

Article

The Relationship Between Knowledge of Early Detection and Women's Awareness of Cervical Cancer Screening in Lubang Buaya East Jakarta

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SUBMISSION TRACK

Received: 24 Januari 2025

Final Revision: 20 Juni 2025

Available Online: : 30 Juni 2025

KEYWORDS

Awareness, Cervical Cancer, Early Detection, Knowledge

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ABSTRACT

The high frequency of cervical cancer among women is a concern in Indonesia. Cervical cancer prevention involves two approaches: primary prevention through Human Papillomavirus (HPV) vaccination and secondary prevention through early detection. Women's knowledge is important because the better knowledge about early detection will influence women to do early detection. This study aimed to examine the correlation between knowledge of early detection and women's awareness of cervical cancer screening in Lubang Buaya. This study employed quantitative research methodologies using a cross-sectional design. The sampling method was purposive sampling which recruited a total of 234 married women aged 30-50 years residing in Lubang Buaya. The instruments used in this study were Knowledge about Cervical Cancer Screening Questionnaire and Cervical Cancer Awareness Measure (CAM) Questionnaire. The Chi-square test was performed to analyze the data. The results revealed a significant correlation between the two variables, as indicated by a p-value of less than 0.001 ($p < 0.05$). A correlation exists between knowledge of early detection and women's awareness of cervical cancer screening.

I. INTRODUCTION

Cervical cancer ranks as the third most common disease among women (Badell et al., 2020). In 2020, the World Health Organization (WHO) reported that cervical cancer was the fourth most frequently diagnosed cancer worldwide, following breast, colorectal, and lung cancers, with a total of 604,000 cases among women. As many as 90% of the 324,000 deaths that occur due to cervical cancer occur in several countries that have a low to middle income index. Countries with the highest number of deaths caused by cervical cancer include sub-Saharan Africa, Central America, and Southeast Asia (World Health Organization, 2023). In Indonesia, cervical cancer cases in women are in second place after breast cancer with a percentage of 17.2% of the total 213,546 cases occurring in Indonesian women. As many as 9% of the 92,930 total deaths that occurred due to cervical cancer in the last five years (Globocan, 2020).

Prevention of cervical cancer is generally divided into two, namely primary prevention carried out by administering HPV vaccination and secondary prevention carried out through Visual Inspection with Acetic Acid (IVA Test) and Pap Smear examinations (Khairunnisa et al., 2023). In increasing public awareness to prevent and control cervical cancer, WHO recommends early detection from the age of 30 years and 25 years in people with HIV with a minimum of two early detection times for life even though they have received the HPV vaccine before, it can detect and prevent cervical cancer. At any age with symptoms or concerns about cervical cancer, early detection, or screening along with effective treatment can reduce the incidence of cervical cancer (World Health Organization, 2023).

The Center for Disease Control and Prevention (CDC) states that there is early detection of cervical cancer should be done when women are 21 years old. If the examination shows normal results, the doctor will recommend waiting three years for the next examination. When the woman is 65 years old, the doctor may explain that the woman does not need to have another screening if the results of the screening have been normal for several years and there is no history of pre-cancer (Centers for Disease Control and Prevention, 2023).

The primary technique enhanced for the early detection of cervical cancer is the Papanicolaou (Pap) test, commonly referred to as a Pap smear. The examination can detect abnormalities before cancer occurs by taking a sample of cells in the cervix. The significant association between long-lasting infection by high-risk HPV types and cervical cancer has led to the development of early detection methods that can identify HPV viruses in genetic material such as DNA and RNA. Sampling for these early detection methods is done through urine, which is likely to be widely accepted by patients, but the results may have lower specificity than cytological examination (Gates et al., 2021). In Indonesia, ongoing early detection programs include basic cytological examinations, namely Pap Smear, Visual Inspection of Acetic Acid (IVA Test), and early detection with colposcopy (Syahban & Nahsriana, 2018). A total of 8.3% of the 70% Sustainable Development Goals target of Indonesian women aged 30-50 years who conduct early detection of cervical cancer using the IVA method, where this percentage has not met the target set by WHO (Khairunnisa et al., 2023).

Given the high rate of cervical cancer cases that occur, women's knowledge is very important. Women's knowledge regarding early diagnosis of cervical cancer can be impacted by a variety of factors, including experience, most recent education, age, parity every year, work position, and distance to health providers. More knowledge regarding early detection of cervical cancer may encourage women to be supportive in taking on early detection (Restiyani, 2017). Improving

knowledge can be done in several ways, such as providing clear information, assisting in the process of understanding information, and providing support to women of reproductive age (Syahban & Nahsriana, 2018).

Women's awareness regarding early diagnosis of cervical cancer in Indonesia remains quite poor. According to the Indonesian Ministry of Health's Directorate General of P2P, just 6.83% of Indonesian women aged 30-50 are screened for cervical cancer (Martini & Rahmawati, 2023). Women's low level of awareness of early diagnosis of cervical cancer is attributed to sentiments of dread of the method in the examination, the findings that may come out after the test, and shame if their reproductive organs are inspected by strangers (Trisnowati & Waluyo, 2022).

Women's awareness of early detection might also be affected by a lack of understanding or information about the necessity of early detection (Martini & Rahmawati, 2023). However, the performed research revealed that information on early detection of cervical cancer may be accessed in health counseling, the internet, social media, and through television shows. Thus, good knowledge does not necessarily make women have high awareness about early detection of cervical cancer (Martini & Rahmawati, 2023).

Systematic research conducted in Toronto states that young women and adolescents are one of the benchmarks for determining whether cervical cancer early detection programs are successfully implemented, both developed and developing countries. Many young women in various countries have not conducted proper detection in accordance with country-specific guidelines. There are several impediments to young women's early identification of cervical cancer, three of which are: First, awareness of early detection is owing to young women's perceptions that early detection is not necessary if they do not experience any symptoms, as well as anxieties about their virginity status being taken away. Second, the negative perception of early detection is due to the fear of the examination regarding the results that may come out. Third, systemic barriers in accessing health services that provide cervical cancer early detection programs (Kirubarajan et al., 2021).

The vaccination program that women have undergone may not be able to prevent infection with all types of high-risk HPV viruses, so the United States Preventive Services Task Force (USPSTF) suggests that women who have reached the age of 21-29 years and the American Cancer Society considers that early detection of cervical cancer begins when women are 25 years old (National Cancer Institute, 2023). In the Indonesian area, based on the Ministry of Health's 2015-2019 guidelines, women aged 20 years and older are urged to conduct out early detection; nevertheless, this program is prioritized for women aged 30-50 years, with a target of 50% of Indonesian women (Wicaksana, 2016).

Early detection of cervical cancer for women is critical, given the circumstances outlined. This study was conducted on women with an age range of 30-50 years as recommended by the Ministry of Health of the Republic of Indonesia. The purpose of this study is to examine the association between knowledge of early detection and awareness of cervical cancer screening among women in Lubang Buaya, East Jakarta.

II. METHODS

This study employed quantitative research methodologies using a cross-sectional design. Purposive sampling method was used with up to 234 married women aged 30-50 years. The instruments used in this study were the Knowledge about Cervical Cancer Screening

Questionnaire (KCCSQ) and the Cervical Cancer Awareness Measure (CAM) Questionnaire. The questionnaire has been tested and declared valid ($r\text{-count}$ = 0.369-0.582 for KCCSQ; $r\text{-count}$ = 0.362-0.692 for CAM) and reliable ($\alpha\text{-Cronbach}$ = 0.758 for KCCSQ; $\alpha\text{-Cronbach}$ = 0.739 for CAM). Participants were given an informed consent form before answering the questionnaire provided. The collected data were processed using the Chi-Square test to determine the relationship between the two variables. This research protocol has obtained ethical permission from the Research Ethics Commission of the Universitas Pembangunan Nasional “Veteran” Jakarta with number 114/IV/2024/KEP issued on April 23, 2024.

III. RESULT

The research was conducted in the Lubang Buaya area, East Jakarta from May 2024 to June 2024. In this study, the purposive sampling methodology was used, with a sample of 234 women aged 30-50 years according to preset criteria. Table 1 below illustrates the demographic data of respondents.

Table 1. Characteristics of Respondents

Variable	Mean±SD	Min-Max	Frequency (n)	%
Age	43.29±6.690	30-50		
Educational background level				
- Low (Elementary School-Senior high school)			190	8
- High (Higher degrees)			44	1.2
				1
				8.8
Marital status				
- Married			223	9
- Divorced			11	5.3
				4.7
Working status				
- Employment			42	1
- Unemployment			192	7.9
				8
				2.1
Knowledge of Early Detection of Cervical Cancer				
- Good			136	5
- Poor			98	8.1
				4
				1.9

Awareness of Cervical Cancer Screening		
- Good	185	7
- Poor	49	9.1
		2
		0.9

Based on table 1, most of the respondents have low level of educational background, are married and unemployment. The results reveal that as many as 136 (58.1%) respondents have good knowledge and as many as 98 (41.9%) respondents have poor knowledge. The analysis results indicate that the majority of participants in this study possessed a strong understanding of early detection of cervical cancer, with 136 (58.1%) respondents, demonstrating adequate knowledge. The results of data processing on women's awareness of cervical cancer screening show that as many as 185 (79.1%) respondents have good awareness and as many as 48 (20.9%) respondents have poor awareness. The analysis results indicate that the majority of participants in this study possessed a strong understanding of early detection of cervical cancer, with 185 (79.1%) respondents, demonstrating adequate knowledge.

Table 2. Relationship between Early Detection Knowledge and Women's Awareness of Cervical Cancer Screening in Lubang Buaya

Known ge	Awareness				Total		<i>p- Valu e</i>	OR (95%CI)
	Good		Poor					
	n	%	n	%	n	%		
	Good	11	87.	1	12.	13		
	9	5	7	5	6	0		
Poor	66	67.	3	32.	98	10		
		3	2	7		0		
Total	18	79.	4	20.	23	10		
	5	1	9	9	4	0		

*Chi-Square test

According to Table 2, among the 234 respondents, 119 individuals (87.5%) exhibited a high level of knowledge and awareness regarding the early detection of cervical cancer. A total of 66 respondents (67.3%) demonstrated insufficient knowledge regarding the early detection of cervical cancer, although they exhibited a high level of awareness about screening. A total of 17 respondents (12.5%) exhibited both good knowledge and strong awareness of screening practices. Conversely, 32 respondents (32.7%) demonstrated inadequate knowledge and awareness regarding the early detection of cervical cancer.

The results of the bivariate analysis using the Chi-Square test yielded a p-value of <0.001 (p <0.05), indicating a significant association between knowledge of early detection and women's awareness of cervical cancer screening. Women with a high knowledge score are 3.39 times more likely to be aware of cervical cancer screening than those with low knowledge.

IV. DISCUSSION

Most of respondents demonstrated strong knowledge of early detection of cervical cancer, whereas the rest had limited knowledge on the same topic. This is supported by respondents' statements who said that some of them had never received understanding related to early detection in their environment. This study also indicated that majority of respondents had a high level of awareness regarding cervical cancer screening, while the other group exhibited low awareness of the screening practices. These results suggest that women's limited awareness of cervical cancer screening may be attributed to insufficient educational outreach about screening in their communities and apprehension regarding the outcomes of the screening process as mentioned in the previous study (Samaria, 2022).

A statistically significant relationship between knowledge and women's awareness of cervical cancer screening was revealed in this current study. Similar results were found in an earlier study that mentioned as many as 61.2% of participating women had good knowledge about cervical cancer and most of these women said they had done early detection in the form of pap smears. This study indicated a significant relationship between women's knowledge and awareness regarding the performance of Pap smear tests, (Hirani et al., 2021).

The findings of this study are consistent with research conducted in Nigeria, which reported that participants had relatively high levels of knowledge and awareness regarding cervical cancer screening. The elevated awareness observed in this study may be attributed to the fact that most participants possessed a high level of education, which likely contributed to their familiarity with cervical cancer. The study mentioned another factor that can affect knowledge and awareness was age, where the older the age of the woman would have a greater possibility to have knowledge and awareness of cervical cancer (Abugu & Nwagu, 2021).

A previous study also revealed that women with higher educational backgrounds exhibited a greater level of knowledge regarding the risk factors and symptoms of cervical cancer. Conversely, respondents with lower education levels and those who were unemployed demonstrated significantly lower awareness of early detection programs for cervical cancer. Among the respondents who have never done early detection of cervical cancer said the reason was embarrassment and fear of the examination procedure (Deguara et al., 2021).

A prior study mentioned factors that influence women to conduct early detection included individual factors, partner/family support, health care facilities, and related information sources. The individual factors referred to here were low education and women's awareness of cervical cancer, its prevention, signs, and symptoms that arise, available early examinations, the cost of examinations that are still relatively high, and feeling that they do not feel any symptoms (Khairunnisa et al., 2023).

Some respondents in this study who have not done early detection of cervical cancer mentioned that they did not want to do it because they felt they were healthy, so they did not need it, besides fear and embarrassment if their intimate areas were examined by health workers. Regular health promotion efforts focused on early detection of cervical cancer are essential to enhance women's knowledge and awareness, thereby encouraging participation in early detection practices to prevent cervical cancer (Samaria, 2022).

V. CONCLUSION

The findings of this study indicate a significant relationship between knowledge of early detection and women's awareness of cervical cancer screening, with a p-value of <0.001 ($p < 0.05$). These results support prior research, which suggests that women with robust knowledge are more likely to be aware of and engage in early detection practices for cervical cancer as a preventive measure.

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