



The Relationship between Attitude and Early Detection Behavior of Cervical Cancer in the Working Area of the Pakem Health Center

Siti Rukmana^{1*}, Yaviza Puspitasari²

^{1,2} STIKes Al-Ma'Arif Baturaja, Indonesia

sitirukmana0794@gmail.com^{1*}; yeviza.puspitasari1402@gmail.com²

Address: Jl. Dr. M. Hatta No.687-B, Sukaraya, East Baturaja District, Ogan Komering Ulu Regency, South Sumatra 32112

Email correspondence: sitirukmana0794@gmail.com

Abstract. Cervical cancer is a malignant tumor that grows in the cervix caused by infection with the Human Papilloma Virus, acquired through sexual intercourse. Indonesia ranks 8th in the highest incidence of cancer in Southeast Asia, the highest prevalence of cancer is Yogyakarta Province where Sleman Regency ranks the highest IVA positive at 2.5% and Halis IVA at the Pakem Health Center is suspected of cervical cancer reaching 13 out of 22 positive IVA results. This achievement is still very low, because there is still low public awareness to carry out early detection of cervical cancer. To determine the relationship between attitude and behavior for early detection of cervical cancer. Quantitative research with a Case Control approach. A sample of 160 women with a proportional sampling technique. Data collection was in the form of filling out questionnaires online using Google Forms with chi square test data analysis and logistic regression. There was a relationship between positive attitude p -value=0.017 and OR of 3.462, women aged >35 years p -value=0.038, multipara parity p -value=0.007, with early detection behavior of cervical cancer. Parity provided a great chance of 7,038 times that women performed early detection behaviors of cervical cancer (CI 95%= 0.187-264,350). To improve early detection examinations, health workers can design health education and promotion models, increase educational socialization to cadres, the public and the community continuously and sustainably.

Keywords: Cancer, Cervical, HPV, Detection

1. INTRODUCTION

Cervical cancer is a malignant tumor that lives in the cervix (the lower part of the uterus that is attached to the upper part of the vagina). It generally affects women between the ages of 35-55. 90% is sourced from squamous cells in the cervix and 10% from mucus-producing gland cells are connected to the cervix leading to the uterus. One of the health problems that women of childbearing age often face around the world is cervical cancer (Andrijono, 2017).

Human Papilloma Virus (HPV) infection is the leading cause, acquired through sexual intercourse, with 530,000 cases and claiming the lives of more than 275,000 women each year, 85% in developing and low-income countries while cervical cancer deaths have been addressed among women in developed countries (UNFPA 2015).

WHO update in 2020 new cases of cervical cancer in the world reached 604,127 (3.1%) and deaths from cancer amounted to 341,831 (3.3%) of the total cancer population. Cervical cancer is predicted to spike from year to year until 2024, the incidence of cervical cancer is predicted to spike by 797,700 and cause 481,500 deaths (WHO, 2020). Indonesia is the country with the highest capacity for cervical cancer in the world. Cervical cancer

appears without causing symptoms and is very difficult to detect, so it is often diagnosed at an advanced stage (WHO 2018).

Indonesia ranks eighth with the highest incidence of cancer in Southeast Asia (136.2 per 100,000 population), while in Asia it ranks 23rd. The incidence rate of cervical cancer reached 23.4 per 100,000 population and the average mortality rate was 13.9 per 100,000 population. According to Riskesdas 2018, the incidence of cancer in Indonesia has increased from 1.4 per 1000 population in 2013 to 1.79 per 1000 population in 2018. The prevalence of cancer in Indonesia is 4.86 per 1000 population in Yogyakarta (Riskesdas 2018). Cervical cancer can be detected with early detection which includes Pap smear, cerviography, visual inspection test of acetic acid (IVA), high-risk type (HPV) test, colposcopy, Pap net and fluid-based cytology (Aprianti, Fauza, and Azrimaidalisa 2018). The IVA screening method for early diagnosis of cervical cancer has become a government program in all health centers in Indonesia with a prevention movement through early detection of cancer in Indonesian women (Ramadhani et al., 2015).

The Yogyakarta Health Office has screened 14,951 (12.2%) women aged 30-50 years to detect cervical and breast cancer. The results showed that 300 people tested positive for IVA and 49 people suspected of cervical cancer. The coverage of early detection of cervical cancer through the IVA method where Sleman Regency ranks the highest IVA positive as many as 168 (2.5%) and suspected cervical cancer as many as 36 and the lowest positive IVA in Yogyakarta City as many as 8 (Yogyakarta Health Profile, 2019).

The achievement of the IVA test program in Sleman Regency in 2019 was 7,548 people (4.6%) out of the total target of 163,915 people (20%) per year out of the number of WUS 32,783 people. The coverage of early detection of cervical cancer at the Pakem Health Center in 2019 reached 848 people with positive IVA results totaling 22 people and 13 people suspected of cervical cancer. IVA achievement is still low, this is due to the pandemic situation and limited public awareness to carry out early detection. Therefore, there must be more active efforts through socialization to the community, technical guidance to health officers, making a mass IVA test inspection program and collaborating with private health facilities in Sleman Regency (Sleman Regency Health Office, 2020)

Lack of knowledge and awareness resulting in the prevention of cervical cancer being underutilized. Supporting factors related to cancer screening awareness and participation such as health costs, remote access to health services and social support. Socioeconomic disparities are also a factor in women's awareness of cancer screening and participation (Anwar et al., 2018).

2. MATERIALS AND METHODS

The research population was 5568 WUS with a total sample of 160 with a ratio of 1:1 80 respondents in the case group, namely women who had done early detection and 80 respondents in the control group, namely women who had never done early detection. The *purposive sampling* technique with inclusion criteria is WUS who is married and women who have not or have undergone early detection of cervical cancer, while the exclusion criteria are women who have undergone total hysterectomy.

Data analysis uses univariate where to explain the characteristics of each variable and bivariate analysis is carried out for two variables that are assessed to be related using the *Chi Square* test and multivariate is used to analyze the relationship of several independent variables to bound variables using simple logistic regression. The results of multivariate data analysis can be known by the *expose* value or *odd ratio (OR)*, where the higher the OR value, the greater the influence on the dependent variable analyzed.

3. RESULTS AND DISCUSSION

Result

The findings from the results of the study in table 1 show that the majority of women aged >35 years are 88 respondents (55.0%), the case group of women aged >35 years is 52 respondents (32.5%) and 43 respondents (26.9%) are in the control group aged 20-35 years. The results of the *chi square* test were known to be *p-value = 0.038* meaning that age is related to early detection with an *odd ratio value* of 1.444. The results of the education analysis found that most of the respondents had secondary education for the case group as many as 49 respondents (30.6%) and 46 respondents (28.7%) in the control group. The results of the analysis showed a *p-value = 0.867*, indicating that there was no relationship between academic background and early detection behavior. Based on the occupation of the majority of women as housewives, namely 66 respondents (41.3%) in the case group and the control group of 57 respondents (35.6%), *p-value = 0.092*, it was concluded that work was not related to early detection behavior.

Most of the multipara women had 2-4 children, as many as 66 respondents (41.3%) in the case group and 47 respondents (29.4%) in the control group. Based on statistical tests, a *p-value = 0.007* showed that parity was closely related to early detection behavior. Based on the results of the satatistic test, the majority of women had good knowledge, the case group was 73 respondents (45.6%) and the control was 57 respondents (35.6%). The analysis of knowledge relationship obtained a value of *p-value = 0.001*, showing that

knowledge is related to early detection behavior and the odd ratio value is 4.208 which means that respondents with good knowledge are 4.208 times more likely to do early detection.

Discussion

Women who have a positive attitude can support women can support women for decision-making, the more positive a person's attitude is, the easier it is to get good information. Attitude is the readiness or desire to act, and not the realization of a specific motive (Notoatmodjo 2014). However, attitude does not always lead to action. Therefore, A positive attitude will be achieved through a thought process supported by good (positive) knowledge (Azwar, 2020)

Table 1. Results of Bivariate Analysis

It	Variable	n	Case %	N	Control %	n	Total %	p-Value	OR (CI=95 %)
1	Age								
	<20 Years	1	0,6	1	0,6	2	1,3	0,038*	1.444
	20-35 Years	27	16,9	43	26,9	70	43,8		(0,087-23,853)
	>35 Years	52	32,5	66	22,5	88	55,0		
	Total	80	50,0	80	50,0	160	100,0		
2	Education								
	Basis	11	6,9	13	8,1	24	15,0	0,867	1,126
	Intermediate	49	30,6	66	28,7	95	59,4		(0,410-3.090)
	Tall	20	12,5	21	13,1	41	25,6		
	Total	80	50,0	80	50,0	160	100,0		
3	Work								
	Work	14	8,8	23	14,4	37	23,1	0,092	0,526
	Not Working	66	41,3	77	35,6	123	76,9		(0,525-1.116)
	Total	80	50,0	80	50,0	160	100,0		
4	Parity								
	Nuliparous	2	1,3	10	6,3	12	7,5	0,007*	0,392
	Primipara	11	6,9	22	13,8	33	20,6		(0,221-0,695)

	Multipara	66	41,3	4 7	29,4	11 3	70,6		
	Largemultifor	1	0,6	1	0,6	2	1,3		
	Total	80	50,0	8 0	50,0	16 0	100,0		
5	Knowledge								
	Good	73	45,6	5 7	35,6	13 0	81,3	0,001*	4.208
	Less	7	4.4	2 3	14,4	30	18,8		(1,687-10.498)
	Total	80	50,0	8 0	50,0	16 0	100,0		

Based on the chi square test, it is known that H_a received a p -value = 0.017, so significantly attitudes are related to early detection behaviors, as well as *odd ratio* (OR) values of 3.462 where women who have a positive attitude are 3.462 times more likely to have early detection of cervical cancer, it can be interpreted that attitudes cannot be seen directly, but previously they could only be predicted first from closed behaviors. According to the study (Teame et al. 2019), positive attitudes were significantly associated with the utilization of cervical cancer screening by 77.4% (AOR = 15.10 95% CI: 8.01–28.44). Supported by research by Kassie et al. (2020) said that women with a good attitude are 6.1 times more likely to undergo early detection of cervical cancer than women with a bad attitude (AOR = 6.09, 95% CI: 1.09, 34.36, CI = 97.4%, $p = 0.001$), so that knowledge and attitudes have a significant impact on the prevalence of cervical cancer screening test utilization rate among women in Ethiopia.

Another study found that women who had a positive attitude about cervical cancer were 3.38 times more likely to have pre-cervical cancer screening than women who had a negative attitude (AOR = 3.38, 95% CI: 1.92, 7.61) (Bante et al. 2019), another reason women who had a positive attitude about cervical cancer believed that pre-cervical cancer screening would prevent the development of cervical cancer (Ndejjo et al. 2016).

The majority of respondents aged >35 years as many as 88 (55.0%), the case group of 52 respondents (32.5%) aged >35 years have carried out early detection of cervical cancer because the older they are, the more mature they will be when thinking and making decisions and age affects a person's health behavior. Women aged 35-50 years who are still sexually active are at risk of developing cervical cancer because anatomical and histological changes (metaplasia) occur with age (Arum 2015).

The results of *the chi square* test were known to be accepted with p -value = 0.038, indicating a relationship between age and early detection behavior. This is in accordance with research (Aynalem et al. 2020) where women's age is one of the important factors in the use of cervical cancer screening, women at the age of >35 years are 3,126 times more likely to use cervical cancer screening compared to women aged <35 years [AOR: 3,126 (95% CI: 1,246-7,845)]. Another reason may be the increasing age of women who are likely to get information about cervical cancer and screening is increasing, making women take advantage of cervical cancer screening services. Another explanation is the increased risk, with increasing women's age causing women to visit health facilities more for obstetric and gynecological problems (Chang et al. 2017). This statement shows that the older a person is, the easier it will be to adapt to the surrounding environment, women are willing to participate in the early detection of cervical cancer because of exposure to information sources, the influence of husbands and friends will increase in age (Febriani 2015).

According to Notoatmodjo (2014) that education is one of the things that affects a person's actions for decision-making because education is needed to obtain information that supports health in order to increase life capacity with high education, it is easy for a person to receive information. The results of *the chi square* test found that H_0 was rejected with p -value = 0.867, indicating that education was not related to early detection behavior. A study (Gustiana et al. 2014) found that education was not associated with early detection of cervical cancer (p value = 1,000; 95% CI 0.07-9.96), which is in line with the research of Ngune et al. (2020) found that there was no influential association between education and early detection behavior where women with secondary education (OR = 7.41, CI [3.83-14.34]) were more likely to be unaware of cervical cancer than women with higher education.

The results of the analysis obtained p -value = 0.092 H_0 rejected, meaning that the work is not related to early detection behavior. Supported by research (Pradnyana et al. 2019), the results of the fisher test are known to mean that the work is not related to WUS behavior in IVA (p -value = 1,000). Another study conducted (Veridiana 2020) from bivariate results was applied with a p -value = 0.921 that work is not related to early detection behavior due to lack of awareness. Research (Ampofo et al. 2020) revealed that housewives are less likely not to have cervical cancer screening than working women are more interested in participating in cervical cancer screening, research in Ghana shows that work is not expected to affect women's intention and behavior to undergo cervical cancer screening

(Ebu and Ogah 2018).

The results of the statistical test were known that p -value = 0.07 was drawn from the conclusion that H_a was accepted that significant parity was related to early detection behavior. In line with the research of Ncube et al. (2015), it is known that multipara women are more likely to have early detection of cervical cancer than women who do not have children (OR: 2.39, 95% CI: 1.09-5.20, p -value 0.001). Febriani's (2015) research is known to have p -value = 0.000 with OR = 14,700, statistically there is a significant relationship of parity with cervical cancer screening, meaning that multipara women are 14,700 times at risk of developing cervical cancer. Supported by research by Pandey and Karmacharya (2017) that women who have a high parity number are likely to often interact with health workers, thus strengthening women to carry out early detection of cervical cancer. And nulipara women have less screening behavior than mutipara women, which means nulipara women are less likely to be screened than multipara women (Woldetsadik et al. 2020).

The results of the bivariate analysis produced a p -value = 0.001, which means that H_a is accepted that there is a significant relationship between knowledge and early detection behavior with an odd ratio value of 4.208 which means that respondents with good knowledge are 4.208 times more likely to undergo early detection of cervical cancer. Knowledge itself is the result of knowledge and occurs after a person's person interprets a particular object. Knowledge (cognitive) is a very important domain to shape behavior (Notoatmodjo 2012). This is in line with research (Abudukadeer et al. 2015; Orang'O et al. 2016; Getachew et al. 2019; Stuart et al. 2019; Endalew et al. 2020) showed that good knowledge related to early detection of cervical cancer because well-informed women have heard of cervical cancer, know the symptoms of cervical cancer, women believe that having multiple sexual partners, having sex at an early age, smoking and using oral contraceptives, contracting human papillomavirus (HPV), using condoms and swimming in public swimming pools are the main risk factors for cervical cancer because Most women obtain information from the mass media (Weng et al. 2020).

And well-informed women who have heard the benefits of cervical cancer screening are more likely to be screened [$p < 0.05$ OR = 4.11, 95% CI: (1.12-15.04)] despite having no signs and symptoms of cervical cancer (Woldetsadik et al. 2020). Good knowledge is also related to women's age in decision-making where older and more educated women have good knowledge about cervical cancer risk factors (Gatumo et al. 2018).

Table 2. Data variable

No	Variable	B	P-Value	OR	95% C.I.for EXP(B)	
					Lower	Upper
1	Attitude	-0,207	0,687	0.789	0,215	3,079
2	Age	-0,188	0,070	1.472	0,086	15,964
3	Work	0,588	0,155	1.800	0,773	4,192
4	Parity	1.951	0,047*	7.038	0,187	264,350
5	Knowledge	-0,715	0,215	0,518	0,147	1,820
	Constant	0,412	0,795	1,510		

The results of the multivariate analysis are shown in Table 2. shows that parity has a strong relationship with early detection of cervical cancer, which can be seen from the OR value of 7.038 (95% CI 0.187 -264.350) which means that women who have multiple parity 7.038 times have the opportunity to perform early detection behaviors. In line with the research (Silvera et al. 2020) based on multivariate analysis of multipara women who have given birth >2 children are more likely to participate in screening than the high parity group and compared to women who have never given birth (90.74% vs 78.98%, p= 0.000), supported by research (Febriani 2015) based on the results of multivariate analysis, it is known that p-value = 0.04 and OR = 8.672 means that multipara women have an 8,672 times chance of developing cervical cancer Compared to primipara women, women are advised to start running cervical cancer screening, because along with a woman who gives birth often visits health services so that she gets more education about the behavior of early detection of cervical cancer.

4. CONCLUSION

There was a significant relationship between attitude, age, parity, knowledge, support of health workers and access to information with early detection behavior. Meanwhile, the variables of education, work and husband support were not related to early detection behavior.

Parity provided 7.038 times the chance of women undergoing early detection of cervical cancer after being controlled with variables of age, occupation, knowledge, husband support, health worker support and access to information (CT 95% = 0.187-264,350). Therefore, it is advised to health workers to further maintain or improve the behavior of early detection of cervical cancer for the community after it is linked to various influencing factors. Designing theories and models of health education and promotion such as *the Health Belief Model and Theory of Planned Behavior* that examine interpersonal reasons for early detection behaviors, as well as increasing socialization by distributing leaflets on cervical

cancer screening targeting women of childbearing age who have health checkups, continuous and continuous education to cadres, society and communities is needed to raise awareness about the importance of Early detection and procedures for cervical cancer screening services, because although many women have a positive attitude towards cervical cancer, only some women do early detection.

BIBLIOGRAPHY

- Abudukadeer, A., Abida, S., Azam, S., Mutailipu, A. Z., Qun, L., Guilin, G., & Mijiti, S. (2015). Knowledge and attitude of Uyghur women in Xinjiang Province of China related to the prevention and early detection of cervical cancer. *World Journal of Surgical Oncology*, 13(1), 1–7. <https://doi.org/10.1186/s12957-015-0531-8>
- Acharya Pandey, R., & Karmacharya, E. (2017). Cervical cancer screening behavior and associated factors among women of Ugrachandi Nala, Kavre, Nepal. *European Journal of Medical Research*, 22(1), 1–9. <https://doi.org/10.1186/s40001-017-0274-9>
- Adedimeji, A., Ajeh, R., Pierz, A., Nkeng, R., Ndenkeh, J. J., Fuhngwa, N., Nsame, D., Nji, M., Dzudie, A., Anastos, K. M., & Castle, P. E. (2021). Challenges and opportunities associated with cervical cancer screening programs in a low income, high HIV prevalence context. *BMC Women's Health*, 21(1), 1–14. <https://doi.org/10.1186/s12905-021-01211-w>
- Ampofo, A. G., Adumatta, A. D., Owusu, E., & Awuviry-Newton, K. (2020). A cross-sectional study of barriers to cervical cancer screening uptake in Ghana: An application of the Health Belief Model. *PLOS ONE*, 15(4), 1–16. <https://doi.org/10.1371/journal.pone.0231459>
- Andrijono. (2017). *Guidelines for the management of cervical cancer*. Cervical Cancer Control Committee.
- Anwar, S. L., Tampubolon, G., Van Hemelrijck, M., Hutajulu, S. H., Watkins, J., & Wulaningsih, W. (2018). Determinants of cancer screening awareness and participation among Indonesian women. *BMC Cancer*, 18(1), 1–11. <https://doi.org/10.1186/s12885-018-4125-z>
- Aprianti, A., Fauza, M., & Azrimaidalisa, A. (2018). Factors related to the early detection of cervical cancer IVA method at the Padang City Health Center. *Indonesian Journal of Health Promotion*, 14(1), 68–80. <https://doi.org/10.14710/jpki.14.1.68-80>
- Arum, S. P. (2015). *Cervical cancer is a guide for women to recognize, prevent and treat*. Yogyakarta: Notebook.
- Ashtarian, H., Mirzabeigi, E., Mahmoodi, E., & Khezeli, M. (2017). Knowledge about cervical cancer and Pap smear and the factors influencing the Pap test screening among women. *International Journal of Community Based Nursing and Midwifery*, 5(2), 188–195.

- Azwar, S. (2013). *Human attitudes and their measurements*. Yogyakarta: Offset Learning Center.
- Bante, S. A., Getie, S. A., Getu, A. A., Mulatu, K., & Fenta, S. L. (2019). Uptake of pre-cervical cancer screening and associated factors among reproductive age women in Debre Markos town, Northwest Ethiopia, 2017. *BMC Public Health*, 19(1), 1–9. <https://doi.org/10.1186/s12889-019-7398-5>
- Chang, H. K., Myong, J. P., Byun, S. W., Lee, Y. S., Lee, H. N., Lee, K. H., Park, D. C., Kim, C. J., Hur, S. Y., Park, J. S., & Park, T. C. (2017). Factors associated with participation in cervical cancer screening among young Koreans: A nationwide cross-sectional study. *BMJ Open*, 7(4). <https://doi.org/10.1136/bmjopen-2016-013868>
- Sleman Regency Health Office. (2020). *Health profile of Sleman Regency in 2020*.
- Ebu, N. I., & Ogah, J. K. (2018). Predictors of cervical cancer screening intention of HIV-positive women in the Central Region of Ghana. *BMC Women's Health*, 18(1), 3–9. <https://doi.org/10.1186/s12905-018-0534-z>
- Endalew, D. A., Moti, D., Mohammed, N., Redi, S., & Alemu, B. W. (2020). Knowledge and practice of cervical cancer screening and associated factors among reproductive age group women in districts of Gurage Zone, Southern Ethiopia. A cross-sectional study. *PLOS ONE*, 15(9), 1–13. <https://doi.org/10.1371/journal.pone.0238869>