Relationship Between Knowledge of Women of Childbearing Age About Cervical Cancer WithVIA Test In Nasyiatul ‘Aisyiyah Special Region of Yogyakarta

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Abstract

Cervical cancer is a major health problem for women worldwide. This disease is the second most common cancer in women in Indonesia with approximately 660,000 new cases and approximately 350,000 deaths in 2022. The description of the knowledge of women of childbearing age (WUS) about cervical cancer in the Special Region of Yogyakarta (DIY) shows (53.1%) is in the sufficient category. The majority of respondents have never had a VIA examination (93.3%). Visual Inspection with Acetic Acid (VIA) is a simple method for early detection of cervical cancer. The results of the VIA examination showed 31,236 (1%) positive, with 324 (0.01%) suspected cervical cancer, out of 3,114,505 women aged 30-50 years who underwent early detection. The purpose of this study was to determine the relationship between the knowledge of women of childbearing age about cervical cancer and the implementation of VIA examinations at Nasyiatul 'Aisyiyah, Special Region of Yogyakarta. The population of this study was all women of childbearing age who were structurally registered as official members of Nasyiatul 'Aisyiyah in the Special Region of Yogyakarta, totaling 205 people. The sampling technique used was purposive sampling, with a sample size of 58 people who met the inclusion criteria. The research method used was quantitative with an analytical cross-sectional study approach, and data were collected using a questionnaire via Google Form. Data analysis was performed using the Chi-Square test. The results showed that there was no significant relationship between knowledge of childbearing age women about cervical cancer and the implementation of VIA examinations (p-value = 0.967). Based on these findings, it is recommended that health facilities increase the frequency and closeness of outreach to the community regarding the importance of VIA examinations as an effort to detect cervical cancer early.

Keywords: Knowledge, Women of Childbearing Age, Cervical Cancer, IVA Test

1. Introduction

Cervical cancer is a major health problem for women worldwide. According to the World Health Organization (WHO), cervical cancer is the fourth most common cancer in women worldwide, with approximately 660,000 new cases and approximately 350,000 deaths in 2022. Cervical cancer is the second most common cancer in women in Indonesia. In 2022, there were 36,964 cases of cervical cancer in Indonesia. The causes are diverse, but the majority are due to Human Papillomavirus (HPV) infection, accounting for approximately 95%. In Indonesia, 31,236 (1%) had positive VIA test results, and 324 (0.01%) were suspected of cervical cancer out of 3,114,505 women aged 30-50 who underwent early cervical cancer detection (Dwi, 2022).

The high incidence of cervical cancer in Indonesia is influenced by low screening coverage. In 2023, cervical cancer screening coverage in Indonesia reached only 7.02% of the target of 70%. The Indonesian government has made significant efforts to combat cervical cancer, including through policies and a National Action Plan that integrates primary prevention (HPV vaccination) and secondary prevention (early detection such as VIA). However, challenges remain, particularly related to the low coverage of VIA screening in various regions, including the Special Region of Yogyakarta (DIY). Data shows that the prevalence of cervical cancer in DIY is even higher than the national rate. Knowledge of women of childbearing age (WUS) about cervical cancer in the Special Region of Yogyakarta (DIY) is considered adequate. The majority of respondents (93.3%) have never undergone a VIA test (A'isyah, 2023). Various factors are known to be associated with the participation of women of childbearing age in VIA testing, including knowledge, education, occupation, age, environment, and socio-cultural factors. Although numerous studies have been conducted on the relationship between knowledge and VIA testing, research specifically examining this relationship

among reproductive-age women who are members of the Nasyiatul 'Aisyiyah organization in Yogyakarta, taking into account the social context and the organization's activities in women's health (including the VIA testing campaign), remains limited. This indicates a knowledge gap and the urgency to better understand the factors influencing participation in early detection among this specific group.

Therefore, the scientific novelty of this study lies in the focus on a specific population (members of Nasyiatul 'Aisyiyah Yogyakarta) and the analysis of the relationship between knowledge and participation in the VIA test in that context, which is expected to contribute more relevant knowledge to efforts to increase VIA coverage in religious-based communities. In December 2024, a preliminary study conducted by researchers at Nasyiatul 'Aisyiyah, Yogyakarta Special Region, showed that out of 10 married women of childbearing age, 8 respondents were familiar with the term cervical cancer. However, only 2 of them had ever undergone a Visual Inspection with Acetic Acid (VIA) screening, while the other 8 respondents had never done so. Reproductive health is a crucial aspect of a woman's life cycle, encompassing an understanding of various conditions, including cervical cancer, and access to quality healthcare. Cervical cancer is a significant global health problem, ranking as the fourth most common cancer in women worldwide, with substantial incidence and mortality rates each year.

This is consistent with previous research conducted by Sarah Fitria et al (2023) which showed no correlation between knowledge of women of childbearing age and the implementation of the VIA test ($p=1.000$; >0.05). This contradicts research conducted by Rizki Hanriko et al (2024) which found a correlation between knowledge and the VIA method examination (p value = 0.011; $<\alpha = 0.05$). In 2023, cervical cancer screening coverage in Indonesia only reached 7.02% of the target of 70%. If not handled effectively, cervical cancer rates will increase and cause a large socio-economic burden and a decrease in the quality of life of individuals. Amid these challenges, Indonesia's efforts to accelerate cervical cancer prevention are related to the five pillars of health system transformation which include transformation of primary care, referral services, health financing systems, health human resources (HR), and health technology. These five pillars can support two cervical cancer prevention strategies, namely primary prevention with Human Papillomavirus (HPV) vaccine immunization and secondary prevention with early detection of cervical cancer (Endah, 2023).

2. Method

This research is a quantitative research with an Analytical Cross Sectional Study design that aims to analyze the relationship between the knowledge of women of childbearing age about cervical cancer and the VIA examination in Nasyiatul 'Aisyiyah, Special Region of Yogyakarta. In this design, the independent variable and the dependent variable are measured simultaneously. The conceptual framework of this study illustrates that the knowledge of women of childbearing age about cervical cancer is an independent variable that influences the VIA examination as the dependent variable. Other factors such as education, occupation, age, environment, and socio-culture are confounding variables that are controlled through the application of inclusion and exclusion criteria. The data source in this study is primary data collected directly from respondents. The study population includes all women of childbearing age registered as official members of Nasyiatul 'Aisyiyah, Special Region of Yogyakarta, totaling 205 people. The sampling technique used in this study is purposive sampling, by determining the entire population that meets the inclusion criteria as a sample, namely 58 people. The inclusion criteria for this study included: (1) married women of childbearing age aged 20–35 who were still menstruating, (2) registered as members of Nasyiatul ‘Aisyiyah in the Special Region of Yogyakarta, and (3) willing to be respondents. The research instrument used was an online questionnaire via Google Form, designed to measure the level of knowledge about cervical cancer and participation in the VIA examination. The validity and reliability tests of the instrument were not conducted independently by the researcher, but rather adopted a questionnaire from a previous study (Suyastini, 2021) which was declared valid (r count range 0.730–0.844) and reliable (Alpha value > r table) based on previous statistical tests. The data collection technique was carried out by distributing a Google Form questionnaire to respondents. The collected data were then processed through the stages of editing, coding, entry, cleaning, and tabulation. Data analysis included univariate analysis to describe the characteristics of each variable using frequency distribution, and bivariate analysis using

the Chi-Square Test to examine the relationship between knowledge and the VIA examination. Ethical clearance of research with number No.4572/KEP-UNISA/VI/2025.

3. Result and Discussion

The results of this study were obtained from the analysis of respondent data regarding the relationship between knowledge of women of childbearing age about cervical cancer and the implementation of VIA screening in the Nasyiatul 'Aisyiyah community in the Special Region of Yogyakarta. Data were collected using an online questionnaire covering respondent characteristics, level of knowledge about cervical cancer, and involvement in VIA screening. The results are presented in the form of a frequency distribution, which includes age, occupation, education, and knowledge and practice of VIA screening. Furthermore, an analysis of the relationship between knowledge and implementation of VIA screening was conducted using the Chi-Square test. The discussion of the results is linked to theory, previous research results, and actual conditions in the field.

This discussion aims to provide a deeper understanding of the research findings and identify other factors that may influence early detection behavior for cervical cancer. Although most respondents had good knowledge about cervical cancer, the results indicate that participation in VIA screening remains low, necessitating a more comprehensive approach to increase awareness and action in cervical cancer prevention.

Tabel 1. Frequency Distribution Based on Respondent Characteristics

Variable	F	%
Age		
20-27 Years	25	43,1
28-35 Years	33	56,9
Employment Status		
Employed	43	74,1
Not Employed	15	25,9
Education		
Higher Education	47	81,0
Secondary Education	11	19,0
Knowledge		
Good	54	93,1
Sufficient	4	6,9
Poor	0	0
VIA Test		
Ever	14	24,1
Never	44	75,9
Total	58	100,0

Based on Table 1, the analysis found that the majority of respondents were aged 20-27 years, as many as 25 people (43.1%), while 28-35 years were as many as 33 (56.9%). This finding is in line with Ganoli's (2025) research which shows that the age range of 15-35 years is considered a productive age for women, because during this period the reproductive organs function well (Ganoli, 2025). As a person ages, their comprehension and thought patterns tend to develop. Research shows that the older a person is, the better their ability to understand and process information. This is because more life experience allows individuals to associate new information with pre-existing knowledge (Triananinsi et al., 2023). According to the Ministry of Health of the Republic of Indonesia, Women of Fertile Age (WUS) are women aged between 15 and 50 years, starting from the first menstruation until the cessation of menstruation or menopause without considering their marital status and still have the potential to become pregnant. The healthy reproductive period is 20-35 years (Koesnoe, 2021). It is during this age range that women of childbearing age are considered to be at risk for cervical cancer.

A total of 43 people (74.1%) were employed, and 15 people (25.9%) were unemployed. This indicates that the majority of respondents were employed. A person who works frequently interacts

with others, thus possessing good information and knowledge. Work experience provides knowledge and skills, and learning experiences in the workplace can develop decision-making skills, which are the ability to reason (Jamilah et al., 2022). The results of the frequency distribution of education show that 47 people (81.0%) had tertiary education and 11 people (19.0%) had secondary education.

The majority of respondents (93.1%) had good knowledge of VIA, with only 6.9% considering it adequate, and none considered it inadequate. This is in line with research conducted by Wiryadi & Handayani (2021), which revealed that good knowledge is directly proportional to VIA testing (Handayani, 2021). A person's knowledge about an object contains two aspects: positive and negative. The more positive and negative information about something, the more positive a person's attitude toward it (Kusumandaru, 2022). Knowledge is one way to make someone aware and willing to change, considering that the problem of early detection of cervical cancer behavior is the first step in preventing the disease (Pratiwi et al., 2023).

The IVA test showed that 14 (24.1%) respondents had undergone the test, while 44 respondents (75.9%) had not. This figure indicates a gap between knowledge and practice. This is relevant to research conducted by Sundari & Setiawati (2021) which found that despite high knowledge, the majority did not undergo the IVA test (Setiawati, 2021). Screening with IVA is stated to be easier, simpler, and cheaper than the Pap smear test, therefore this IVA test offers great hope for protection from the malignant effects of cervical cancer, the type of cancer most commonly found in women aged 25 years and over. The problem facing cervical cancer prevention is the still low coverage of early detection or screening for this cancer (Floriana, 2024). Based on the 2022 Yogyakarta City Health Profile, a total of 1,950 (53.5%) women underwent early detection of cervical cancer using the IVA test out of a total of 493,677 women of childbearing age. The coverage of the IVA examination is quite low compared to the total number of women in the Yogyakarta City area nationally, namely 4.2% and the total number of hospitalization cases was 315 cases in 2021 with 71 positive IVA cases (Dwi, 2022).

Table 2. Relationship between Knowledge and IVA Examination

Knowledge	IVA examination		Total	*p-value*
	Yes	No		0,967
Good	13	41	54	
Sufficient	1	3	4	
Total	14	44	58	

Based on Table 2, the analysis of the relationship between knowledge and VIA screening shows that of the 58 respondents, the majority had good knowledge about cervical cancer and VIA screening, but only 13 respondents with good knowledge had undergone VIA screening. Meanwhile, the other 41 respondents who also had good knowledge did not undergo the screening. The p-value obtained was 0.967, indicating that there was no significant relationship between knowledge of cervical cancer and VIA screening. Respondents with adequate knowledge also did not undergo VIA screening. This finding indicates that high knowledge does not directly encourage screening. Based on the distributed questionnaire, it was found that 8 respondents stated that they would not undergo VIA screening if they did not experience symptoms or signs of cervical cancer. This indicates that some respondents still hold the perception that screening is only necessary if there are complaints, even though early detection should be carried out before symptoms appear. Knowledge is a result of curiosity through sensory processes, especially in the eyes and ears towards certain objects. Knowledge plays an important role in shaping open behavior (Nata, 2020). A person's knowledge about an object contains two aspects: positive and negative aspects. The more positive and negative information about something, the more positive a person's attitude towards it (Widyasih, 2020).

In general, early detection of cervical cancer is not only influenced by knowledge but can also be influenced by age, occupation, education, environment, and socio-cultural factors. Therefore, women with a high level of knowledge do not necessarily undergo VIA examinations compared to women with low levels of knowledge. In addition to these factors, it can also occur due to embarrassment

during the examination, fear of the reality of the examination results that will be faced and fear of feeling pain during the examination. The results of this study are in line with research conducted by Sarah Fitria (2023) which showed a p-value of 1,000 which indicates that there is no significant relationship between the knowledge of women of childbearing age and VIA examinations.

Although the results of this study indicate that there is no significant relationship between women of childbearing age's knowledge about cervical cancer and the implementation of VIA screening, and most respondents with good knowledge did not undergo screening, it is known that as many as 57 respondents have the potential or desire to undergo early detection of cervical cancer with the VIA method in the future. These findings indicate that there is still a significant opportunity to increase the coverage of VIA screening through appropriate approaches, such as further education, ongoing counseling, and increasing access and convenience in screening services.

Knowledge is the result of a person's knowledge obtained through sensing a particular object. This is certainly also influenced by the information accessible to women of childbearing age about the VIA test, one of which is through counseling that allows women of childbearing age to improve their knowledge. A person's actions based on knowledge will be more masterful than those without knowledge. The influence of knowledge on practice can be direct or through the intermediary of attitudes. Knowledge is a crucial part in shaping a person's actions (Susilawati et al., 2022). VIA (Visual Inspection with Acetic Acid) is one method for early detection of cervical cancer (Floriana, 2024). Screening with VIA is stated to be easier, simpler, and cheaper than the Pap smear test, therefore this VIA test offers great hope for protection from the malignant effects of cervical cancer, the type of cancer most commonly found in women aged 25 years and over. The problem facing cervical cancer prevention is the still low coverage of early detection or screening for this cancer.

The VIA test is a cervical cancer screening test that uses 3-5% acetic acid for its testing and can be detected by direct observation. Based on diagnostic test results, the VIA test has a sensitivity of 84%, a specificity of 89%, a positive predictive value of 87%, and a negative predictive value of 88% (Simanullang, 2024). It is recommended that the VIA examination be part of a more comprehensive reproductive health program, reaching all levels of society, to close the gap between knowledge and action. The Indonesian government has issued several policies related to the management of cervical cancer, including Ministry of Health Policy Number 40 of 2018 concerning Cervical Cancer Management. This policy regulates the implementation of cervical cancer management programs, including prevention efforts, early detection, treatment, and palliative care for cervical cancer in Indonesia. As part of this policy, the National Action Plan (RAN) for Cervical Cancer Elimination has been prepared for the period 2023-2030. This National Action Plan aims to make cervical cancer a disease of the past by integrating prevention, early detection, and treatment efforts within a comprehensive framework.

According to the Health Office, the target for IVA screening in the Special Region of Yogyakarta in 2023 is 20% per year of the number of women of childbearing age (WUS), while based on the results of this study questionnaire, most respondents have never undergone early detection of cervical cancer with the IVA method, except for a small number who have done so. Therefore, attention is needed from health workers to increase public awareness and behavior, especially among women of childbearing age in carrying out early detection of cervical cancer with the IVA method. However, the results of this study regarding the knowledge of women of childbearing age about cervical cancer with the IVA examination are not in line with the study conducted by Intan Firman (2021). The study showed that of the total number of respondents, 28 respondents (40.6%) had high knowledge and 34 respondents (61.8%) had low knowledge. This difference in results may be due to the broader knowledge assessment category in Intan Firman's study, where the assessment does not include a percentage of <75%, so the number of respondents categorized as having low knowledge is very large.

Low knowledge also leads to fear of undergoing a VIA test, leading to inattention or even unawareness that they have cervical cancer (Pratiwi et al., 2023). In this study, the majority of respondents with good knowledge did not undergo a VIA test. This indicates that many respondents still have poor attitudes toward early cervical cancer detection.

4. Conclusions

A study conducted at Nasyiatul 'Aisyiyah, Yogyakarta Special Region, yielded the following conclusions: Most respondents (75.9%) had never taken a VIA test. Most respondents (93.1%) had good knowledge of the VIA test. Based on the Chi-Square statistical analysis, it was concluded that there was no significant relationship between respondents' knowledge and the VIA test (p=0.967).

It is recommended that health facilities conduct more frequent and closer outreach to the community about the importance of VIA screening. Nasyiatul 'Aisyiyah in the Special Region of Yogyakarta is expected to collaborate with community health centers or midwives to provide regular and easily accessible VIA cervical cancer early detection services.

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