

Women's knowledge and participation in early detection of cervical cancer: a cross-sectional study

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ABSTRACT

Cervical cancer is a malignant disease that remains a major cause of morbidity and mortality among women in the world. In Indonesia, only 5% of women of reproductive age screen for cervical cancer. 76.6% of cervical cancer patients are detected with the disease when they entered the advanced stage. Early detection of cervical cancer is the key intervention in the reduction of incidence and mortality of cervical cancer. Other studies reported that the awareness of women of reproductive age to do cervical cancer screening is still very low due to a lack of knowledge about cervical cancer. This study aimed to determine the correlation of knowledge and participation in early detection of cervical cancer in women in reproductive age. This study used an analytical survey with a cross-sectional approach. The sampling technique used incidental sampling with a total of 36 women in reproductive age. Data analysis used Chi-Square test. Statistical results showed that there was a significant correlation between knowledge of women in reproductive age about cervical cancer and participation in early detection of cervical cancer, which is p value = 0.020 (< 0.05) and coefficient of contingency (r) = 0.423. The level of closeness of the correlation is medium. Therefore, there is a need for tailored services that could improve knowledge of women in reproductive age about cervical cancer to improve participation with a view to preventing cervical cancer by early detection.

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1. Introduction`

Cervical cancer is the most common cancer in women. More than 270.000 dead cases from cervical cancer each year, more than 85% of deaths from cervical cancer occurred in developing countries (WHO, 2015). Based on WHO data estimation in 2015, there were only 5% of women in developing countries, including Indonesia who received services for cervical cancer screening, 76.6% of cervical cancer patients are detected when they enter the advanced stage (IIIB and above) (Linadi, 2018). In Indonesia, cervical cancer is the second most common cancer in women after breast cancer. According to the 2017 report of BKKBN, there were more than 15.000 cases of cervical cancer identified every year, and about 8.000 of them had died from the disease. Based on data from Basic Health Research (Riskesdas) (2018), the prevalence rate of cervical cancer in Daerah Istimewa Yogyakarta (DIY) province reached 9.6 cases per 1000 population. This figure is the highest prevalence in Indonesia. This prevalence rate was increased from the previous, 4.1 cases per 1000 population (Ministry of Health, 2018).

A study has shown that cervical cancer is mainly caused by persistent infection with certain types of human papillomavirus (HPV). HPV types 16 and 18 are responsible for approximately 70% of cervical cancer cases in all countries around the world (Jerome-D'emilia, Suplee, & Kushary, 2020). Other risk factors include the onset of intercourse before 20 years old, having multiple sexual partners, and smoking (Al-Naggar, R. A., Low, W. Y., Isa, 2010; Bayrami, R., Taghipour, A., Ebrahimipour, 2015). Cervical cancer can be prevented by identifying pre-cancerous lesions early using repeated screening and treating these lesions before they progress to cancer (Mesquita et al., 2013). The primary screening techniques include Papanicolaou smear, visual inspection using acetic acid, and HPV tests, the latter two of which are cost-effective for low-resource countries (Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J., Jemal, 2015).

Cervical cancer screening is used for pre-cancer and cancer tests in women who have no symptoms and may feel very healthy. Women of the reproductive age group are most exposed to the risk factors that predispose to the development of the disease (Finocchiaro-Kessler et al., 2016). Sexually active women should also be screened for the detection of abnormal cervical cells and pre-cancerous lesions. World Health Organization (WHO) recommended that all women between the ages of 30 and 49 years should be screened for cervical cancer at least once (Organization, 2014). Prevention, early diagnosis and timely treatment, programs such as surgery, radiotherapy, and chemotherapy, have been shown to reduce morbidity and mortality due to cervical cancer (Organization, 2014). However, treatment does not always have a positive effect on cervical cancer but also has a side impact on the patient's body. Although medication has a high success rate, in the early stage of long-term treatment, it causes many complications and side effects. In other words, prevention provides greater hope in solving problems due to cervical cancer.

Cervical cancer is a malignant and a deadly disease. However, cervical screening attendance rates are still far from satisfactory in many countries (Gebreegziabher, M., Asefa, N. G., Berhe, 2016; Thippeveeranna, C., Mohan, S. S., Singh, L. R., Singh, 2013)(Gebreegziabher, 2016; Thippeveeranna, 2013). The high cases of cervical cancer in developing countries are caused by limited access to screening and treatment. So, the majority of cervical cancer patients who come for treatment have already into critical condition and have entered the advanced stage (Nurwijaya et al., 2010). The awareness of women to check themselves is still very low, and perhaps they had it due to a lack of knowledge about cervical cancer and the dangers of cervical cancer (BKKBN, 2012). Other problems are due to shame, fear to examine the reproductive organs, low income, no family history of cancer, the related pain of examination, and distance of health services (Emilia, 2014; Jia, Y., Li, S., Yang, R., Zhou, H., Xiang, Q., Hu, T., 2013; Lyimo, F. S., & Beran, 2012). The rate of recovery will be higher if detection of cervical cancer is done early (Emilia, 2014). This present study was done to find out the correlation of knowledge and participation in early detection of cervical cancer in women in reproductive age.

2. Method

This study used an analytical survey with a cross-sectional approach conducted in June 2015. All of the respondents observed only temporarily or once to obtain information on independent and dependent variables. The independent variable in this study was knowledge of women in reproductive age about cervical cancer. The dependent variable was participation in the early detection of cervical cancer. Early detection of cervical cancer in this study was similar to Visual Inspection with Acetic Acid (VIA) and Pap smear test. The population in this study is all women in reproductive age in a village, Yogyakarta, Indonesia, with a total of 83 women. There was a permission from local authority secured before data collection and the reference number 070/REG/V/667/5/2015.

Thirty-six women in reproductive age participated in this study, and they were selected by using the incidental sampling technique. The inclusion criteria of the respondents were (1) women in reproductive age-aged between 30-49 years, (2) women who have had sexual intercourse either with marital status or widow, and (3) can read and write. Respondents were identified from the register available in a Community Health Center and from data held by midwife representatives who live at the Community Health Center working area.

This study used questionnaires that consisted of three main sections. The first section contained characteristics of respondents, such as participant's names, address, age, marital status, and last

education level. The second section contained knowledge about cervical cancer questions was developed by authors. It was used to measure knowledge about cervical cancer level, which contains 25 questions, consists of definition, etiology, signs and symptoms, risk factors, prevention, treatments, and early detection of cervical cancer. The validity and reliability of the questionnaire have been tested on 20 women in reproductive age in another village using the biserial point for validity and KR-20 for reliability. Seven items of knowledge about cervical cancer questionnaire were invalid. Then the authors deleted those seven questions and did not replace them because they were represented with 18 other questions. The questionnaire was reliable because the reliability coefficient value was greater than 0.468 (KR-20 = 0.807). The third section contained participation questions. It used to find out the participation in early detection of cervical cancer in the past year.

The Chi-Square test was used to analyze the correlation between the variables. Statistical calculations were performed using Statistical Package for the Social Sciences (SPSS) version 16 for Windows. All analysis of hypotheses was presented at the 5% significance level.

3. Results

3.1. Univariate Analysis

Table 1 presents distribution of frequency of respondents' characteristics. The respondent characteristics are presented in Table 1, which shows that most of the respondents were at the age of 30-40 years old i.e. 58%. Based on the education level, 58% of them graduated from junior high school or below.

Table 1. Distribution of Frequency of Respondents' Characteristic

No	Characteristics	N	%
1	Age		
	30-40 years old	21	58%
	41-49 years old	15	42%
2	Education level		
	Junior high school or below	21	58%
	Senior high school	9	25%
	College or above	6	17%

A total of 36 women in reproductive age provided informed consent to participate in this study.

3.2. Bivariate Analysis

Table 2 shows that most of the respondents who had high knowledge about cervical cancer participated in early detection of cervical cancer i.e. 36.1%, but 36.1% of them did not participate. On the other hand, 22.2% of respondents who had moderate knowledge and 5.6% of respondents who had low knowledge did not participate in the early detection of cervical cancer.

Table 2. Correlation between knowledge and participation in early detection of cervical cancer

Knowledge	Participation				Total		X ²	p value
	+		-		N	%		
	N	%	N	%				
High	13	36.1	13	36.1	26	72.2	7.826	0.020
Moderate	0	0	8	22.2	8	22.2		
Low	0	0	2	5.6	2	5.6		
Total	13	36.1	23	63.9	36	100		

(+) Yes, (-) No

Therefore, it can be concluded that the respondents who had high knowledge about cervical cancer participated in the early detection of cervical cancer. The results of the Chi-Square test showed the value of $p = 0.020 < \alpha = 0.05$, indicating that there is a significant correlation between knowledge and participation early detection of cervical cancer in women in reproductive age. Based on the calculation of the contingency coefficient result, the value of $r = 0.423$, which means the closeness of the correlation between two variables, had medium relation level.

4. Discussion

This study found that most women in reproductive age were knowledgeable about cervical cancer, and half of them participate in the early detection of cervical cancer. The results of the Chi-Square test showed the value of $p = 0.020 (< 0.05)$, indicating that there is a significant correlation between knowledge and participation in early detection of cervical cancer. The findings of our study concurred with a similar study conducted previously, revealing that there is a significant correlation between knowledge and pap smear examination (Heena et al., 2019). This findings were also consistent with a study which show that among female students in Nigeria. Those studies were reported that the reasons for the very low level of attendance to screening were due to lack of knowledge about pap smear test, lack of understanding of where to obtain screening services, the belief that screening was unnecessary, and concern about the embarrassment of cancer being discovered (Burger et al., 2020).

Knowledge is an essential part of the formation of a person's behavior, for example, early detection of cervical cancer by VIA and pap smear screening (Mesquita et al., 2013). High knowledge about cervical cancer will make women know about the risk factors, symptoms, purpose, and importance of doing early detection of cervical cancer. They will be more enthusiastic and encouraged to carry out these tests (Kour, Lal, Panjaliya, Dogra, & Gupta, 2010). Knowledge also had a positive influence on health problems that indirectly could impact on health behavior (Alexander et al., 2012). Studies of various aspects of the experience have demonstrated that the lack of knowledge about cervical cancer appears to be an essential factor in determining women's willingness to participate in cervical cancer screenings program (Jia, Y., Li, S., Yang, R., Zhou, H., Xiang, Q., Hu, T., 2013).

This study also found that women who had low or moderate knowledge did not participate in the early detection of cervical cancer. This could be due to a lack of knowledge and information obtained by these respondents about cervical cancer from healthcare providers, inactiveness to seek information from the media or inactiveness to participate in various counseling or health promotion sessions (Finocchario-Kessler et al., 2016). So that makes respondents had a lack of knowledge and did not understand the importance of early detection of cervical cancer (Kour et al., 2010). On the other hand, she also had a lack of awareness about cervical cancer, which caused her to not participate. Lower levels of knowledge may be related to insufficient health education, limited access to relevant information to increase knowledge, lack of communication between rural women and health service providers, and some cultural barriers.

Fort et al., 2011 explained that the main barriers to participation in cervical cancer screening include a lack of knowledge and awareness of cervical cancer screening and its benefit. Lack of knowledge about cervical cancer will make women had a low enthusiasm and not doing early detection of cervical cancer. It can make her had a higher risk of cervical cancer compared to those who were doing early detection of cervical cancer routinely. Achieving a decision to seek medical care or prevention starts with the ability to recognize the symptoms and signs correctly. Failure to recognize the symptoms correctly and promptly could act as a barrier to screening exercise or as a source of delay to prevent cervical cancer disease (Essendi, H., Mills, S., Fotso, 2011).

According to WHO, one of the behavioral change strategies is giving information. By providing information about cervical cancer and its prognosis, then obtained knowledge that will affect a person's attitude. The attitude, which positively causes women to behave according to knowledge in their possessions (Heena et al., 2019). In this case, is women's participation in the early detection of cervical cancer programs. Kessler (2017) also explained that public education programs that aim to increase knowledge and awareness of cervical cancer and the benefits of screening were an effective method to increase screening uptake, as well as increase the likelihood of maintaining regular screening behaviors (Kessler, 2017).

5. Conclusion

Knowledge about cervical cancer had a significant correlation with the participation in early detection of cervical cancer with p value = $0.020 < \alpha = 0.05$. The level of closeness of the correlation is medium, with the value of $r = 0.423$. It could be interpret that the more people understand about cervical cancer the more they have willingness to access detection of cervical cancer.

6. Recommendation

This study reported that participation in the early detection in cervical cancer program was higher among participants who has high knowledge about cervical cancer. The findings of this study could be a recommendation for improving the level of knowledge about cervical cancer and emphasizes the need for dissemination of knowledge about this cancer. Healthcare providers could give out more counseling or health promotion about cervical cancer, the risk factors, and the effectiveness of screening. Not only instructing the community to do early detection, but to put more emphasis on information about the dangers of cervical cancer, symptoms, causes, prevention, and treatment. This strategy may be able to increase the awareness of the public about the importance of cervical cancer screening. So most of the women in reproductive age will participate in the examination, and the incidence of cervical cancer can be reduced.

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