Correlations among Age, Parity, and Contraception Using with Pap smear Results in Medan Sumtera Sumatera

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Abstract

Objects: to determine correlations among age, parity, and contraception using pap smear results.

Methods: the study was a correlative descriptive. The independent variables are age, parity, and contraception using, while the dependent variable the result of pap smear examination. The samples were 60 respondents. Data were collected using a questionnaire and analysis using the Chi-Square test at an error rate of 0.05.

Results: there was no significant correlation between age and the result of a pap smear examination ($p>0.734$). There was no significant correlation between parity and the result of a pap smear examination ($p>0.204$). There was a correlation between contraception using and the results of pap smear examination $p<0.004$.

Conclusion: it is expected that health workers can improve education and health promotion about cervical cancer prevention by holding seminars or examinations of cervical cancer detection by doing pap smears, and women who have done pap smears with normal results can have repeat pap smears a year later, and abnormal pap smears can repeat. Pap smear again performed 6 months after the previous pap smear.

Keywords: *Age; Parity; Using contraception; Pap smear; Cervical cancer*

Introduction

Cervical cancer becomes a problem for women in Indonesia. Cervical cancer causes the second death in developing countries with reproductive age. In Indonesia, there are 15,000 new cases with 8,000 deaths annually. This cancer is the most common in Indonesian women. It is estimated that one woman dies every hour [(1)].

To reduce the morbidity and mortality of cervical cancer prevention efforts need to be made, which consists of several stages, namely: 1. Primary prevention carried out at this stage is the promotion, education, and vaccination of HPV (Human Papilloma Virus). 2. Secondary prevention is early detection. 3. Tertiary Prevention is a treatment for cases that are found in early detection and prevent complications and early death [(2)].

Early detection in Indonesia is done by pap smear examination, colposcopy, kinescope, cervicography, spectroscopy, automated screening cytology, liquid-based cytology/thin prep, HPV tests, and visual acetate acid inspection (IVA) inspection methods. Pap smear test coverage is estimated to be less than 5%. To fulfill this, an alternative Pap smear test with IVA is sought, which is expected to get wider coverage [(3)].

Pap smear is a simple and quick examination to determine the presence of abnormal cells in the cervix by taking a smear of cells in the cervix and then examined under a microscope to see whether or not the cells are abnormal. This examination can be done at any time, except during menstruation. All women who have had sexual intercourse are encouraged to have regular Pap smears, once a year/at least 3 years. For women who have gone through menopause, a Pap smear can be done until the age of 65 years [(4)].

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The risk factors of cervical cancer are women who have been active in sex from a very early age, contraception using, and having children more than five.

Method

This study used a cross-sectional study design with a study design by measuring or observing research subjects at the same time or once, measurement of independent variables (age, parity, and contraception using) and the dependent variable (results of pap smear) without a repeat visit. This type of research was descriptive correlative, which was research that aims to explain the relationship, estimate, test based on existing theories. In this study, researchers used a consecutive sampling technique with a total of 60 respondents. The research site in Medan, North Sumatra. By using a simple logistic regression test that was by connecting between several independent and dependent variables.

Results

Table 1.frequency distribution base on variables

Variables	**Frequency normal pap smear**	**%**	**Frequency abnormal pap smear**	**%**	**Frequency sample**	**%**
Age						
≤ 35 years	9	15	9	15	18	30
36-45 years	15	25	16	26.7	31	51.6
>45 years	4	6.7	7	11.7	11	18.4
Total	28	46.7	32	63.3	60	100
Parity						
≤ 2	13	21.7	21	35	34	56.7
>2	9	15	11	28.3	26	43.3
Total	22	36.7	38	63.3	60	100
Contraceptive using						
Hormonal	0	0	8	13.4	8	13.4
IUD	1	1.7	5	8.3	6	10
Non-contraceptive	26	43.3	20	33.3	46	76.6

Table 1 shows that the majority of samples aged 36-45 years were 31 people (51.7%) with normal pap smears as many as 15 people (25%) and abnormal pap smear of 16 people (26.7%). In parity ≤ 2 in the majority of samples were 34 people (56.7%) with normal pap smear results of 13 people (21.7%) and abnormal pap smear results of 21 people (35%). The majority of samples with contraception using were no using 46 samples (76.6%) with normal pap smear results of 26 people (43.3%) and abnormal pap smear results of 20 people (33.3%).

Table 2.correlations among age, parity, and contraception using with pap smear results.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std.Error	Beta		
(Constant)	3.326	1.347		2.469	.017
Age	.037	.108	.051	.341	.734
Parity	-.149	.116	-.301	-1.288	.204
Contraception using	-.278	.091	-.395	-3.041	.004

Table 2.shows that the correlation between age and pap smear results with a t value of .341 and Beta 0.51 and a significant level of 0.734 means greater than 0.05 ($p>0.05$) meaning that there was no significant correlation between age and pap smear results. The correlation between parity and pap smear results with a value of t=1.288 Beta -.301 and a significant level of 0.204 means greater than 0.05 ($p>0.05$) means that there was no significant correlation between parity and pap smear results. The correlation between contraceptive using and pap smear results with a value of t=-3.041 Beta value -.395 and a significant level of 0.004 means greater than 0.05 ($p>0.05$) meaning that there was a meaningful correlation between contraception using with pap smear results.

Discussions

The results of this study it was found that the majority of samples aged 36-45 years were 51.6% and more than the results of abnormal pap smears were 26.7 than the results of normal pap smears. The older a person is, the greater the risk of uterine cancer. The increased risk of cervical cancer in the elderly is a combination of the increasing length of time of exposure to carcinogens and the weakening of the immune system due to age. In adult women over 35 years old, the condition of the reproductive organs begins to undergo an aging process, and in theory it is explained that risk factors that can increase the incidence of women suffering from cervical cancer one of which is the age of pre-menarche and post-menopause Generally new mucosal cells mature after women aged 20 years and over. The peak development of cervical cancer is at the age of 47 years. About 47% of women with invasive cervical cancer are under 35 years of age when diagnosed. About 10%, cervical cancer occurs in older women (> 65 years) and tends to die of disease due to their advanced stage when diagnosed. So if a woman is having sex at teenage age, it is most vulnerable if it is done under the age of 16 years [(5)].

This study there was no significant correlation between age and the results of pap smear examination with a significance p=0.734; meaning that the study showed no significant correlation between age and pap smear examination results. The results of the study that showed no correlation between age and pap smear results were possible because the number of respondents who had normal pap smear results was greater at 36-45 years old, this result was also possible because cervical cancer is not only influenced by a single factor but multiple factors not examined in this study. Other risk factors were not examined because this study used a documentation study, where there was some information from the medical record data that was not filled out by health workers. Women who are prone to cervical cancer are those who are at risk (35-50 years). Although the facts show that there is a reduction in the risk of HPV infection with age, on the contrary, the risk of persistent/ persistent infection increases. This is thought to be because as we age, changes in anatomy and histology.

The results of this study found that the majority of parity history ≤2 is (56.7%) with abnormal normal pap smear results more than 35% than normal pap smear results. The higher the risk of suffering from cancer of the cervix in women with many children, especially with labor distances that are too short. A

woman who often gives birth (many children) belongs to a high-risk group for cervical cancer, the higher the parity of the mother, the less good the endometrium. This is caused by reduced vascularization or atrophic changes in the decidua due to past labor, which can lead to complications in the reproductive organs. With the frequent birth of a mother, it will have an impact on the frequent occurrence of injury to her reproductive organs which ultimately the impact of the injury will facilitate the emergence of Human Papilloma Virus (HPV) as a cause of cervical cancer. In line with the results of Hidayat said that parity of more than> 3 is 16.03 times at risk of developing cervical cancer than people who have some parities <3 [6]. Women with high parity are associated with cervical columnar epithelial eversion during pregnancy which causes new dynamics of immature metaplastic epithelium that can increase the risk of cell transformation and trauma to the cervix making it easier for HPV infection [7].

Hormonal changes during pregnancy may make women more vulnerable to HPV infection or cancerous growth. The risk of cervical cancer will increase in young marriages or first-time coitus, ie at the age of 15-20 years or in a dozen years and the latent period between the first time of coitus until cervical cancer is detected for 30 years. This is related to the maturity of mucosal cells in the cervix. At a young age, mucosal cells in the cervix are immature. That is, still vulnerable to stimuli so they are not ready to accept stimuli from outside. Including chemicals carried by sperm. Because it is still susceptible, mucosal cells can change properties to become cancerous. The nature of cancer cells is always changing at any time ie die and grow again.

The study showed no significant correlation between parity and pap smear examination results with significance p=0.204. The study measured the number of majority parity> 2. So that there are probably still many who fall into the category of having children 2 or more than 2, because the dangerous parity is to have children more than 3 or the distance of pregnancy is too close, because it can cause the emergence of changes in abnormal cells in the cervix which can develop into malignancy [8].

According to the American Cancer Society (ACS) that women who have experienced 3 or more pregnancies in the full term have an increased risk for cervical cancer. Research has shown that hormonal changes during pregnancy may make women more vulnerable to HPV infection or cancerous growth [9].

The results of this study the majority of respondents did not use contraception by 76.7% and the majority with normal pap smear results of 43.3% and the remaining 33.3% with abnormal pap smear results. The use of hormonal contraception for more than 4 or 5 years can increase the risk of cervical cancer 1.5-2.5 times [10]. Taking a family planning pill for more than 5 years containing progesterone and estrogen harms the uterus, which is an infection in the uterus and allows a woman to suffer from uterine cancer [11]. It can be concluded that the use of contraception affects the incidence of cervical cancer. Oral contraceptives with high estrogen levels cause adhesions of Candida albicans which is a bacterium that causes flour albous. Candida albicans can cause adhesions in the vaginal epithelium and is a medium for fungal growth. Candida albicans develop well in a pH 5-6.5 environment, this change can be asymptomatic or cause infection.

The results of this study found there is a correlation between the use of contraceptives with the results of pap smear examination with a significance p=0.004. According to ACS states that the risk of cervical cancer is doubled in women who take birth control pills for more than 5 years, but the risk returns to normal 10 years after they stop. Combined oral contraceptives are a mixture of synthetic estrogens such as ethinylestradiol and one of several C19 steroids with progesterone activity such as norethindrone. This contraception contains a fixed dose of estrogen and progesterone. The use of estrogen can be risky because it stimulates the thickening of the endometrial walls and stimulates endometrial cells so that it changes properties [9].

Conclusion

The result showed that there was a significant correlation between contraception using and the results of pap smear examination with a significance p<0.004.

Suggestions

Health care provider, providing information to women of reproductive age, is recommended to use contraception so that the number of children can be limited and the birth spacing can be regulated properly. Health care provider gives information about contraceptive using so that women who use hormonal contraception can use non-hormonal contraception.

Conflict of Interest: Nil

Source of Funding: Universitas Sumatera Utara Research Center who had given financial support to conduct this research.

Ethical Consideration: The Research Ethics Committee from the Commission of Health Research Ethics Faculty of Nursing Universitas Sumatera Utara No. 1171/V/SP/2017.

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