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Factors That Influence Early Detection of Cervical Cancer: VIA Examination OMPHE (Obedient Male Partner in Health-Education and Engagement) Model

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Abstract: In Indonesia, cervical cancer is the second most common cancer in women after breast cancer. The low level of VIA examinations by women is due to several internal and external factors. This study determines the factors that influence the early detection of cervical cancer. The update in this research is with the high cost of Pap smear examination, a model that is more effective in detecting cervical cancer is created. The type of research used is analytic observational with cross-sectional design. The research subjects were husband and wife couples in the working area of 7 selected sub-districts in Padang City who met the inclusion criteria and were selected as research subjects. The sampling technique is multi-stage random sampling, which is sampling starting from random districts and villages. Then, at the Kelurahan level, the sample is taken by means of simple random sampling. Univariate analysis was used to obtain an overview of the frequency distribution and the percentage of each variable to be studied. Bivariate analysis was used to determine the relationship between each independent variable and the dependent variable. The results showed that there was a statistically significant relationship (p-value < 0.05) between the husband's support, knowledge, and perception of the benefits of WUS's VIA examination. However, the respondents' age, education level, wife's occupation, husband's occupation, age of marriage, perceived vulnerability, perceived seriousness, and perceived barriers did not have a significant relationship with the VIA examination by WUS.

Keywords: early detection, cervical cancer, OMPHE-VIA.

影响宫颈癌早期发现的因素：通过检查欧菲（健康教育和参与中的顺从男性伴侣）模型

摘要：在印度尼西亚，宫颈癌是仅次于乳腺癌的女性第二大常见癌症。女性的通过检查水平低是由于多种内部和外部因素造成的。这项研究确定了影响宫颈癌早期检测的因素。这项研究的更新是针对巴氏涂片检查的高成本，创建了一种更有效检测宫颈癌的模型。使用的研究类型是横断面设计的分析观察。研究对象为巴东市选定的 7 个街道工作区内符合纳入标

准并被选为研究对象的夫妻。抽样技术为多阶段随机抽样，即从随机的区和村开始抽样。然后，在克鲁拉汉级别，通过简单随机抽样的方式进行抽样。单变量分析用于获得频率分布的概况和每个要研究的变量的百分比。双变量分析用于确定每个自变量和因变量之间的关系。结果表明，丈夫的支持、知识和对武士威盛检查益处的感知之间存在统计学上显着的关系（p 值 < 0.05）。然而，受访者的年龄、受教育程度、妻子的职业、丈夫的职业、结婚年龄、感知的脆弱性、感知的严肃性和感知的障碍与武士的通过考试没有显着关系。

关键词：早期检测，宫颈癌，欧菲-威盛。

1. Introduction

Cancer is the second leading cause of death in the world. One of the most common cancer causes of death is cervical cancer. According to the Union for International Cancer Control (UICC), cervical cancer currently occupies the 4th position in the world from all types of cancer and is the leading cause of cancer death in women in 42 countries. Based on data from the Global Cancer Observatory (GLOBOCAN 2020), in 2020, it is estimated that around 604,000 women are diagnosed with cervical cancer and 342,000 will die from this disease. This condition is expected to continue to increase, particularly in underprivileged and vulnerable communities. It was found that 90% of cases occurred in low- and middle-income countries. This is largely due to poor access to early detection and pre-cancer treatment [1, 2].

In Indonesia, based on GLOBOCAN data, the number of new cases of cervical cancer in Indonesia in 2022 was 36,633 (9.2%). Cervical cancer occupies the second position in Indonesia after breast cancer and occupies the third position in deaths caused by cancer [1]. In the last three decades, cervical cancer cases have increased at younger ages or under 30 years. Based on data from the Basic Health Research (Riskesdas), the prevalence of cancer in Indonesia is 1.4 per 1000 population [3, 4].

The Movement for the Prevention and Early Detection of Cancer in Women has been implemented for 5 years throughout Indonesia with a series of activities including promotive, preventive, early detection, and follow-up. Through this activity, it is hoped that public awareness and concern, especially in controlling cancer risk factors and early detection of cancer, are expected to reduce morbidity and mortality due to cancer. This activity is part of realizing a healthy and quality living community; this is in accordance with the achievement of the fifth Nawacita, namely improving the quality of human life [5].

The VIA examination has advantages compared with Pap-smear, such as the simplicity of the technique, low cost, and it can be performed at the Puskesmas by general practitioners and midwives and immediately provide results that can be used for further screening measures. VIA screening has shown clinical sensitivity ranging from 41%–92%. Compared with Pap-smear examination, VIA improves detection by up to 30%. Studies in South Africa showed that VIA detected more than 65% of precancerous lesions. In Zimbabwe, VIA screening by midwives had a sensitivity of 77% and specificity of 64% compared to Pap-smears of 43% and 91%, respectively. In India, VIA screening is performed by trained nurses with a sensitivity of 68% [4]. WHO [6] stated that the sensitivity of VIA on average was 77% (range between 56% and 94%) and specificity averaged 86% (between 74% and 94%). VIA screening is available at primary health care/FKTP so that it can be accessed by all levels of society, while Pap-smears are not necessarily accessible to the whole community due to the high cost of examinations [6].

The purpose of the author to choose the object of this research is the low level of VIA examinations by women is due to several internal and external factors. Internal factors include (1) lack of knowledge about VIA examination, (2) ignorance of the existence of free VIA examination, (3) lack of awareness to prevent disease, (4) taboo/shame, and (5) husband's prohibition. Meanwhile, external factors include (1) the lack of socialization regarding the implementation of the free VIA examination, (2) the limited time for the implementation of the free VIA examination, and (3) obstacles related to distance and transportation access to obtain free IVA examination services. Without a change in the approach, the benefits of early detection services are less than optimal, even though the prevalence of cervical cancer is quite high [7].

This article determines the factors that influence the early detection of cervical cancer.

2. Materials and Methods

This research uses a mix-method study approach with a sequential exploratory approach. This research was conducted using quantitative methods. This research was conducted in 7 selected sub-districts with low VIA examination coverage in Padang City. This research was conducted from October to November

2019. The selected sub-districts are Bungus Teluk Kabung District, South Padang District, West Padang District, Pauh District, Kuranji District, Koto Tangah District, and Nanggalo District.

The research design used in the quantitative study phase was observational analysis with a cross-sectional design; the independent variables and the dependent variable on the research object were measured at the same time.

The research subjects in this study were husband and wife couples in the working area of 7 selected sub-districts in Padang City who met the inclusion criteria and were selected as research subjects are the couples of childbearing age. The size of the research subjects in this study was determined using the two-proportion hypothesis test formula. Based on the results of measurements using this formula, the minimum number of research subjects required was 306. To avoid drop-out research subjects, a reserve research subject of 10% is taken from the minimum research subjects, so that the size of the research subjects in this study is 337.

In this study used the sampling technique is multi-stage random sampling, namely the sampling starts from random sub-districts and sub-districts. Then, at the Kelurahan level, the sample is taken by means of simple random sampling.

Univariate analysis was used to obtain an overview of the frequency distribution and the percentage of each dependent and independent variable to be studied. Bivariate analysis is a follow-up analysis of the univariate, which is used to determine the relationship between each independent variable and the dependent variable. The statistical test used in this study was the Chi-square test with 95% CI. If the p-value < 0.05, H0 is rejected, which means that the research subject data supports a significant (significant) relationship, and if the p-value > 0.05, H0 is not rejected, which means that the research subject data do not support a relationship.

3. Results

Based on Table 1, it can be seen that out of the 337 respondents, most wives are young or 45 years old (88.4%), and most respondents have a low level of education (73.6%). Additionally, most respondents do not work or are housewives/IRT (74.5%), and in general, the respondents' husbands are in working status (99.1%); the respondents are still married (100%). Judging from the age of marriage, most respondents had a marriage age of < 21 years (86.6%), and 163 (48.4%) respondents came from the Koto Tangah District.

Table 1 Wife characteristics (Developed by the authors)

Variable	***f***	**%**
Age		
Young	298	88.4
Old (> 45 years)	39	11.6
Education level		
Low (≤ SMA)	248	73.6
High (> SMA)	89	26.4
Wife's Job		
Not Working	251	74.5
Working	86	25.5
Husband's Job		
Not Working	3	0.9
Working	334	99.1
Marrying Age		
< 21 years	292	86.6
21 years	45	13.4
Actions for VIA		
Never	245	72.7
Examination	92	27.3

Table 2 shows that there is a significant relationship between the husband's support (p value = 0.003), knowledge (p value = 0.000), and perceived benefits (p value = 0.000) with VIA examination by women of childbearing age regarding early detection of cervical cancer at the Public health center. Additionally, it was found that there was no significant relationship between the respondent's age, education level, respondent's occupation (wife), husband's occupation, the age of marriage, the perception of vulnerability, perception of seriousness, and perception of barriers to the VIA examination by women of childbearing age regarding early detection of cervical cancer at the public health center.

Table 2 Relationship of factors affecting VIA examination variables (Developed by the authors)

Variable	**VIA examination**				**Total**		**p-value**
	Never		**Ever**				
	f	***%***	***f***	***%***	***f***	***%***	
Husband's Job							
Not Working	3	100.0	0	0.0	3	100.0	0.565
Working	242	72.5	92	27.5	334	100.0	
Marriage Age							
< 21 years	212	72.6	80	27.4	292	100.0	1,000
21 years	33	73.3	12	26.7	45	100.0	
Husband Support							
Poor	115	81.6	26	18.4	141	100.0	0.003
Good	130	66.3	66	33.7	196	100.0	
Knowledge							
Poor	139	90.3	15	9.7	154	100.0	0.000

Continuation of Table 2

Good	106	57.9	77	42.1	183	100.0	
Vulnerability Perception							
Poor	124	73.8	44	26.2	168	100.0	0.739
Good	121	71.6	48	28.4	169	100.0	
Serious Perception							
Poor	123	75.5	40	24.5	163	100.0	0.328
Good	122	70.1	52	29.9	174	100.0	
Benefits Perception							
Poor	160	81.6	36	18.4	196	100.0	0.000
Good	85	60.3	56	39.7	141	100.0	
Perception Barriers							
Poor	116	74.8	39	25.2	155	100.0	0.490
Good	129	70.9	53	29.1	182	100.0	

4. Discussion

In this study, among 337 respondents, 298 people were aged 45. Out of the 92 people who had a VIA examination (38.5%) were old (> 45 years), and (25.8%) were young (≤ 45 years). The continuity correction showed that there was no significant relationship between age and the VIA examination in the early detection of cervical cancer (p = 0.141).

The results of respondent characteristics show that respondents aged 44–55 (41%) are the highest age group. According to Notoatmodjo, the higher a person's age, the more knowledge or knowledge one has because one's knowledge is influenced by one's own experience and the experience of others, including knowledge about health [8].

Additionally, 248 out of the 337 respondents had a history of low education. Of the 92 people who have had a VIA examination, there are (30.3%) with a higher education background and (26.2%) with a low educational background. However, the results of the continuity correction found that there was no significant relationship between the level of education and the VIA examination in the early detection of cervical cancer (p = 0.541).

The results of this study are in accordance with the research conducted by Mursita and Bambang [9] that there is no relationship between education level and VIA examination visits (p = 0.709). This is possible because the level of education is not followed by sufficient knowledge about cervical cancer and early detection of VIA [9]. However, Pangesti stated that the higher the level of education, the easier it is for a person to receive information so that more knowledge is possessed. It is also hoped that they will be able to communicate well in providing understanding to their husbands [10].

In this study, among the 337 respondents, 251 people did not work. Out of the 92 people who have had a VIA examination, 34.9% work, and (24.7%) do not test continuity correction, which showed no significant relationship between the wife's occupation and the VIA examination in the early detection of cervical cancer (p = 0.091).

According to Notoatmodjo, women who work as homemakers have much free time compared to providing many opportunities to be able to take the VIA examination. Meanwhile, a woman who works spends more time at work and does not take the time to do a VIA examination [8].

Among the 337 respondents, there were 334 respondents with a husband who worked and 3 people who did not work (retired). A total of 92 people who have had a VIA examination (27.5%) have a working husband and (0.0%) a husband who does not work. Based on Fisher's exact test, it was found that there was no significant relationship between the husband's occupation and the VIA examination in the early detection of cervical cancer (p = 0.565).

According to Cohen and Syme [11], social support is useful for individuals obtained from other people who can be trusted, so that a person knows that there are other people who pay attention, appreciate and love him. In relation to the role as a support provider, we see that one of the roles of community empowerment is to provide and develop support for citizens who want to be involved in the structure and activities of the community [11].

In this study, among 337 respondents, there were 292 people whose marriages were < 21 years old and 45 people who were married aged 21 years. As many as 92 people who have had a VIA examination (27.4%) are married aged < 21 years and (26.7%) are married aged 21 years. Based on the results of the continuity correction, it was found that there was no significant relationship between the age of marriage and the VIA examination in the early detection of cervical cancer (p = 1,000).

This is not in line with the results of Ayu Wulandari's research, where respondents who are married have less behavior as many as 72.1% and all unmarried women of childbearing age have low VIA behavior (100%) [12]. The relationship between marital status and VIA behavior is based on the sexual activity of women of childbearing age, where married women of childbearing age are considered to have often had sexual intercourse so that the risk for cervical cancer tends to be greater, and it is hoped that married women of childbearing age check their health, one of them undergoes cervical cancer screening using the VIA examination method [13].

In this study, among 337 respondents, 196 people received good husband support, and 141 people received poor husband support. A total of 92 people

who had a VIA examination (33.7%) received good husband support and (18.4%) received poor husband support. Based on the results of the continuity correction, it was found that there was a significant relationship between the husband's support and the VIA examination in the early detection of cervical cancer (p = 0.003). The results of the analysis also obtained the OR value for husband's support where the OR value = 2.2, which means that wives who have good husband support tend to be 2.2 times more likely to have a VIA examination compared to wives who have poor husband support.

This research is also in line with the research conducted by Umami, which stated that there is a relationship between husband's support and the behavior of VIA examination by women of childbearing age (p = 0.016), where the value of OR = 4.190, which means that women of childbearing age is Those who have poor husband's support have 4,190 times the chance of not doing VIA examinations compared with those who have good husband's support [14].

In this study, among 337 respondents, there were 183 people with good knowledge and 154 people with poor knowledge. A total of 92 people who have had a VIA examination (42.1%) have good knowledge and (9.7%) have poor knowledge. Based on the results of the continuity correction, it was found that there was a significant relationship between the wife's knowledge and the VIA examination in the early detection of cervical cancer (p = 0.000). Additionally, it can also be seen that the OR value for knowledge is where the OR value = 6.7, which means that wives who have good knowledge tend to have had a VIA examination 6.7 times compared to wives with poor knowledge.

The results of this study are in accordance with Lawrence Green's theory that someone who has high knowledge tends to have good behavior. According to Junainah [13], increasing knowledge will not always lead to behavioral changes, but will show a positive relationship so that if knowledge is high, the behavior tends to be good. This is in accordance with the health belief model, where someone who knows the benefits of a preventive action will be more likely to take preventive action in the form of early detection compared to those who do not know [13].

In this study, among 337 respondents, 169 people had a good perception of susceptibility for early detection of cervical cancer, and 168 people had a poor perception of vulnerability. As many as 92 people who have had a VIA examination (28.4%) have a good perception of vulnerability and (26.2%) have a poor perception of vulnerability. Based on the results of the continuity correction, it was found that there was no significant relationship between the perception of vulnerability and the VIA examination in the early detection of cervical cancer (p = 0.739).

This is inversely proportional to the results of Inten Ayu's [12] research, which found that respondents who had not participated in the VIA examination were found in the group of respondents with a low perception of vulnerability (97.1%) compared to the group with a high perception of vulnerability (86.5%) [12].

In this study, among 337 respondents, 174 people perceived the seriousness of cervical cancer early detection was good, and 163 people perceived seriousness was not good. A total of 92 people who have had a VIA examination (29.9%) have a good perception of seriousness and (24.5%) have a poor perception of seriousness. Based on the results of the continuity correction, it was found that there was no significant relationship between perceived seriousness and the VIA examination in the early detection of cervical cancer (p = 0.328).

The results of this study agree with Inten Ayu's research [12]. It was found that respondents who had not participated in the VIA examination were found in the group with a low perception of seriousness (94.7%) than the group with a high perception of seriousness (87.8%).

In this study, among 337 respondents, 196 people perceived that the benefits of early detection of cervical cancer were not good, and 141 people perceived the benefits as good. As many as 92 people who have had a VIA examination (39.7%) have a good perception of the benefits and (18.4%) who have a poor perception of benefits. Based on the results of the continuity correction, it was found that there was a significant relationship between perceived benefits and the VIA examination in the early detection of cervical cancer (p = 0.000). The results of the analysis also obtained the OR value on perceived benefits where the OR value = 2.9, which means that wives who have a good perception of the benefits of early detection of cervical cancer tend to be 2.9 times more likely to have a VIA examination compared to wives who have a perception that the benefits of early detection of cervical cancer are not good.

The low perception of benefits occurs because of the low knowledge of women of childbearing age regarding the benefits of early detection of cervical cancer. This causes feelings of uncertainty that VIA examination can reduce the risk of cervical cancer.

In this study, among 337 respondents, 182 people perceived that barriers to early detection of cervical cancer were good, and 155 people perceived barriers to be less good. As many as 92 people who have had a VIA examination (29.1%) have a good perception of barriers and (25.2%) have poor perceptions of barriers. Based on the results of the continuity correction, it was found that there was no significant relationship between perceived barriers and the VIA examination in the early detection of cervical cancer (p = 0.490).

Women of childbearing age are of a good opinion of VIA examination as early detection of cervical cancer

is not guaranteed and agrees with their behavior for testing.

5. Conclusion

1. There is a significant relationship between the husband's support, knowledge, and perceptions of the benefits of the VIA examination by women of childbearing age.
2. This study is also in line with the research conducted by Umami, which stated that there was a relationship between the husband's support and IVA examination behavior in women of childbearing age.
3. This research is an input and material for consideration by the Ministry of Health regarding policies to make the OMPHE-IVA model a recommended approach in the integrated management of early detection of cervical cancer in Indonesia.
4. There was an increase in the average value of knowledge, husband's support, and wifes' HBM construct before and after being given education using OMPHE-IVA modules.
5. Creating educational media that is more specific according to the respondents, especially based on the level of education that has been previously studied.

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