The Relationship between the Parity and The Use of IUD Contraception with the Result of Pap Smear Examination at Asri Medical Center

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Abstract

Cervical cancer is the second common cancer after breast cancer. To prevent cervical cancer, early screening is needed such as pap smear examination. The result of pap smear is affected by some factors, one of them is parity.

The purpose of the study was to find out the significant association between parity and the use of contraception with the result of pap smear test. To determine the relationship between parity and the use of contraception with the result of pap smear test used case-control study design with cross sectional method. The subjects were reproductive women who had pap smear examination at Asri Medical Center on 2013-2014. The research instrument involved medical record of pap smear examination at Asri Medical Center on 2013-2014.

Based on research data that analyzed using Chi-Square, showed that there is no significant relationship between parity and the result of pap smear test (p = 0,742). This may occur because parity as independent factor can not affect directly to the result of pap smear test, but it may showed significant result if analyze with another factor such as the age of the patient when doing first sexual intercourse. While analysis of the use of contraception shown the same insignificant result with p value = 0,858 (sig. p < 0,05). IUD use might act as a protective cofactor in cervical carcinogenesis thus it may affect the insignificant result of this research.

Keywords: parity, contraception, pap smear, cervical cancer

Introduction

Cervical cancer is the second type of the most commonly cancer suffered by women after breast cancer. Cervical cancer prevention efforts can be done with early detection or screening. Early detection is the most common method of smears of cervical mucus is often known by Papanicolaou or Pap smears.

There are various factors that increase the incidence of cervical cancer, such as sexual activity at a young age, multiple sexual partners, dealing with high-risk men, history of infection in the genital or pelvic inflammatory disease, and women gave birth to many children (multi parity).

Material and Method

This study was a case-control study with cross-sectional observational approach,

so that the researchers did not give any treatment to the subjects. The population used in this study were patients who perform pap smears at Asri Medical Center.

Samples were one hundred and sixty-eight medical records of Pap smear results in Asri Medical Center during 2013-2014.

Inclusion criterias are women of reproductive age and already married. While exclusion criterias are IUD users, does not have cancer/tumors of the cervix, and have a history of sexually transmitted diseases.

Research has been conducted at Asri Medical Center in January 2015 and started with pre-elimenary survey in April 2014.

Research Result

The data have been obtained and analyzed by cross tabulation method.

From the analysis revealed the total number of samples is 168 with normal Pap smear results is 156 people and 12 people abnormal.

Total sample with low parity is 119 samples and its equal with 70.8% of the total sample. In this sample group obtained 111 people with normal Pap smear or by 93.3%. While 8 people with low parity got abnormal pap smear or by 6.7%.

The sample group of high parity totaled 49 or 29.2% of the total number of samples. This group obtained 45 people with normal Pap smear or by 91.8% and 4 people with abnormal pap smear were 8.2%.

The data and then processed by Chi-Square test are shown in Table 2. The results of the analysis obtained a significance of p = 0.742 or 0.742.

If p <0.05 then the hypothesis H1 is accepted or received. It can be concluded in the present study H1 rejected because p> 0.05. So the result of this research that there was no statistically significant relationship between the level of parity with the results of Pap smears.

Table 3 showed the contingency or the strengthen of correlation in variables studied. Figures obtained by 0.025, which means the correlation is ignored (0.00 to 0.09).

Table 1. Results of the analysis parity*Pap Smear result

		Pap Smear Result		
		Normal	Abnormal	Total
Parity Low	Count	111	8	119
	% within Parity	93,3%	6,7%	100,0%
	% within Pap smear result	71,2%	66,7%	70,8%
	% of Total	66,1%	4,8%	70,8%
High	Count	45	4	49
	% within Parity	91,8%	8,2%	100,0%
	% within Pap smear result	28,8%	33,3%	29,2%
	% of Total	26,8%	2,4%	29,2%
Total	Count	156	12	168
	% within parity	92,9%	7,1%	100,0%
	% within Pap smear result	100,0%	100,0%	100,0%
	% of Total	92,9%	7,1%	100,0%

Table 2. Results of Chi-Square test : parity correlation with pap smear

	Value	df	Asymp. Sig (2-sided)	Exact Sig (2-sided)	Exact Sig (1-sided)
Pearson Chi-Square	,109[b]	1	,742		
Continuity Correction[a]	,000	1	1,000		
Likelihood Ratio	,106	1	,745		
Fisher's Exact Test				,748	,484
Linear-by-Linear Association	,108				
N of Valid Cases	168	1	,742		

Table 3. The strengthen of the correlation between parity and pap smear

	Value
Contingency Coefficient	0,025

Sample with the use of contraception non IUD were 60 samples, and its equal with 35.7% of the total sample. In this sample group obtained 56 people with normal Pap smear or by 93.3%. While four people with non IUD contraception had abnormal pap smear or by 6.7%.

Sample group of IUD acceptor were 108 or 64.3% of the total number of samples. This group got 100 people with normal Pap smear or by 92.6%, and 8 people with abnormal pap smear were 7.4%.

The data and then processed by Chi-Square test are shown in Table 4. From the analysis we found a significance of p = 0.858 or 0.858. If p <0.05 then the hypothesis H1 is accepted or received. It can be concluded in the present study H1 rejected because p> 0.05. So the results of this research that there were no statistically significant relationship between the using of IUD contraceptive method with Pap smear results.

In Table 6 showed contingency or the strengthen of the correlation in variables studied. Figures obtained by 0,013, which means the correlation is ignored (0.00 to 0.09).

Table 4. Results of Analysis Contraception *Pap Smear Result

			Pap Smear Result		
			Normal	Abnormal	Total
Contraception	Low	Count	56	4	60
		% within Contraception	93,3%	6,7%	100,0%
		% within Pap smear result	35,9%	33,3%	35,7%
		% of Total	33,3%	2,4%	35,7%
	High	Count	100	8	108
		% within Contraception	92,6%	7,4%	100,0%
		% within Pap smear result	64,1%	66,7%	64,3%
		% of Total	59,5%	4,8%	64,3%
Total		Count	156	12	168
		% within Contraception	92,9%	7,1%	100,0%
		% within Pap smear result	100,0%	100,0%	100,0%
		% of Total	92,9%	7,1%	100,0%

Table 5. Chi square test results : relationship between the using of contraception with pap smear results

	Value	df	Asymp. Sig (2-sided)	Exact Sig (2-sided)	Exact Sig (1-sided)
Pearson Chi-Square	,032[b]	1	,858		
Continuity Correction[a]	,000	1	1,000		
Likelihood Ratio	,032	1	,858		
Fisher's Exact Test				1,000	,563
Linear-by-Linear Association	,032		,859		
N of Valid Cases	168	1			

Table 6. The strengthen of the correlation between contraceptive use and pap smear results

	Value
Contingency Coefficient	0,013

Discussion

There are some influence factors can affect the results of pap smear. Besides HPV infection as main factors, the parity also has importance role to influence the results of pap smear. This is mainly related to the period during the second and third trimester of pregnancy until birth.

The concentration of estrogen and progesterone in the blood known increased during pregnancy and reached at highest level in the end of weeks. These hormonal changes may be responsible for the changes in the connections between squamous and columnar epithelium.

Versions of the columnar epithelium on ectocervix started at beginning of pregnancy and will be prominent at the second and third trimesters. Cervical ectopy is a change in the structure of the cervix which has the structure more susceptible to damage and tend to bleed.

The prevalence of cervical ectopy decreased at a young age (50% of women with age less than 45 years had experience ectopy and only 2% in women older than 64 years) and higher in primiparous women and multiparous than in women nullipara (Muñoz, et al., 2002). Cervical ectopy occurring in pregnancy may facilitate the occurrence of cervical infections.

In this research showed no significant or hypothesis is rejected, which means the absence of effect of parity to the results of pap smears.

According to the journal that discusses the etiology of cervical cancer stated that a significant finding on the relation of parity with Pap tests because of their association with age at first sexual intercourse, there is no evidence of an independent effect from parity (Boyd & Doll, 2004).

The use of IUD contraceptive methods may increase the risk of cervical cancer. This is due to improper installation could cause erosion and lead to increased susceptibility to infection of the cervix. In addition, increase the risk of cervical cancer is also associated with IUD usage time limits. If past usage limit, IUD is no longer effective to use.

The use of exceeding the time limit can endanger the user, as it can in an increased risk of cervical cancer (Anggareksa, 2012). In this study, the results were not significant. This result may be due to according to research by a cancer research institute in Spain, demonstrated that the use of IUD can actually reduce the risk of cervical cancer.

The exact mechanism is unknown, but is thought to play a role as a cofactor IUD protective against cervical carcinogenesis with the workings of the body triggers cellular immunity (Castellsagué, et al., 2011).

Furthermore, another explanation of the protective effect of IUDs is the elimination of pre-invasive lesions of the cervix when the instrument is inserted or removed. This mechanism is still speculative and provocative, so it needs another research with another design study to find out the basic mechanism of how the IUD can cause a protective factor against cervical cancer (Castellsagué, et al., 2011).

Conclusion

Based on the analysis and discussion that has been presented, it can be concluded that:

1. In the sample group with low parity were 111 samples with normal Pap smears and 8 samples with abnormal results.
2. In the group of samples with high parity obtained 45 samples with normal Pap smears and 4 samples with abnormal results.
3. Chi-Square test results showed that there was no correlation between parity with the results of pap smears (sig.> 0.05, p = 0.742).
4. In the group of samples with non IUD contraceptive use there is 56 sample with normal Pap smears and 4 samples with abnormal results.
5. In the group of samples with the use of IUD there are 100 samples with normal Pap smears and 8 samples with abnormal results.
6. Chi-Square test results showed that there was no correlation between the use of contraception and pap smear test results (sig.> 0.05, p = 0.858).

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