
- Utami, R. B. (2021) 'Audiovisual Influence On Knowledge, Attitude WUS In Servicing Cancer Screening With IVA Method In Puskesmas Perumnas II', *Jurnal Kebidanan Khatulistiwa*, 7 (2), pp. 65–73. doi: P-ISSN 2460-1853.
- Wang S, et all (2024) 'Cervical Cancer Screening via Visual Inspection With Acetic Acid and Lugol Iodine for Triage of HPV-Positive Women', *JAMA*, 7 (3). doi: 10.1001/jamanetworkopen.2024.4090.
- WHO (2021) 'Cervical cancer profile', (2020), p. 2021.
- Wijayanti, R. and Raidanti, D. (2023) 'Knowledge , Attitude , Motivation and Husband Support in Women of Childbearing Age with the Interest of Checking for Visual Inspection with Acetic Acid (VIA) at TPMB Bidan R Cisalak Pasar Cimanggis Depok Year 2022', 6(June), pp. 186–195.
- Yang, Y. *et al.* (2024) 'Optimal Screening and Detection Strategies for Cervical Lesions : A Retrospective Study', 15. doi: 10.7150/jca.96128.