The Relationship Between Marriage Age, Parity, and Hormonal Contraceptive Use With Cervical Cancer Incidence at NTB Provincial Hospital

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Abstract.

Background*: Cervical cancer is the most common health problem affecting the female reproductive system. It is caused by infection with the Human Papillomavirus (HPV). The most common risk factors for cervical cancer are age at marriage, parity, and use of hormonal contraceptives.* ***Objective****: To analyze the relationship between age at marriage, parity, and hormonal contraceptive use with cervical cancer incidence at the NTB Provincial General Hospital.* ***Methods****: This quantitative study used a case-control design. The sampling technique used purposive sampling with a sample size of 110 samples. Data were taken from medical records at the NTB Provincial Hospital. Data were analyzed using the Chi-square test with a significance limit of p-value <0.05.****Results:*** *It was found that most of the respondents married at the age of ≥20 years, as many as 69 (62.7%), had parity ≤3 times as many as 80 (72.7%), and used hormonal contraception as many as 58 (52.7%). The Chi-square test showed a significant relationship between age at marriage (p-value = 0.002; OR = 3,997; 95% CI = 1.742-9.170), parity (p-value = 0.005; OR = 3,917; 95% CI = 1.555-9.863), and use of hormonal contraception (p-value <0.001; OR = 4.618; 95% CI = 2.066-10.327) with the incidence of cervical cancer.* ***Conclusion****: Age at marriage, parity, and use of hormonal contraception were significantly associated with the incidence of cervical cancer at the NTB Provincial Hospital.*

Keywords: *Women's Reproductive Health; Cancer; Obstetricians; Contraception and Early Marriage.*

I. INTRODUCTION

Cancer is a disease caused by abnormal cell growth that is uncontrolled and can spread to other organs (metastasis) (Adnyana, 2019). One type of cancer to watch out for is cervical cancer. Cervical cancer, also known as cervical cancer, is one of the most common health problems in the female reproductive system (Firdayanti *et al*., 2023). The cervix is the end of the uterus that is shaped like a duct and narrow, and functions as a connection between the uterus and the vagina as a birth canal. The formation of cervical cancer begins from the appearance of abnormal cells in the cervical tissue that if not removed or destroyed, will become cancer cells. Cancer cells can grow slowly and spread deeper into the cervix and its surroundings over time (Maria & Izah, 2023). Cervical cancer is caused by infection *After the Papilloma Virus* (HPV) in which almost all cases are transmitted through sexual intercourse, while a small percentage of other cases can be linked to other risk factors (Rohayati *et al*., 2023).Cervical cancer can cause pain, such as pain in the female area. The pain is usually directly caused by the cancer itself (75-80% of cases) and the rest is caused by cancer treatment (15-19%). This is an early symptom of cancer that occurs. In addition, symptoms that can arise are post-coitus bleeding (after sexual intercourse), smelly vaginal discharge, and persistent vaginal bleeding (Novalia, 2023). Cervical cancer can result in various disorders of bodily functions, ranging from bleeding in the vagina, kidney failure, blood clots, and even death. Cervical cancer can usually be detected by performing a visual inspection with acetic acid (IVA) or *Pap smear* (Porridge smear) (Puspitaningrum, 2020).Globally, cervical cancer is the fourth largest and most common case in women after breast cancer, colorectal cancer, and lung cancer (United States) *et al*., 2024).

In 2022, there were 660,000 cases of cervical cancer worldwide. It is estimated that there are 350,000 deaths in the world due to cervical cancer. In Asia, cervical cancer cases reached 175,000 cases with 94,000 deaths. The incidence of cancer in Indonesia is ranked 8th in Southeast Asia and 23rd in Asia (Khairi *et al*., 2020).In Indonesia, cervical cancer occupies the second highest position after breast cancer in women. The number of new cases of cervical cancer is 36,000 cases with an annual death rate of 21,000 (*World Health Organization*, 2024). One of the provinces with a high rate of cervical cancer is West Nusa Tenggara Province (NTB). This is supported by the coverage of early detection through the IVA method which has

only reached 52.1% in NTB Province, so that there are still many women who have not been reached by screening and are at high risk of developing cervical cancer that is not detected early (Ministry of Health of the Republic of Indonesia, 2023). One of the hospitals that receives referrals and treats cervical cancer patients is the West Nusa Tenggara Provincial General Hospital (RSUDP NTB). Data at the NTB Provincial Hospital in 2024 shows that there will be 5,117 cases of cervical cancer, with 581 inpatients and 4,596 outpatients.

Risk factors associated with cervical cancer are 35-55 years of age, changing sexual partners, sexually transmitted diseases, smoking, genetics, nutritional status, immune disorders, and poorly maintained reproductive organ hygiene. It should be noted that the most common risk factors for cervical cancer are the age of young marriage or the age of having sex for the first time, the high amount of parity (number of births), and the use of hormonal contraceptives (Hidayah *et al*., 2020). In NTB Province, the rate of early marriage and sexual relations at a young age reached 50.8%, while the high amount of parity was supported by the low fulfillment of family planning (KB) programs, which was only 15.60%. Thus, getting married or having sex at a young age, a high amount of parity, and the use of hormonal contraceptives are the most common risk factors for cervical cancer (Paramitha *et al*., 2022).Early marriage is a marriage that is carried out under the age that is considered healthy. According to the National Population and Family Planning Agency (BKKBN), the normal and healthy age of marriage is 20 years for women and 25 years for men (Suryana & Nurwati, 2020). The risk of cervical cancer increases when women marry young or have sexual intercourse at a young age. This is because the anatomy of the cervical cells is immature and can result in lesions on the cervix so that they can be easily infected with HPV which can cause cervical cancer (Nur *et al*., 2023). Research that supports and rejects the theory of the relationship between age of marriage and cervical cancer incidence is research conducted by Santoso (2021) entitled "The Relationship of First Age of

Marriage with the Incidence of Cervical Cancer at the Polygynecology of RSUD X", with a sample size of 64 respondents. In Santoso's study, the results were found that there was a significant relationship between the age of marriage and the incidence of cervical cancer (p = 0.026). However, these results contradict research conducted by Saputro (2019), entitled "The Relationship Between Contraceptive Use and Marital Age on the Incidence of Cervical Cancer at dr. Moewardi Surakarta Hospital", with a sample size of 68 respondents. In Saputro's study, there was no significant relationship between age of marriage and cervical cancer incidence (p = 1,000). The difference in results between the two studies can be influenced by the difference in the design used. Santoso's Research (2021) Using the design *cross sectional*, while Saputro's research (2019) Using the design *Case Control*.In addition to the age of marriage, the amount of parity is also a risk factor for cervical cancer. The number of parities greater than 3 or parity distances that are too close, is a dangerous parity because it is at high risk of cervical cancer incidence. Women with a high parity, which is more than 3 times, have a 5.5 times higher risk of developing cervical cancer. Women with high parity can cause trauma to the birth canal and can give rise to abnormal cells in the cervix and can develop into malignancies (Mayrita, 2019). Research that supports and rejects the theory of the relationship between parity and cervical cancer incidence is research conducted by (Santoso, 2021), entitled "Parity Relationship with the Incidence of Cervical Cancer in the Gynecology Polyclinic of Dr. M. Soewandhie Hospital", with a sample size of 64 respondents.

In Santoso's study, the results were found that there was a significant relationship between the age of marriage and the incidence of cervical cancer (p = 0.016). However, these results are different from the research conducted by Wasiah (2019), entitled "Parity Relationship with the Incidence of Cervical Cancer at Dr. Soegiri Hospital, Lamongan Regency", with a sample size of 68 respondents. In Wasiah's study, the results were found that there was no significant relationship between the amount of parity and the incidence of cervical cancer (p = 0.115). The difference in results between the two studies can be influenced by the difference in the design used. Santoso's Research (2021) Using the design *cross sectional,* while Wasiah research (2019) Using the design *Case Control*.In addition, the use of contraceptives also affects the incidence of cervical cancer, one of which is hormonal contraception. Hormonal contraceptives are the most commonly used contraceptives today. Using hormonal contraceptives causes cervical mucus to thicken so that it is very risky and prone to lesions or lesions in the reproductive organs. This makes it easier for HPV to

infect and enter the cervical epithelial cells (Goddess) *et al*., 2023). Research that supports and rejects the theory of the relationship between the use of hormonal contraceptives and the incidence of cervical cancer is research conducted by Fahriani *et al*., (2023), entitled "Factors Affecting Cervical Cancer in Patients of Purni Teguh Medan Hospital", with a sample size of 89 respondents.

In Fahriani's study, it was found that there was a significant relationship between the use of hormonal contraceptives and the incidence of cervical cancer (p = 0.020). However, this is different from the research conducted by Shintya (2023), with the title of the study "The Use of Hormonal Contraceptives with the Incidence of Cervical Cancer at Hospital X Manado", with a sample size of 120 respondents. From Shintya's research, it was found that there was no significant relationship between the use of hormonal contraceptives and the incidence of cervical cancer (p = 0.100). The difference in results between the two studies can be influenced by the difference in the design used. Fahriani's Research (2023) Using the design *cross sectional,* while Shintya's research (2023) Using the design *Case Control*. In addition, it can also be affected by the large difference in samples. This study has novelty because it examines the relationship between marriage age, parity, and the use of hormonal contraceptives with the incidence of cervical cancer in NTB Province, which has an early marriage rate of 50.8% and the coverage of early detection of new IVA is only 52.1%. In addition, data from the NTB Provincial Hospital in 2024 shows that there will be 5,117 cases of cervical cancer. This research is expected to answer the differences in the results of previous studies and become the basis for improving cervical cancer prevention and screening programs in NTB.

II. METHODS

In this study, the type of research used is quantitative research. The research design used is case control. Case control is a retrospective observational design that compares two groups, namely individuals with a specific disease or condition (cases) and individuals without diseases (controls). The total population (N) in this study is 5,117 cervical cancer patients, both outpatient and inpatient in 2024 at the NTB Provincial Hospital. The error rate (e) set in this study is 10%. Based on the results of the calculation, a sample of 99 samples was obtained. To avoid errors and data loss, 10% of the sample size was added, so that 108.9 samples were obtained, then rounded to 109 samples. To facilitate the division of groups, the samples were rounded up into 110 samples. Because the researcher used a case control design, the sample size was divided into two groups with a large sample ratio between cases: control = 1 : 1, i.e. 55 samples for the case group and 55 samples for the control group. In this study, the data collection method is observation. The analysis used in this study is univariate analysis and bivariate analysis.

III. RESULT AND DISCUSSION

Respondent Characteristics

Table 1. Age Characteristics of Patients in NTB Provincial General Hospital

	n	Median	Minimal	Maximum
Age	110	43	20	76

The characteristics of the respondents analyzed in this study include age. Based on Table 1, of the 110 respondents, it is known that the youngest age is 20 years old, the oldest age is 76 years, and the median age of respondents is 43 years old.

Univariate Analysis

Table 2. Distribution of Marriage Age Frequency, Parity, and Use of Hormonal Contraceptives in NTB Provincial General Hospitals

Characteristics	Frequency	
	Quantity (n)	Present (%)
Age of Marriage		
High Risk (<20 years)	41	37,3
Low Risk (≥20 years)	69	62,7
Total	**110**	**100**
Parity		
High Risk (>3 times)	30	27,3
Low Risk (≤3 times)	80	72,7

Characteristics	Frequency	
	Quantity (n)	Present (%)
Total	**110**	**100**
Hormonal Contraceptives		
Yes	58	52,7
No	52	47,3
Total	**110**	**100**

Table 2 shows that the majority of respondents are married at a low-risk age, which is 69 (62.7%), and the rest are at high risk, which is 41 (37.3%). Then it showed that the majority of respondents had low risk parity as much as 80 (72.7%), and the rest were at high risk, which was as much as 30 (27.3%). Table 4.2 also shows that the majority of respondents who use hormonal contraceptives are 58 (52.7%) and the rest do not use hormonal contraception, which is 52 (47.3%).

Bivariate Analysis

Table 1. Bivariate Analysis of Marital Age with Cervical Cancer Incidence

Age of Marriage	Cervical Cancer		No Cervical Cancer		Total	*p-value*	OR	95% CI
	n	%	n	%				
<20 years old	29	52,7	12	21,8	41	0,002	3,997	(1,742-
≥20 years old	26	47,3	43	78,2	69			9,170)
Total	**55**	**100**	**55**	**100**	**110**			

Table 3 shows that out of 110 respondents, in the case group or cervical cancer, most of them were married at the age of <20 years, namely 29 (52.7%) respondents, and the remaining 26 (47.3%) respondents were married at the age of ≥20 years. In the control group or not with cervical cancer, most of them got married at the age of ≥20 years, namely 43 (78.2%) respondents, and the remaining 12 (21.8%) respondents got married at the age of <20 years.The results of *the Chi-square* test showed *a p-value* of 0.002 (*p-value* <0.05), which means that there is a significant relationship between marriage age and the incidence of cervical cancer at the NTB Regional Hospital. The results of the risk analysis (*odds ratio*) (at a CI of 95% with a range of 1,742 – 9,170) showed that respondents who were married at the age of <20 years were 3,997 times more at risk of developing cervical cancer compared to respondents who were married at the age of ≥20 years.

Table Error! No text of specified style in document.**.** Bivariate Analysis of Parity with Cervical Cancer Incidence

Parity	Cervical Cancer		No Cervical Cancer		Total	*p-value*	OR	95% CI
	n	%	n	%				
>3 times	22	40	8	14,5	30	0,005	3,917	(1,555-
≤3 times	33	60	47	85,5	80			9,863)
Total	**55**	**100**	**55**	**100**	**110**			

Table 4 shows that out of a total of 110 respondents, in the case group or cervical cancer, the majority of respondents had parity ≤3 times, namely 33 (60%), while the other 22 (40%) had parity >3 times. Meanwhile, in the control group or not of cervical cancer, most of the respondents had parity ≤3 times, namely 47 (85.5%), and only 8 (14.5%) respondents had parity >3 times. Test results *Chi-square* show *p-value* 0,005 (*p-value* <0.05), which means that there is a significant relationship of parity with the incidence of cervical cancer at the NTB Regional Hospital. The results of the risk analysis (*odds ratio*) (at a 95% CI with a range of 1.555 – 9.863) showed that respondents who had a parity amount >3 times more were at 3.917 times the risk of developing cervical cancer compared to respondents who had a parity amount ≤3 times.

Table 5. Bivariate Analysis of Hormonal Contraceptive Use with Cervical Cancer Incidence

Hormonal Contraceptives	Cervical Cancer		No Cervical Cancer		Total	*p-value*	OR	95% CI
	n	%	n	%				
Yes	39	70,9	19	34,5	58	<0.001	4,618	(2,066-
No	16	29,1	36	65,5	52			10,327)
Total	**55**	**100**	**55**	**100**	**110**			

Table 5 shows that out of a total of 110 respondents, in the case group or cervical cancer, the majority of respondents used hormonal contraception, namely 39 women (70.9%), while 16 respondents

(29.1%) did not use hormonal contraception. Meanwhile, in the control group or not with cervical cancer, most of the respondents did not use hormonal contraception, namely 36 respondents (65.5%), and only 19 respondents (34.5%) used hormonal contraceptives. The results of *the Chi-square* test obtained a *p-value of <0.001 (p-value* <0.05), which shows that there is a significant relationship between the use of hormonal contraceptives and the incidence of cervical cancer at NTB Hospital. The results of the risk analysis (*odds ratio*) (at a CI of 95% with a range of 2,066 – 10,327) showed that respondents who used hormonal contraceptives were 4,618 times more at risk of developing cervical cancer compared to respondents who did not use hormonal contraception.

Discussion

The Relationship of Marriage Age to the Incidence of Cervical Cancer

In this study, there is a significant relationship between the age of marriage and the incidence of cervical cancer, where the age of marriage under 20 years is higher than the age of marriage at the age of 20 years and above. According to the National Population and Family Planning Agency (BKKBN), the ideal age for marriage for women is between 20 to 35 years old, while for men between 25 to 40 years old (Adelia, 2023). Marriages that occur between one or both parties under the age of 19, whether officially registered or not, are called early marriages (Naghizadeh *et al*., 2021). Early marriage has a significant impact on reproductive health, especially for adolescent girls whose reproductive organs are not fully mature. Early marriage risks triggering cervical cancer because immature cervical cells cannot develop fully during puberty (Firdayanti *et al*., 2023; Nur *et al*., 2023).Several studies also support the results of this research, namely the research conducted by Hidayah *et al.,* (2020) and Santoso (2021). From these two studies, it can be seen that marriage age is indeed related to the incidence of cervical cancer because women who are married and start sexual activity at the age of <20 years have a higher risk of developing cervical cancer, and it is even reported to increase the risk up to 10-12 times greater than women who are married at the age of ≥20 years (Santoso, 2021).

At that age, the reproductive organs, especially the epithelium of the cervical mucosa, have not reached perfect maturity, because in general, the maturation of cervical cells only occurs after the age of more than 20 years. When sexual intercourse is performed at too young a young age, cervical cells that are still in the developmental stage will be exposed to external stimuli, including chemical stimuli derived from sperm components, which can trigger cellular changes, the formation of precancerous lesions, and stimulate excessive cell proliferation. This process causes the number of cells to grow more than the cells that die, resulting in an imbalance that can trigger changes in cell properties to malignant or cancerous. On the other hand, if sexual activity begins after the age of ≥20 years, the cervical mucosa is more mature and less susceptible to these abnormal changes (Hidayah *et al*., 2020).Based on the results of the study, the age of first sexual activity is a very influential factor. Women who start sexual intercourse before the age of 20 have a higher risk of developing disorders in the reproductive organs, because at that age the epithelium or lining of the vaginal and cervical walls is not fully mature (Aini *et al*., 2024). Sexual activity at a young age can easily cause microlesions in the tissues, which then make it easier for infections, including infections to occur. *Humman Papilloma Virus* (HPV).

HPV infection will disrupt the normal cell division cycle, in which cells that are supposed to undergo apoptosis are forced to continue dividing. As a result, the cells will undergo continuous mutations and develop into cervical cancer (Vanajothi *et al*., 2022).Overall, the results of this study are supported by various results from other studies and also from this study show that the age of marriage is not a direct cause of cervical cancer, but is one of the risk factors that can increase the likelihood of being infected with high-risk HPV. HPV infection that is not successfully cleared by immune cells will become persistent and develop into cervical cancer. In this study, cervical cancer was only linked to the level of cell maturity through age indicators, and the researchers did not observe the relationship between the level of cell maturity directly. Therefore, this is a limitation in this study.

Parity Relationship with Cervical Cancer Incidence

In this study, there was a significant relationship between parity and cervical cancer incidence, where parity above 3 times the risk was higher than parity 3 times down. Parity is an important factor in maternal

health because it can affect the condition of the body during pregnancy and subsequent delivery. The optimal amount of parity is three times (Zeta *et al*., 2023). Childbirth history is related to the number of children born during a woman's reproductive life. Women who have a high frequency of childbirth with short gaps between pregnancies tend to experience injuries to the reproductive organs more often. This condition can increase susceptibility to HPV infection, which is the leading cause of cervical cancer (Aini *et al*., 2024).Several studies also support the results of this research, namely the research conducted by Santoso (2021) and Fithri and Agista (2025). From the two studies, it can be seen that parity is indeed related to the incidence of cervical cancer because The parity that is considered the most ideal is up to three times. If a woman gives birth more often, the risk of developing cervical cancer also increases. Repeated childbirth causes trauma to the cervical tissue due to the exit of the fetus through the birth canal, so tissue damage can become greater as the number of births increases.

This condition is aggravated by hormonal changes during pregnancy as well as decreased immunity, which makes women more susceptible to infections *After the Papilloma Virus* (HPV) and accelerates the development of cell changes towards malignancy (Santoso, 2021). In addition, women with a high number of births are also at risk of cervical columnar epithelial eversion during pregnancy, which triggers the formation of immature metaplastic epithelium and increases the chance of cell transformation and cervical trauma, which can ultimately lead to persistent HPV infection (Fithri & Agista, 2025).Based on the results of the study, the high amount of parity is not a direct cause of cervical cancer, but is one of the risk factors that can increase the likelihood of being infected with high-risk HPV. Trauma to the birth canal that is not treated immediately can cause chronic injuries to the upper genital organs, especially the cervix, which then makes it easier for infections to occur, especially HPV infections (Paramitha *et al*., 2022). These chronic wound conditions can trigger the growth of abnormal cells in the cervix. In addition, the hormone progesterone that increases during pregnancy also affects the condition of the cervix because it can lower local immunity and increase cell proliferation.

So that if HPV infection occurs under these conditions, HPV will be more difficult for the immune to clear and become persistent. This results in precancerous lesions that develop through several stages of dysplasia and then develop into carcinoma *in situ* (Digambiro, 2024). Overall, the results of this study are supported by various results from other studies and also from this study show that the high amount of parity is not a direct cause of cervical cancer, but is one of the risk factors that can make it easier to be infected with high-risk HPV due to lesions caused by parity. HPV infection will disrupt the normal cell division cycle resulting in cells undergoing continuous mutations and developing into cervical cancer. However, in this study, no HPV infection was observed related to parity directly. Therefore, this is a limitation in this study.

The Relationship between Hormonal Contraceptive Use and Cervical Cancer Incidence

In this study, there was a significant relationship between the use of hormonal contraceptives and the incidence of cervical cancer, where the use of hormonal contraceptives was at a higher risk than the use of no hormonal contraception. Hormonal contraception is a method of preventing pregnancy by introducing hormones into the body, usually through injections, pills, or implants. This hormone functions to inhibit the ovulation process or the release of eggs during the fertile period, so that the body does not produce eggs and fertilization cannot occur even if sperm enters the reproductive organs. Although effective in preventing pregnancy, hormonal contraceptives have some side effects to be aware of. Long-term use can cause delayed return to fertility after discontinuation, does not provide protection against sexually transmitted diseases, and is associated with an increased risk of cervical cancer (Shintya, 2023).

Several studies also support the results of this research, namely the research conducted by Fahriani *et al.,* (2023) and Aini *et al.,* (2024). From the two studies, it can be seen that the use of hormonal contraceptives is associated with the incidence of cervical cancer because the use of hormonal contraceptives containing a combination of estrogen and progestin can increase the risk of cervical cancer, especially when used in the long term. These two hormones act through receptors on target cells and can trigger cervical ectropion, as well as play a role in supporting the integration process *Deoxyribonucleic Acid Human Papilloma Virus* (HPV DNA) into the host genome, stimulates viral DNA transcription, and increases cell proliferation, making normal cells more susceptible to changes into abnormal cells. Estrogen itself is

suspected to play a cofactor that supports HPV DNA replication, so the use of hormonal contraceptives for more than 4-5 years is associated with an increased risk of malignancy (Fahriani *et al*., 2023). However, this risk is reversible, because after its use is stopped, the risk of cervical cancer will gradually decrease, and generally about ten years after discontinuation, the risk level returns to close to normal as before using hormonal contraceptives (Aini *et al*., 2024).

Based on the results of the study, the use of hormonal contraceptives can cause thickening of cervical mucus, so that the cervix will be more susceptible to irritation and microlesions which will facilitate HPV infection. The risk of this infection is not only influenced by the type or method of use of contraception, but especially by the length of use. The longer it is used, the more likely it is that HPV will infect. In addition, estrogen hormone imbalance due to the use of hormonal contraceptives can trigger abnormal cell changes and potentially become cervical cancer. In these conditions, HPV will be more difficult to clear which will then damage the cell division control system. HPV infection results in cells not getting a chance to repair or experience apoptosis, so the cells are forced to continue dividing. This is what can later develop into cervical cancer (Goddess) *et al*., 2023).Overall, the results of this study are supported by various results from other studies and also from this study show that the use of hormonal contraceptives can cause cervical mucus thickening and estrogen hormone imbalance which can trigger abnormal cell changes and HPV is more easily persistent so that it has the potential to become cervical cancer. However, in this study, researchers did not observe the relationship between the type and duration of hormonal contraceptive use and the incidence of cervical cancer. So this is a limitation in this study.

IV. CONCLUSION

The majority of respondents at the Obstetrics and Gynecology Polyclinic of the NTB Provincial Hospital in 2024 were married at the age of ≥20 years, which was 69 (62.7%), and married at the age of <20 years, which was 41 (37.3%); The majority of respondents at the Obstetrics and Gynecology Polyclinic of the NTB Provincial Hospital in 2024 have a parity of ≤3 times as many as 80 (72.7%), and parity >3 times, which is 30 (27.3%); The majority of respondents at the Obstetrics and Gynecology Polyclinic of the NTB Provincial Hospital in 2024 who used hormonal contraceptives were 58 (52.7%) and did not use hormonal contraception, which was 52 (47.3%); There was a significant relationship between the age of marriage and the incidence of cervical cancer at the NTB Provincial Hospital (*p-value* = 0.002; OR = 3,997; 95% CI = 1,742-9,170); There was a significant relationship between parity and the incidence of cervical cancer at the NTB Provincial Hospital (*p-value* = 0.005; OR = 4,618; 95% CI = 2,066-10,327); There was a significant relationship between the use of hormonal contraceptives and the incidence of cervical cancer at the NTB Provincial Hospital (*p-value* = <0.001; OR = 4,618; 95% CI = 2.066-10.327).

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