

FACTORS ASSOCIATED WITH PRECANCEROUS CERVICAL LESIONS IN WOMEN CARRIED OUT BY AN EARLY DETECTION WITH VISUAL ACETIC ACID INSPECTION METHOD IN PADANG PASIR PUBLIC HEALTH CENTER IN PADANG CITY

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ABSTRACT

Cervical cancer is a malignant tumor that grows inside the cervix. The most common cause of cervical cancer is infection with Human PapillomaVirus (HPV). Risk factor is thought to be related with cervical cancer are reproductive age, smoking, low socio economic, duration oral contraceptive and early first intercourse. Visual inspection with acetic acid (VIA) is an attractive screening method for early-phase cervical cancer. About 366 women was examined using this method at Puskesmas Padang Pasir and among these women 137 (37.4%) with test-positive. The purpose of this study is to determine what factors are associated with cervical pre-cancer lesions in women who perform early detection using visual inspection method of acetic acid (IVA) at Puskesmas Padang Pasir Padang. This study method is the analytical cross-sectional design. The study population was women who perform early detection using visual inspection with acetic acid (VIA) method and 80 women were selected to be recruited from 699 respondents who came in 2015 until 2017 with simple random sampling technique. This study was hold from May 15th until June 2nd, 2017. Data were analyzed univariate using frequency distributions and bivariate using Chi Square. Results showed that the risk factor that have a statistically significant relationship to the incidence of cervical precancerous lesions ($p < 0.05$) was duration of oral contraceptive use (OR=5.802, CI95%: 2.117 – 15.901). Factors that showed no statistically significant relationship ($p > 0.05$) to the incidence of cervical precancerous lesions were age with $p = 0.365$ and early first intercourse with $p = 0.433$. The conclusions are there is no significant relationship between age and early first intercourse with cervical precancerous lesions and there is significant relationship between duration of oral contraceptive use with cervical precancerous lesions. It is expected that Puskesmas Padang Pasir can improve the early detection of cervical cancer by society.

Keywords: *Early First Intercourse, Duration of Oral Contraceptive Use, Cervical Precancerous Lesions*

INTRODUCTION

Cancer is a group of diseases caused by single cells that grows abnormally and uncontrollably and which is also one of the leading causes of death throughout the world. One type of cancer that is often found is cervical cancer in women. Cervical cancer is one of the malignancies in the field of obstetrics and gynecology which still occupy the highest position as cancer that attacks women (Manuaba *et al.*, 2017).

Based on data from the International Agency for Research on Cancer (IARC) it is known that in 2012 there were 14,067,894 new cases of cancer and 8,201,575 cancer deaths worldwide (Ministry of Health of the Republic of Indonesia, 2015). The incidence of cervical cancer according to Globocan, the International Agency for Research on Cancer (IARC) in 2012 was 17 per 100,000 women. In Indonesia, cervical and breast cancer is a cancer with the highest prevalence. In 2013

almost 98,692 cases of cervical cancer were found with the highest incidence of 21,313 cases in East Java. Meanwhile, in West Sumatra there are 2,285 cases of cervical cancer (Ministry of Health of the Republic of Indonesia, 2015). While in Padang, based on data from the Yayasan Kanker Indonesia (YKI) there was an increase in cancer cases, namely 35 cases in 2011, 40 cases in 2012 increased to 42 cases in 2013.

Cervical cancer is a malignant tumor that grows inside the cervix. In patients with cervical cancer, there is a group of networks that grow continuously which are unlimited, uncoordinated and useless for the body, so that the surrounding tissue cannot perform its function properly. Cervical cancer is included in the category of malignant tumors that arise in the cervix of women. This cancer can extend to the vagina, uterus to the ovaries (Aziz, Andrijono & dan Saifuddin, 2006).

The most common cause of cervical cancer is Human PapillomaVirus (HPV) infection. More than 90% of squamous type of cervical cancers contain HPV viral DNA and 50% of cervical cancers are associated with type 16 HPV. HPV is a DNA virus that infects epithelial cells (skin and mucosa). HPV infection generally occurs after a woman has sexual intercourse and generally occurs around the age of 25 years. Most HPV infections are intermittent so it is not detected within a period of 2 years after infection, and cause damage to the lining of pre-cancer that can develop into cancer cells (Edianto, Taufik & Aziz, 2001).

The earlier it is known that these cancer cells will get better, because the potential for recovery will be very high if it is still found in the pre-cancerous stage. Therefore, efforts are needed to detect this disease from the beginning. Early detection of cervical cancer can be done by pap smear and using Visual Acetate Acid Inspection (IVA) method. IVA examination is an alternative screening examination from pap smears because the cost is cheaper, very easy to carry out, using simple equipment and can be done by health workers other than gynecology doctors (Wiyono *et al.*, 2008).

Early detection of breast cancer by clinical examination (CBE) by the Sub-District and Health Center in city of Padang is based on data of early detection of cervical cancer which was held in 2015. There 2,317 women were examined and it was found that 256 women's results were positive. From 22 health centers in Padang, the most positive IVA examination was found in Padang Pasir Health Center where 366 women examined and 137 (37.4%) of them were detected positive IVA (Padang City health office, 2015).

Some risk factors for cervical cancer include reproductive age, smoking habits, low socioeconomic, oral contraceptive and sexual intercourse for the first time at an early age (Nurwijaya *et al.*, 2010). Cervical cancer is rarely found under the age of 25 years. The most common time for cervical cancer is between 25 to 49 years and it declines after 50 years. As mentioned earlier, the most common cause of cervical cancer is HPV and HPV transmission through sexual intercourse where sexual intercourse is often carried out during the reproductive age of 25 to 49 years. As for women who detected cervical cancer at the age above 50 years usually caused by the detection of late cervical cancer (Lynge, Lönnberg & Törnberg, 2017).

Besides age factors, early sexual activity can also

increase the risk of cervical cancer. An early age (<20 years) led to easy lesions of the cervix due to the female reproductive organs are not yet fully mature. This will increase the risk of HPV infection which in the end if it left, it will lead to cervical cancer (Shi *et al.*, 2017).

Another risk factor that can cause cervical cancer is the use of contraceptive pill. Contraceptive pill is one type of contraceptive that contains hormonal. The use of hormonal contraceptives for 5 years or more will cause changes in the structure of the vaginal and cervical epithelium, the vaginal epithelium thickens and the surface is coated with glycoproteins causing fungi, bacteria, and trichomonas to thrive, causing infection, irregular blood spots, and some types of germs can propagate upwards and colonize (Aziz, Andrijono & dan Saifuddin, 2006). Moreno *et al.*, (2002) found that contraceptive pill acceptors had a threefold risk for cervical cancer compared with those who never used contraceptive pill at all.

Progesterone hormone is one of the hormones used in birth control pills that function to thicken cervical mucus and reduce the ability of the uterus to receive fertilized cells. This triggers a hormonal imbalance in the body so that the endometrium undergoes histological changes that can affect the cervix. Cervical cells become susceptible to HPV infection which helps HPV to develop in cervical cells as the longer use of hormonal contraception has greater side effects (Anindita & Martini, 2006).

In Indonesia and West Sumatra, this type of oral contraceptive (birth control pill) is the second most used contraceptive. In 2015 in Padang City the percentage of the contraceptive pill users is 23.4%.

Early sexual activity and contraceptive pill have an influence on precancerous cervical lesions. The researchers are interested in conducting research on the factors related to Cervical Pre-Cancer Lesions in Women Who get detected to use Visual Acetate Acid Inspection Method (IVA) at Padang, Padang Pasir Public Health Center in 2017.

RESEARCH METHODOLOGY

This study aims an analytical survey research design with a cross sectional approach to find out the relationship between the use of contraceptive pill and early sexual activity with pre-cervical cancer lesions

in Padang Pasir Health Center in 2017. The study was carried out at Padang Pasir Health Center during January-June 2017. Data collection was conducted on May 16, 2017 until June 2, 2017.

In this study 699 women who were detected of cervical cancer by use of IVA method at the Padang Pasir in 2015 and 2016. The sampling technique in this study was simple and random and those that met the inclusion and exclusion criteria were selected as research subjects.

Data collection tools in this study use data collection format and checklist to record research results. Data is obtained through primary data and secondary data. Data analysis was performed by using a computerized system which included univariate and bivariate analysis to using frequency distribution and chi square.

RESULTS

This research was conducted at Padang Pasir Public Health Center in Padang using secondary data in 2015 and 2017. Data collection was carried out on May 16, 2017 until June 2, 2017 with a sample of 80 people.

The Padang Pasir health center is located in the center of Padang with a population of 47016 people in 10 villages. Meanwhile, there are 6534 women of child bearing age. The Padang Pasir Health Center is led by Dr. Winanda with a total of 50 staff consists of 3 doctors, 16 nurses, 20 midwives and 14 workers in other fields. However, of all doctors and midwives that there were only four midwives who have received training on inspection IVA. IVA inspection activities at the Padang Pasir health center is done at Birth Control Clinic managed by midwives Erlina who have been trained to perform the examination IVA.

The characteristics of the respondents consisted of women aged between 21 years to 62 years and in accordance with the inclusion criteria of this study respondents were limited to those who used contraceptive pill. Most of respondents are housewives and others working as civil servants and private employees. Judging by the number of children the majority of respondents have 3 children or less, but some are having 6 children. Based on the education, the majority of respondents in this study were high school graduates and the others were divided into junior high schools or colleges.

Univariate Analysis

a. Cervical Precancerous Lesions

Frequency distribution of respondents based on examination of cervical precancerous lesions can be seen through the table below:

Table 1: Frequency Distribution of Respondents Based on Precancerous Cervical Lesion Examination

No	Precancerous Lesion Examination	f	%
1	Positive	23	28.8
2	Negative	57	71.3
Total		80	100

Based on table 1, obtained data from 80 women who carried out early detection using Visual Acetate Acid (IVA) Inspection method 23 people (28.8%) had a positive examination result and 57 other people (71.3%) had negative results.

b. Age

Frequency distribution of respondents based on their age can be seen in the following table:

Table 2: Frequency Distribution of Respondents by Age

No	Ages of Respondent	f	%
1	High Risk (25-49 yo)	55	68.8
2	Low Risk (<25 / ≥ 50yo)	25	31.3
Total		80	100

According to the Table 2, data showed that out of 80 respondents while 55 (68.8%) are at high risk age group ranges between 25 to 49 years.

c. Early Sexual Activity

Frequency distribution of respondents based on early sexual activity can be seen in the table below

Table 3: Frequency Distribution of Respondents Based on Early Sexual Activity

No	Early Sexual Activity	f	%
1	High Risk (< 20 yo)	18	22.5
2	Low Risk (≥ 20 yo)	62	77.5
Total		80	100

Based on table 3 of the 80 respondents obtained the data 18 respondents (22.5%) are in the high risk group when assessed in terms of the age of first sexual intercourse is the age range <20 years.

d. Duration of Using of Pills

The frequency distribution of respondents by duration of use of the pill can be seen in the following table:

Table 4: Frequency Distribution of Respondents Based on the Duration of Contraceptive Pill Usage

No	Duration of Pill Usage	f	%
1	High Risk (≥ 5 yo)	31	38.8
2	Low Risk (<5 yo)	49	61.3
Total		80	100

Based on the data obtained from the table 4, off all 80 respondents, 31 (38.8%) are in the high risk group when assessed from a long time, if assessed from the use of contraception for ≥ 5 years.

1. Bivariate Analysis

a. Relationship Between Age and Precancerous Cervical Lesion

The results of bivariate analysis to see the relationship between age and precancerous cervical lesions can be seen in the following table:

Table 5: Relationship of Age with Cervical Precancerous Lesions

Respondents Age	Cervical Precancerous Lesion Examination				Total	
	Positive		Negative		f	%
	f	%	f	%		
High Risk(25-49 yo)	18	32.7	37	67.3	55	100
Low Risk(<25 or ≥ 50 yo)	5	20	20	80	25	100
Total	23	28.8	57	71.3	80	100

Based on Table 5 it can be seen that out of 55 respondents with a high risk age 18 of them (32.7%) obtained a positive pre-cancerous cervical cancer lesion. Whereas in the low risk respondent group of 25 respondents only 5 people (20%) had positive cervical cancer pre-cancerous lesions.

From the results of statistical tests using Chi Square P value = $0.368 > 0.05$, H_a is rejected which means that there is no age relationship with precancerous cervical lesions.

b. Relationship of Early Sexual Activity and Precancerous Cervical Lesion

From the analysis to determine the relationship of early sexual activity With Precancerous Cervical Lesions:

Table 6: Relationship of Early Sexual Activity with Cervical Precancerous Lesions

Early Sexual Activity	Cervical Precancerous Lesion Examination				Total	
	Positive		Negative		f	%
	f	%	f	%		
High Risk(< 20 yo)	7	38.9	11	61.1	18	100
Low Risk(≥ 20 yo)	16	25.8	46	74.2	62	100
Total	23	28.8	57	71.3	80	100

Based on table 6 it can be seen that out of 18 respondents who did early sexual activity under the age of 20 years 7 (38.9%) were obtained the results of pre-cancerous cervical lesions positive.

Based on the results of statistical tests using Chi Square, P value = $0.433 > 0.05$, that H_a is rejected which means there is no relationship between early sexual activity with precancerous cervical lesions.

c. Relationship between Pill Usage Duration and Precancerous Cervical Lesion

Relationship analysis of duration of use of pills with precancerous cervical lesions can be seen in the following table:

Table 7: Relation of Length of Use of Pills with Cervical Precancerous Lesions

Duration Of Pill Usage	Cervical Precancerous Lesion Examination				Total	
	Positive		Negative		f	%
	f	%	f	%		
High Risk(≥ 5 yo)	17	54.8	14	45.2	31	100
Low Risk(<5 yo)	6	12.2	43	87.7	49	100
Total	23	28.8	57	71.3	80	100

According to the table 7 it can be seen from 31 respondents high risk taking the pill five years or more 17 (54.8%) received the results of pre-cancerous cervical lesions positive. Whereas in the group of low-risk respondents who used pill contraception less than 5 years from 49 respondents, only 5 people (12.2%) obtained positive pre-cancerous cervical cancer lesions.

From the results of statistical tests using Chi Square p value = 0.000 < 0.05 so H_a is accepted which means there is a relationship between the duration of use of pill contraception and precancerous cervical lesions. In bivariate analysis, OR = 8.702 which means women who take pills for ≥ 5 years have a risk of 8.702 times more to have precancerous cervical lesions than women who take pills < 5 years.

DISCUSSION

Examination Result

The results of the study obtained from the data was that, 80 respondents 23 people (28.8%) had a positive examination results when precancerous cervical lesions were examined with Visual Acetic Acid Inspection (IVA) method. IVA is one of the early detection of cervical cancer using inspekulo 3-5% acetic acid and seen by direct eye observation (naked eye). This check is painless, easy and cheap and the results are direct. The cervix (epithelium) is abnormally white (white epithelium). The cervix that has been smeared with acetic acid within 1-2 minutes the effect will disappear so that in the results found in the normal cervix there is no white lesion (Nugroho, Askandar & Handayani, 2010).

Precancerous lesions are cervical epithelial dense abnormalities due to changes in epithelial cells, but the abnormalities have not penetrated the basal layer (basement membrane). This condition is the beginning of a change towards cervical cancer. The risk factors that can cause cervical cancer are HPV virus infection, unhealthy sexual behavior, sexual activity at an early age, ages 25 to 49 years, low socio economic level, smoking, and oral contraception (Nurwijaya *et al.*, 2010).

This research is the same as the results of research where at the time of the study on a number of studies of women in Bogor, West Java. The results of IVA examination also found women with fewer positive examination results than women with negative results but with quite different, from 2248 respondents, respondents who had negative results of 98.1%, positive 1.7% and cervical cancer 0.1% (Susanti, 1989).

According to the researchers the percentage difference in the number of respondents with positive results is likely due to differences in the number of samples

studied and differences in the characteristics of respondents, where in this study respondents were limited to using only contraceptive pills, whereas according to the theory of contraceptive pills this is the risk of cervical cancer.

Age

Based on the results of the study obtained data that of the 80 respondents 55 people (68.8%) were in the high-risk age group, namely in the age range of 25 to 49 years.

At the age 25 to 49 years is an age range where the risk for the occurrence of pre-cervical cancer lesions is higher. At this time it is often referred to as reproductive age. Reproductive age is the age at which pregnancy often occurs. At this time the transformation zone of the cervix which is thought to be the origin of cervical cancer most often changes metaplasia. Estrogens also often increase during this time, especially during pregnancy (Li *et al.*, 2010).

The research that is in line with this study is a study on 6.385 women, the proportion of the age who did the most IVA examination was in the age range of 25 to 49 years.

At the age of 25 to 49 years there is often a complaint in the reproductive tract that causes a woman to have awareness or because it is suggested by her medical consultant to conduct an IVA examination. This age is also where women in Indonesia are mostly married so that women in this age range are at risk of having pre-cancerous cervical lesions. At this age it is also the age at which women are considered adults and are more experienced than their lower age so that they are more aware of the health of their reproductive tract and better understand the importance of cervical cancer screening. In addition, the IVA examination is also influenced by other factors such as education, knowledge, attitudes, the role of cadres, health counseling and support of family members.

Early Sexual Activity

Based on the results of the study obtained data that of 80 respondents 18 people (22.5%) were in the high-risk group if assessed in terms of age the first time to have sexual intercourse that is in the age range <20 years.

Early sexual activity is a sexual relationship that takes place before the woman / man reaches his adult age. For a woman whose reproductive organs have developed perfectly is at the age of 20 years.

Similar results were also found in the study conducted by Susanti (1989) where the proportion of respondents who conducted IVA examinations had more sexual relations for the first time at age ≥ 17 years (cases 73.9%, controls 87.8%).

Many factors that cause a person did sexual activity under the age of 20 are personal factors, environmental factors and behavioral factors. Personal factors for example are knowledge about HIV / AIDS, sexually transmitted diseases (STDs), aspects of reproductive health, attitudes towards sexual & reproductive health services, perceived vulnerability to reproductive health, lifestyle, self-control, social activities, self-confidence and demographic variables such as age, religion and marital status. Environmental factors such as access and contact with information sources, socio-culture, values and norms as social support for certain behaviors. Behavioral factors are sexual lifestyle (sexual orientation, sexual experience, number of partners), health events (PMS, pregnancy, abortion) and the use of condoms and contraceptives.

Although the tendency of sexual activity to experience a shift in age to become younger in the current generation, this is not the case in the past 20 or 30 years. Women in the past generation tend to be more powerful in holding their eastern customs which view sexual intercourse before marriage as taboo before marriage both culturally and religiously. The age of married women who are most often at age 20 to 25 years. Given that the proportion of age in this study is in the range of 25 to 49 years, it can be assumed that the majority of women who are respondents are still influenced by a strong culture of eastern culture.

Pill Usage Duration

The results of the study obtained data from 80 respondents 31 people (38.8%) were in the high-risk group if assessed from the duration of contraceptive

use, namely for ≥ 5 years.

Oral contraception (pill) is a contraceptive method for women in the form of pills in each which contains a combination of estrogen and progesterone hormones or only consists of progesterone. It works suppress ovulation, prevent implantation, thicken cervical mucus. Contraception aims to prevent the occurrence of pregnancy by preventing the fertilization of eggs by sperm cells or preventing the attachment of fertilized eggs to the uterine wall (Stanford Children's Health, 2019).

Pill contraception is widely used because it is considered to have high effectiveness, can be relied upon if taken regularly, does not interfere with sexual intercourse, is simple, easy to stop at any time, quickly fertile again when use is stopped and does not require examination during contraception. In addition, pill contraception does not require high costs so it is widely used for middle to lower socioeconomic society (Smith *et al.*, 2003).

Pill contraceptive use is generally used by women who have never given birth by reason of delaying having children, temporary contraceptive methods when wanting a new type of contraception, mothers who are afraid of mechanical contraception or only used as emergency contraceptives. Therefore, contraceptive use is generally only used in a short time of less than 5 years. The use of contraceptive pills that are long or more than five years are usually used when other methods cannot be used or other methods are considered to have side effects that interfere with the comfort of the acceptor.

The results of the study that are in line with this study are research conducted by Moreno *et al.*, (2002) in women with HPV. Only about 10-20% of all respondents use pill contraception for more than 5 years, the rest only use pills in a short time or less than five years.

The choice of contraceptives by family planning acceptors is influenced by partner factors (age, lifestyle, frequency of intercourse, desired number of families, experience with other contraceptives, female attitudes and personality attitudes) and health factors (health status, menstrual history, family history, examination physical and pelvic examination) (Stanford Children's Health, 2019).

Relationship of Age and Precancerous Cervical Lesion

Based on table 4.5, it can be seen that out of 55 respondents with high risk age, 18 of them (32.7%) received a positive pre-cancerous cervical cancer lesion and 37 others (67.3%) got a negative pre-cancerous cervical cancer lesion. Whereas in the group of low risk respondents from 25 respondents there were only 5 people (20%) who had positive cervical pre-cancerous lesions and 20 others (80%) with negative results.

From the results of statistical tests using Chi Square p value > 0.05 (0.368) which means it is not statistically significant so it can be concluded that the age of the respondent is not a risk factor that can lead to precancerous cervical lesions. Although not statistically significant, the frequency of patients with cervical precancerous lesions was mostly in the age range of 25 to 49 years, which was 78.26%.

This study has the same results as the research where the highest age range for cervical cancer is also in the range of 25 to 49 years but not statistically significant (Lyng, Lönnberg & Törnberg, 2017).

The results of this study are not in line with the theory stated by Nurwijaya (2010), where one of the risk factors for cervical cancer is at the age of 40 years and above and it states that the incidence of cervical cancer was found to increase at the age of 25 years up to 49 years, where the highest incidence is in the age range of 30 to 34 years which is a 1.5-fold risk (Li *et al.*, 2010).

Different results with this study are the results obtained in a research conducted on 97 respondents, where although the highest proportion of patients with cervical cancer were almost the same range in the age range of 25 to 44 years, Pradya statistics also prove that age is one of the risk factors associated with cervical cancer with OR = 5.86 (Pradya, 2015).

Another thing that causes differences in results is also likely due to the specific cause of cervical cancer itself is still unknown. Although the pathology is the most common cause due to HPV virus infection, cervical cancer is also one of the diseases with a multifactorial cause that is a factor that is bound to other factors. If a mother has a risk factor at the age of 25 to 49 years, but if other factors do not support, the mother is not necessarily cervical cancer. Another factor that is likely

to influence is smoking, socio-economic and parity.

Age has also been explained in the previous discussion, not describing when exactly the pathological process began. The age at which a woman is diagnosed with a precancerous cervical lesion is greatly influenced when the woman checks in this case, especially the examination with the IVA method. In this study there were several respondents who were aged 50 years or older who an examination with positive results of precancerous cervical lesions, this may happen because the woman was late screening and this did not rule out the possibility that the woman had suffered precancerous lesions long before she did examination, and this can affect the results of the study.

Relationship of Early Sexual Activity and Precancerous Cervical Lesion

Based on table 4.6 of the 18 respondents who performed early sexual activity under the age of 20 years 7 people (38.9%) obtained results of examination of positive pre-cancerous cervical lesions and 11 other (61.1%) obtained examination results pre-cancerous cervical lesions are negative. Whereas from 62 respondents who conducted early sexual activity aged 20 years or more 16 people ((25.8%) obtained a positive pre-cancerous cervical cancer lesion and 46 (74.2%) obtained pre-cancerous cervical cancer examination with negative result.

Based on the results of statistical tests using Chi Square p value > 0.05 (0.433) which means that it was not statistically significant so it can be concluded that in this study the age at the time of having sexual intercourse is not one of the risk factors that can lead to precancerous cervical lesions.

Generally mucosal cells mature after women aged 20 years and over. This is related to the maturation of mucosal cells in the cervix. At the age of less than 20 years, mucosal cells in the cervix are immature, which is vulnerable so that they are not ready to receive stimuli from the outside, including chemicals carried by sperm. At this age, inflammation is easy to occur, which in the long run can cause an increased risk of cervical cancer.

Different results from this study were obtained by Pradya, 2015 where p value < 0.05 which indicates that the first age of sexual intercourse is one of the risk

factors for cervical cancer. Pradya found that sexual intercourse for the first time at age ≤ 20 years was 0.009 times more likely to experience the incidence of cervical precancerous lesions than the group of respondents who had sex for the first time at the age of > 20 years (Pradya, 2015). Different results were also found by Susanti (1989) where women who had sexual intercourse for the first time at the age of < 17 years had a 2.539 times greater risk of developing cervical cancer than women who had the first sexual relationship at age ≥ 17 years with OR 2.539 (95% CI 1.444 – 4.464) (Susanti, 1989).

Similar results in this study were found that in 258 respondents in the East Jakarta Health Center where this study also failed to prove that the first age of sexual intercourse was a risk factor for precancerous cervical lesions. Kurniati found p value = 0.469 ($p > 0.05$) which means that there was no difference in the proportion of the incidence of pre-cancerous lesions based on the first age of sexual intercourse (Louie *et al.*, 2009).

Different results are likely due to different number of samples and research locations. Although using the same research design, this difference has a different effect on the results of this study than other studies. Another thing that is suspected to be the cause of the different results obtained by the theory is that there are many other risk factors for cervical cancer that are not studied but also have an influence on the incidence of cervical cancer. It has been mentioned previously that the causes of cervical cancer are multifactorial, which means that one factor is related to other factors.

Relationship between Pill Usage Duration and Precancerous Cervical Lesion

Based on table 4.7, it can be seen from 31 high-risk respondents who used 5-year contraceptive pills or more than 17 people (54.8%) got positive pre-cancerous cervical cancer lesions and 14 (45.2%) other patients with pre-test lesions negative cervical cancer. Whereas in the group of low-risk respondents who used pill contraception less than 5 years from 49 respondents 5 people (12.2%) got a positive pre-cancerous cervical cancer lesion and 43 people (87.7%) with pre-cancerous lesions negative cervix.

From the results of statistical tests using Chi Square p value < 0.05 which means the results are statistically

significant. This shows that there is a long association with pill usage with the incidence of cervical precancerous lesions. In bivariate analysis, OR = 8.702 which means women who take pills for ≥ 5 years have a risk of 8.702 times more to have precancerous cervical lesions than women who take pills < 5 years.

The use of pill contraception is thought to be a cause that can encourage the development of cervical cancer. The mechanism that is thought to play a theoretical role in this regard is the change in cervical mucus that can increase tissue susceptibility, alter immune responses that increase susceptibility to infection which eventually results in abnormal cervical precancerous lesions. The longer the use of pill contraception, the more risky the respondent experienced the incidence of cervical cancer (Smith, 2003).

The same results were also found by Pradya (2015) where respondents who used pill contraception for ≥ 4 years were at 42 times the risk of experiencing the incidence of cervical precancerous lesions compared to the group of respondents who used contraceptive pills < 4 years. This is also in line with Moreno *et al.*, (2002) where the risk of cervical cancer increases up to 4 times in respondents who take pills more than 5 years (Moreno *et al.*, 2002). In the same year the relationship between the length of use of oral contraceptives and the incidence of cervical cancer were also supported (Cibula *et al.*, 2010).

In Indonesia, the results of this study shows that if contraceptive pills are used for a long period of time there can be a risk of cervical cancer. It is recommended not to use contraceptives pill for a long time and preferably interspersed with other contraceptives.

CONCLUSION

After doing research using analytical survey method with a cross sectional approach about the factors associated with cervical precancerous lesions, it can be concluded that:

A small number of women who carry out early detection using visual inspection methods of acetic acid (IVA) have tested positive for cervical precancerous lesions. Most women who do early detection using the visual inspection method of acetic acid (IVA) are in the age range of 25-49 years. A small number of women who carry out early detection using

visual inspection methods of acetic acid (IVA) carry out early sexual activity <20 years. A small number of women who carry out early detection using visual inspection methods of acetic acid (IVA) use pills contraception ≥ 5 years. There was no significant relationship between age with cervical precancerous lesions in women who carried out early detection using a visual inspection method of acetic acid (IVA). There was no significant relationship between early sexual activity with precancerous cervical lesions in women who carried out early detection using the inspection method of visual acetic acid (IVA). There was a significant relationship between the duration of pill use and precancerous cervical lesions in women who performed early detection using a visual inspection method of acetic acid (IVA) where respondents who used pill contraception for selama 5 years were at a higher risk of developing cervical premenker lesions than respondents who used pill <5 years.

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