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Determinants of Childbearing Age Couples Perform Early Detection of Cervical Cancer Through IVA Method (Visual Inspection of Acetic Acid) in Sigi Regency

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ABSTRACT

Introduction: Cervical cancer is a malignant disease that is quite often heard among the public. Cervical cancer or commonly referred to as cervical cancer often occurs in women. Cervical cancer can occur due to a poor lifestyle and environment, such as having free sex, changing partners and a lack of personal hygiene.
Objective: This study aims to determine the determinants of early detection of cervical cancer in couples of childbearing age (PUS) in Sigi Regency.
Method: This study used a cross sectional research design.
Result: There was a significant relationship between knowledge, attitude and behavior of early detection of cervical cancer in Sigi Regency. There was no significant relationship between education, employment and support of health workers and early detection behavior of cervical cancer in Sigi Regency.
Conclusion: This study concluded that there is a significant relationship between knowledge, attitudes and behaviors for early detection of cervical cancer in Sigi Regency. And there was no significant relationship between education, employment and support of health workers and early detection behavior of cervical cancer in Sigi Regency

Keywords: Determinants; Early Detection; Cervical Cancer

INTRODUCTION

Cervical cancer is a malignant disease that is quite often heard among the public. Cervical cancer or commonly referred to as cervical cancer often occurs in women. Cervical cancer can occur due to a poor lifestyle and environment, such as having free sex, changing partners and lack of personal hygiene (1).

According to data from the World Health Organization (WHO), in 2015 there were 14.1 million cases of cancer worldwide, with a death rate from cancer of 8.2 million and as many as 36.2 million people living with cancer. 87% of cases occur in developing countries with the highest incidence of cervical cancer occurring in Africa as many as 45/100,000 cases in one year, followed by Southeast Asia as many as 30-44/100,000 cases of women experiencing cervical cancer every year (Damanik, 2021).

Based on data GLOBOCAN, International Agency for Research on Cancer (IARC), it is known that in 2015 there were 14,067,894 new cases of cancer and 8,201,575 deaths due to cancer worldwide. In Asia, 312,990 cases of cervical cancer are reported (59%) and 50% have died. Every year, no less than 15,000 cases of cervical cancer occur in Indonesia. That makes cervical cancer called the number 1 killer in Indonesia, this is because every day in Indonesia out of 40 women diagnosed with cervical cancer, 20 of them die from cervical cancer, the incidence rate of cervical cancer in Indonesia is based on data from the Indonesian Ministry of Health in 2015 (2).

Cervical cancer cases in Indonesia are ranked second in the highest incidence rate after breast cancer suffered by women with an incidence rate of 23.4/100,000 population with an average mortality rate of 13.9/100,000 population. According to data from the Ministry of Health of the Republic of Indonesia, it is estimated that the number of women with new cervical cancer is around 90-100 cases per 100,000 population and every year there is an increase to 40 thousand cases of cervical cancer. According to (3) In 2021 cervical cancer cases in Central Sulawesi reached 183 cases, this data was obtained from the medical records of Undata Hospital and shows that cervical cancer in 2020-2021 is still the third largest disease in the gynecological oncology polyclinic with a total of 634 cases with a prevalence of 57.6%. This shows that cervical cancer is a women's health problem that needs to be considered by the Central Sulawesi provincial health office (3).

Human Papilloma Virus (HPV) is one of the biggest causes of the increase in cervical cancer cases with a presentation of 90%. The other 10% of causes are smoking habits, history of sexual activity at a young age/multipartner, long-term use of pill contraceptives, giving birth more than five times, impaired immunity, and not doing regular IVA/papsmear screening (4).

In the early stages, the cancer grows locally and causes no complaints or symptoms. This condition often causes a person not to realize that he or she already has cancer. Moreover, patients who come to health care facilities are in an advanced stage condition, making it difficult to handle. Therefore, effective efforts to prevent increased incidence, morbidity, and premature death due to cancer, through preventive efforts with screening, early detection, early detection of cancer cases and immunization (5).

The delay in diagnosing cervical cancer is one of the causes of the increase in cervical cancer cases. Lack of knowledge, attitude, employment status, exposure to information and support of health workers about cervical cancer is one of the causes that affect people to carry out early detection of cervical cancer. It is hoped that by detecting early if there is an abnormality in the cervix, it will receive early treatment and treatment. So that it can increase women's life expectancy, which is 85%-95% (6).

METHOD

This study is an observational analysis with a cross-sectional approach aiming to analyze the determinants of PUS (Couples of Childbearing Age) in early detection of cervical cancer through the IVA method. This research was carried out in the working area of the Health Center in Biromaru from April to June 2024. The population in this study is all couples of childbearing ages who are in the working area of the Biromaru Health Center. Sampling in this study uses Accidental sampling, namely PUS (Couples of Childbearing Age) who conduct examinations at the Biromaru Health Center during the research period. The variables in this study were knowledge, attitude, employment status, support of health workers and early detection of cervical cancer.

The data that has been collected in this study will be processed and analyzed using SPPS 25 to determine the results of descriptive and bivariate analysis using a chi-square test with a CI of 95% and a P-value of <0.05 for each variable.

This research began by preparing a research proposal in February. Then uploaded to the SIPENAEMAS account, if this research is approved by LPPM, it will be continued by collecting enumerators, as many as 5 enumerators who will later help in collecting data and conducting IVA examinations during the research process. The enumerator training was carried out in March, followed by the doubling of questionnaires. Data collection/research process is carried out throughout March-June after which data analysis, preparation of final reports and journal publication are carried out.

RESULTS
Relationship between Determinants and Early Detection Behavior of Cervical Cancer

Table 1. The relationship between the last education and early detection behavior of cervical cancer

It	Last Education	Cervical cancer early detection behavior				Total	(%)	P-Value
		Less	(%)	Good	(%)			
1	Low	23	46	14	28	37	74	0,139
2	Tall	5	10	8	16	13	26	
Total		28	56	22	44	50	100	

Based on the results of the 2x2 tabulation in the table above, it can be seen that women of childbearing age with a low education level category who have less early detection behavior of cervical cancer are 23 people with a percentage of 46%. Women of childbearing age with a low level of education who have good cervical cancer early detection behavior are 14 people with a percentage of 28%. Meanwhile, women of childbearing age with higher education who have early detection behavior of cervical cancer are less than 5 people with a presentation of 10% and women of childbearing age with higher education who have good early detection behavior of cervical cancer as many as 8 people with a presentation of 16%. The P-value in the table above is 0.139 so it can be concluded that there is no relationship between women's education of childbearing age and early detection behavior of cervical cancer.

Table 2. Relationship between work and early detection behaviour of cervical cancer

It	Work	Cervical cancer early detection behavior				Total	(%)	P-Value
		Less	(%)	Good	(%)			
1	Not working	21	42	12	24	33	66	0,130
2	Work	7	14	10	20	17	34	
Total		28	56	22	44	50	100	

Based on the results of the 2x2 tabulation in the table above, it can be seen that women of childbearing age with the non-working category who have less early detection behavior of cervical cancer are 21 people with a percentage of 42%. Women of childbearing age with the non-working category who had good cervical cancer early detection behavior were 12 people with a percentage of 24%. Meanwhile, women of childbearing age with the work category who have early detection behavior of cervical cancer are less than 7 people with a presentation of 14% and women of childbearing age with the work category who have good cervical cancer early detection behavior as many as 10 people with a presentation of 20%. The P-value in the table above is 0.130 so it can be concluded that there is no relationship between the work of women of childbearing age and the behavior of early detection of cervical cancer

Table 3. Relationship between knowledge and early detection behavior of cervical cancer

It	Level of knowledge	Cervical cancer early detection behavior				Total	(%)	P-Value
		Less	(%)	Good	(%)			
1	Less	18	36	5	10	23	46	0,003
2	Good	10	20	17	34	27	54	
Total		28	56	22	44	50	100	

Based on the results of the 2x2 tabulation in the table above, it can be seen that women of childbearing age with a lack of knowledge who have less early detection behavior of cervical cancer are 18 people with a percentage of 36%. Women of childbearing age with a lack of knowledge who have good cervical cancer early detection behavior are 5 people with a percentage of 10%. Meanwhile, women of childbearing age with a good knowledge category who have less early detection behavior of cervical cancer are 10 people with a presentation of 20% and women of childbearing age with a good knowledge category who have good cervical cancer early detection behavior as many as 17 people with a presentation of 34%. The P-value in the table above is 0.003 so it can be concluded that there is a relationship between the level of knowledge of women of childbearing age and early detection behavior of cervical cancer.

Table 4. Relationship between attitudes and behaviors for early detection of cervical cancer

It	Attitude	Cervical cancer early detection behavior				Total	(%)	P-Value
		Less	(%)	Good	(%)			
1	Less	18	36	7	14	25	50	0,023
2	Good	10	20	15	30	25	50	
Total		28	56	22	44	50	100	

Based on the results of the 2x2 tabulation in the table above, it can be seen that women of childbearing age with a lack of attitude category who have less early detection behavior of cervical cancer are as many as 18 people with a percentage of 36%. Women of childbearing age with a poor attitude category who have good cervical cancer early detection behavior are 7 people with a percentage of 14%. Meanwhile, women of childbearing age with a good attitude category who have less than 10 cervical cancer early detection behaviors with a presentation of 20% and women of childbearing age with a good attitude category who have good cervical cancer early detection behavior as many as 15 people with a presentation of 30%. The P-value in the table above is 0.023 so it can be concluded that there is a relationship between the attitude of women of childbearing age and the behavior of early detection of cervical cancer

Table 5. Relationship between healthcare worker support and early detection behaviour of cervical cancer

It	Healthcare Worker Support	Cervical cancer early detection behavior				Total	(%)	P-Value
		Less	(%)	Good	(%)			0,374
1	Not	15	30	9	18	24	48	
2	Yes	13	26	13	26	26	52	
Total		28	56	22	44	50	100	

Based on the results of the 2x2 tabulation in the table above, it can be seen that women of childbearing age who do not receive the support of health workers who have early detection behavior of cervical cancer are less than 15 people with a percentage of 30%. Women of childbearing age who did not receive the support of health workers who had good cervical cancer early detection behavior were 9 people with a percentage of 18%. Meanwhile, women of childbearing age who received support from health workers who had early detection behavior of cervical cancer were less than 13 people with a presentation of 26% and women of childbearing age who did not receive support from health workers who had good early detection behavior of cervical cancer as many as 13 people with a presentation of 26%. The P-value in the table above is 0.374 so it can be concluded that there is no relationship between the support of health workers and the behavior of early detection of cervical cancer.

DISCUSSION
The relationship between the last education and early detection behavior of cervical cancer
Based on the results of the above test, it was obtained that there was no relationship between education and early detection behavior of cervical cancer with a P-value of 0.139. Different results were obtained from research conducted by (Arimurti, Kusumawati, and Haryanto 2020) There was a meaningful relationship between education and behavior for early detection of cervical cancer with a P-value of 0.000. Where women with secondary education have a 5.3 times chance of early detection of cervical cancer when compared to women with low education (5).

In theory, a person's level of education will affect their level of knowledge. If the level of education and knowledge is good, then the behavior will also be good. Education will affect a person's knowledge, and knowledge can not only be obtained from formal education but there is something that can be obtained informally, one of which is the education that respondents get from activities that are often carried out routinely such as posyandu activities, posbindu, recitations, PKK meetings which can indirectly increase the knowledge of women of childbearing age (6).

The level of education also affects a person's knowledge and health knowledge will affect behavior as a medium-term outcome (Intermediete Impact) from health education, then health behavior will affect the increase in public health indicators as an output of health education. The higher a person's education level, it can make it easier for the person to understand something so that his knowledge is higher and this data affects disease prevention behavior (7).

Relationship between work and early detection behaviour of cervical cancer
Based on the results of the above test, it was obtained that there was no relationship between work and early detection behavior of cervical cancer with a P-value of 0.130. Supported by research conducted (Dewi et al. 2024) said that there was no significant relationship between work and behavior of the IVa test with a P-value of 0.325 (8). Different results were obtained by research conducted by (Sulistyoningtyas and Khusnul Dwihestie 2022) There are other things that can affect the behavior of women of childbearing age, including income level, education level, and employment status (9).

Work is an activity to obtain material or monetary rewards. A person who works will get more opportunities to exchange opinions, information, and also experience. Working women are exposed to more frequent information about IVA testing, but they have less free time. Work can change a person's mindset. Work can be busy so you don't

have time to do the IVA test. Women who do not have a job have more free time but less information about IVA tests (10).

An occupation can reflect income level, education, socioeconomic status, risk of injury or health problems in a population. Respondents who work will be more likely to get information about early detection because a lot of information is received, but tend to spend more time at their place of work so they are most likely not to have time to do early detection. For respondents who are not working, they have more free time to carry out early detection but the flow of information about early detection tends to be less (10).

Relationship between knowledge level and early detection behavior of cervical cancer

Based on the results of the above test, it was obtained that there was a relationship between the level of knowledge and early detection behavior of cervical cancer with a P-value of 0.003. Supported by the research conducted (Rozi and Syafrin 2022), it was obtained that based on the level of knowledge, it can be seen that respondents with a good level of knowledge and conducted test checks Pap Smear A total of 17 people (53.1%), and respondents with a good level of knowledge and did not conduct a test examination Pap Smear 0 (0.0%) (11). Respondents with sufficient level of knowledge and conduct checks Pap Smear as many as 6 people (18.8%), and respondents with sufficient knowledge and did not conduct a test examination Pap Smear as many as 0 people (0.0%), and respondents with a low level of knowledge and conducted a test examination pap smear as many as 9 people (28.1%), and respondents with a low level of knowledge and did not conduct a test examination Pap Smear as much as 0 (0.0%) with a P value of 0.001.

The high level of knowledge about cervical cancer owned by a woman of childbearing age will affect a higher seriousness in conducting early cancer screening on herself (Jumaida et al. 2020) Conversely, the low level of knowledge related to cervical cancer can cause a tendency to have a low level of awareness in conducting early detection efforts (12). Thus, health promotion related to IVA and Pap smear is a persuasive forum that is able to influence participants to have good awareness and tend to choose cervical cancer screening measures.

Efforts to increase the knowledge of women of childbearing age regarding early detection of cervical cancer can be done through health counseling programs, which are basically the responsibility of health workers. Providing interventions in the form of education or health promotion can increase the level of knowledge of women of childbearing age about cervical cancer and early screening for the prevention of the disease. To get a better effect in increasing the awareness of women of childbearing age in checking themselves for the cervical cancer screening program, it can be through the empowerment of certain groups who can later play the role of cadres. These cadres can reach out to the community more deeply because they come from the community itself so that they get to know each target of the cervical cancer counseling and early detection program more closely. This can be an input for the next health promotion activities to focus more on the empowerment of the community group itself (13).

Relationship between attitudes and behaviors for early detection of cervical cancer

Based on the results of the above test, it was obtained that there was a relationship between attitude and behavior for early detection of cervical cancer with a P-value of 0.003. Supported by research conducted by (Mariam, Adyas, and Arisandi 2020), it was found that there was a relationship between attitude and behavior for early detection of cervical cancer with a Pvalue of 0.014. Attitude is a term that describes a person's feelings, whether they are happy, unhappy, agree, and disagree with something (6). Based on theory Health Belief Model Stating a positive attitude will encourage a person to behave positively towards their health.

Attitude is a readiness or event to act and is not the implementation of a specific motive. Attitude is not yet an action or activity, but is a predisposition of action or behavior. This attitude is still a closed reaction, and not an open reaction or open behavior. Attitude can be interpreted as a readiness to react to objects in a certain environment as an appreciation of objects. So a person who has a good attitude will not necessarily increase the person's behavior or actions (14).

A behavior will be easy to do if it is based on good knowledge, awareness and a positive attitude. Where attitude is a condition for the emergence of an action because by having an attitude means having thought that is prepared to give a response to an object, in other words attitude is a form of evaluation or reaction. Some of the factors that affect the formation of attitudes include personal experiences, other people, culture, mass media, educational institutions and religious institutions, as well as emotional factors (15).

Relationship between healthcare worker support and early detection behaviour of cervical cancer

Based on the results of the above test, it was obtained that there was no relationship between the support of health workers and early detection behavior of cervical cancer with a P-value of 0.374. Different results were obtained from a study conducted by (Marina Yanti et al. 2021) It was obtained that there was a relationship between cadre

support for early detection of cervical cancer and the value of cervical cancer P value 0.002 < 0.05 simultaneously with the incidence of early detection of cervical cancer at IVA examination (16).

Based on the results of a literature review conducted by (Adistyatama, Ganap, and Trirahmanto 2024) obtained, from various studies studied, there are various factors that also hinder the coverage of cervical cancer screening from the side of health service providers. This study identified these factors, including a lack of trained health workers (7 journals) and a lack of infrastructure to support cervical cancer screening services (17). The dominance of the problem from the perspective of service recipients gives the impression that the community or female clients are the main cause of the low screening coverage rate. In an effort to increase the coverage of cervical cancer screening, it should not only focus on the problem from the perspective of women as the target of the program, but also various evaluations and continuous improvements are needed from the side of the screening service system provider.

According to (Artiansah and Novita 2022) in the results of their research, they said that there is an influence between health facilities on cervical cancer prevention behavior in women with disabilities, seen from the completeness of facilities, types and access to services in efforts to prevent cervical cancer (18). This is because the easier it is for women to get access to health facilities, complete facilities and ease of services, the more immoral women will be interested in making efforts to prevent cervical cancer. The role of health workers is an encouragement in preventing cervical cancer. The role of health workers is to find information about cervical cancer prevention and play an active role in providing counseling.

CONCLUSION

This study concluded that there is a significant relationship between knowledge, attitudes and behavior for early detection of cervical cancer in Sigi Regency. And there was no significant relationship between education, employment and support of health workers and early detection behavior of cervical cancer in Sigi Regency.

SUGGESTION

This study recommends that health workers provide a regular training schedule to cadres to socialize cervical cancer and cervical cancer screening. And conduct regular cervical cancer screening for WUS (women of childbearing age).

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