Examination of Pap Smear as A Screening Lesion of Cervical in Muaro Pijoan Village Working Area of Puskesmas Sungai Duren, Muaro Jambi District, Jambi Provence

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Abstract— Cervical cancer is a primary savage tumor that comes from squamous epithelial cells. It is the second killer after mammae cancer for women in growth countries include Indonesia. The incidence of cervical cancer is increasing in Indonesia that is become one of the causes of death of women in their productive age. Pap smear is one of method of cervical cancer screening which is efficacious, simple, and cost effective. By applying pap smear in developed countries, the incidence of invasive cervical cancer has been reduced around 46-76% and the mortality has been declining around 50-60%. This study aimed to description clinicocytopathology of pap smear in Muaro jambi village, Kabupaten Muaro Jambi, Jambi provence. This is prospective descriptive observation study at Pathology Anatomic Departement of Medical Faculty Jambi University. The data was taken from all woman that has been done pap smear in Puskesamas Sungai Duren Kabupaten Muaro Jambi in July 2018. The range distribution of patients was found in 22.00-62.00 years, multiparity woman (75.0%) with cervicitis chronis non spesific (37,0%) and Negative for Intraepithelial Lesion (NILM) (34,0%), only 20 woman with Atypical Squamous Cell of Undetermined Significance (ASCUS), 1 woman with Low Grade Squamous Intraepithelial Lesion (LSIL) and 1 woman with High Grade Squamous Intraepitrhelial Lesion (HSIL) as moderate dyplasia. The highest distribution abnormalities of squamous epithelial cell was 41 years old, multipara (100%). Moderate dysplasia (HSIL) was woman with hormonal contraception. The incidence abnormal epithelial cervix cell was highest on 46 years old woman, with hormonal contraception and multiparity. The description of abnormal epithelial cervix cells were found to be ASCUS

Keywords: clinococytopathologiy, cervical, pap smear

I. INTRODUCTION

Cervical cancer is the fourth most common cancer in women with an estimated 530,000 new cases in 2012 representing 7.9% of all female cancers. About 90% of 270,000 cervical cancer deaths in 2015 occur in low and middle income countries (1). In Indonesia there are 100-900 cases of cervical cancer per 100,000 population, and deaths due to this disease are mainly associated with most stages of cervical cancer, which are invasive, advanced and even terminal stages at the time of diagnosis (2) (3) (4). World health organization (WHO) publishes the speed of cervical cancer globally will increase 50% in 2020. Regular examination of cervical smear can reduce cancer deaths by as much as 40%, especially in women over 50 years of age. In populations with extensive screening coverage, the incidence of cervical cancer drops to 70-90%, while in populations not undergoing screening, the incidence of cervical cancer continues to be in initial conditions such as when screening has not been applied in developed countries (5) (6). There must be an effective mass screening program aimed at certain age groups to detect precancerous conditions before they develop into invasive cancer. Detection of abnormal epithelial cells according to the Bethesda system guidelines is a system used in detecting precancerous lesions in cervical smear (7)

This service was conducted from April-October 2018. Pap smear examination was performed on July 18, 2018 which was located the working area of Sungai Duren Community Health Center who holds Muaro Pijoan Village, a foster village of Jambi University, with activities such as counseling and pap smear examination. This service was expected to increase the awareness of productive women to have themselves routinely checked to reduce mortality caused by cervical cancer.

II. METHODS

This activity was prepared during April to June 2018 and pap smear examination was performed on July 18, 2018, located in foster village of Jambi University, Muaro Pijoan Village, in the working area of Sungai Duren Community Health Center, Muaro Regency, Jambi. This activity was performed by direct examination on the participants and education of pap smear. Clinical characteristics assessed were age, parity, type of contrast used, and type of infection while cytopathological variables with abnormalities of epithelial cells according to Bethesda classification were Negative for Intraepihelial Lesion (NILM), Atypical Squamous Cell of Undetermined Significance (ASCUS), Low Grade Squamous Intraepithelial Lesion (LSIL), High grade squamous Intraepithelial Lesion (HSIL), Squamous cell carcinoma and Glandular Cell Abnormalities (8).

III. RESULTS

This community service was conducted on July 18, 2018 in Sungai Duren Community Health Center, Muaro Regency, Jambi. This activity was performed by directly sampling cervical smear by a pathologist with the help of several midwives and students of FKIK Jambi University. Pap smear examination was performed on one hundred women from Sungai Duren population that were married or had performed sexual activity within the age range below 65 years.

Cervical smear samples were taken to Anatomical Pathology Laboratory in Faculty of Medical and Health Science of Jambi University to be read and assessed. Clinical variables assessed were age, parity, type of contraception and infection, while cytopathological variable was the characteristics of epithelial cell abnormalities according to Bethesda criteria, i.e. Negative for Intraepithelial Lesion (NILM), Atypical Squamous Cell of Undetermined Significance (ASCUS), Low Grade Squamous Intraepithelial Lesion (LSIL), with High Grade Squamous Intraepitrhelial Lesion (HSIL), squamous cell carcinoma and glandular cell abnormality. Complete recapitulation of pap smear results in the form of clinical and cytological variables can be seen in Appendix 3. Table 1 explains the characteristics of all the subjects according to age, parity, menopause, contraception and cytopathology result. The average age was 38.18 ± 8.517 years with 5 or 5.0% nulliparous, 15 or 15.0% primiparous, 75 or 75.0% multiparous and 5 or 5.0% grand multiparous. There were 10 or 10.0% menopause patients and 90 or 90.0% non-menopause patients. There were 9 or 9.0% patients used IUD, 11 or 11.0% used pills, 19 or 19.0% used injection, 5 or 5.0% used implant, 1 or 1.0% used condom, 1 or 1.0% used MOW and 52 or 52.0% did not use any contraceptive method. There were 34 or 34.0% with NILM results, 37 or 37.0% with non-specific chronic cervicitis NILM, 20 or 20.0% ASC-US, 7 or 7.0% atrophic smear NILM, 1 or 1.0% LSIL and 1 or 1.0% dysplasia.

Table 1. Clinical characteristic

Variable	n=100
Age (years)	38.18±8.517
Mean±Std	38.00
Median	22.00-62.00
Range (min-max)	38.18±8.517
Parity	
Nullipara	5(5.0%)
Primipara	15(15.0%)
Multipara	75(75.0%)
Grandemultipara	5(50.0%)
Menopause	
Yes	10(10.0%)
No	90(90.0%)
Contraception	
IUD	9(9.0%)
Pill	11(11.0%)
Injection	19(19.0%)
Implant	5(5.0%)
Condom	3(3.0%)
MOW	1(1.0%)

Variable	n=100
No/ Others	52(52.0%)
Cytopathology	
NILM	34(34.0%)
NILM + Non specific chronic cervicitis	37(37.0%)
ASC-US	20(20.0%)
Athropic Smear NILM	7(7.0%)
LSIL	1(1.0%)
Moderate dysplasia (HSIL)	1(1.0%)

Table 2 explains about cytopathology based on age. Mean age of NILM result was 35.67±7.425 years old, mean age of NILM Non specific chronic cervicitis result was 36.83±7.772 years old, mean age of ASC-US result was 38.55±6.778 years old, mean age of Athropic smear NILM result was 54.14±4.598 years old, and mean age of LSIL and HSIL (Moderate Dysplasia) results were 46.00 years old.

Table 2. Cytopathology based on age

Variable	Citopathology					
	NILM	NILM Non specific chronic cervicitis	ASC-US	Athropic smear NILM	LSIL	HSIL
Mean±Std	35.67±7.425	36.83±7.772	38.55±6.778	54.14±4.598	46.00	46.00
Median	35.00	35.00	41.00	53.00	-	-
Range (min-max)	23.00-49.00	22.00-51.00	27.00-49.00	48.00-62.00	-	-

Table 3 explains about cytopathology based on parity. Most cytopathology results were found in multipara. NILM was 73.5% multipara, NILM Non specific chronic cervicitis was 81.1% multipara, ASC-US was 65.0% multipara, Athropic smear NILM was 71.4% multipara, and LSIL and HSIL (Moderate Dysplasia) were 100% multipara.

Table 3. Cytopathology based on parity

Variable	Cytopathology					
	NILM	NILM Non specific chronic cervicitis	ASC-US	Athropic smear NILM	LSIL	HSIL (Moderate dysplasia)
	n	N	n	n	N	N
Nullipara	3 (8.8%)	1(2.7%)	1 (5.0%)	0 (0.0%)	0(0.0%)	0(0.0%)
Primipara	5(14.7%)	6(16.2%)	4(20.0%)	0 (0.0%)	0(0.0%)	0(0.0%)
Multipara	25 (73.5%)	30 (81.1%)	13 (65.0%)	5(71.4%)	1(100.0%)	1(100.0%)
Grandemultipara	1 (2.9%)	0(0.0%)	2(10.0%)	2(28.6%)	0(0.0%)	0(0.0%)

Table 4 explains about cytopathology based on menopause status. NILM result was more common in

nonmenopause patients (94.1%) than menopause patients (5.9%). ASC-US result also was more common in nonmenopause patients (95.0%) than menopause patients (5.0%). While, Athropic smear NILM result was more common in menopause patients (85.7%) than nonmenopause patients (14.3%). NILM Non specific chronic cervicitis and HSIL (Moderate Dysplasia) result in nonmenopause patients (100.0%) and LSIL result in menopause patients.

Table. 4. Cytopathology based on menopause status

| Variable | Cytopathology | | | | | |
	NILM	Non specific chronic cervicitis	ASC-US	Athropic smear NILM	LSIL	HSIL
	N=	N=	N=	N=	N=	N=
Menopause						
Yes	2(5.9%)	0(0.0%)	1 (5%)	6(85.7%)	(100%)	0(0.0%)
No	32 (94.1%)	37(100%)	19 (95%)	1(14.3%)	0(0%)	1(100%)

Table 5 explains about cytopathology based on contraceptive method. The results show in NILM, NILM Non specific chronic cervicitis, ASC-US, Athropic smear NILM, and LSL more patients did not use any contraceptive method. They were 52.9%, 48.6%, 45%, 85.7%, and 100.0%. All of patients with HSIL (Moderate Dysplasia) results used injection contraceptive (100.0%).

Table 5. Cytopathology based on contraceptive method.

| Variable | Cytopathology | | | | | |
	NILM	Non specific chronic cervicitis	ASC-US	Athropic smear NILM	LSIL	HSIL
IUD	5(14.7%)	1(2.7%)	2(10.0%)	1(14.3%)	0(0.0%)	0(0.0%)
Pill	3(8.8%)	5(13.5%)	2(10.0%)	0(0.0%)	0(0.0%)	1(100%)
Injection	6(17.6%)	8(21.6%)	5(25.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Implant	0(0.0%)	3(8.1%)	2(10.0%)	0(0.0%)	0(0.0%)	0(0.0%)
condom	2(5.9%)	1(2.7%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
MOW	0(0.0%)	1(2.7%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
No	18(52.9%)	18(48.6%)	9(45.0%)	6(85.7%)	1(100.%)	0(0.0%)

In the Bethesda system the term Squamous cancer precursor was changed to Squamous Intraepithelial Lesion (SIL). Based on the presence of HPV in the event of changes in cervical cells, SIL is divided into 2 degrees, namely low grade SIL or Low grade SIL (LSIL) and high degree SIL or High grade SIL (HSIL). In this system LSIL refers to CIN 1 and HSIL referring to CIN 2 and 3. Bethesda System Workshop in 2001, made modifications to the form of reports and terminology on cervical smear (8). One of the most important things in reading the Pap smear results recommended in the Bethesda System is a statement on the adequacy of specimens. In adequate specimens also reported the presence of endocervical cells or transformation zone cells, inflammatory cells, red blood cells,

drying artifacts. The disruption of epithelial cell evaluation because of the large number of inflammatory cells or red blood cells also determines the adequacy of specimens. If more than 75% of epithelial cells cannot be seen and assessed, the specimens will fall into the inadequate category (8) (9). The application of cervical neck cancer screening in Indonesia has a current target age of 30-50 years. Screening at the age of> 30 years is done every 3 years if the results are normal on pap smears and negative for HPV testing. If a positive or unsatisfactory result is obtained, it's best to repeat the pap smear within two or three months. If the results show the presence of cancer, of course, you should immediately get further treatment. In table 2 shows the picture of cervical smear microorganisms most commonly found is non-specific cervicitis followed by candida and trichomonas vaginalis. This is in line with the research conducted by Fauziah et al. With the most picture being specific chronic servicing (10). Candida and trichomonas infections can be found together or stand alone. Usually found in women with bad hygiene, immunosuppression and pregnancy (11) (12). The prenvasive phase latent period for being invasive takes around 10 years. LSIL includes moderate and mild dysplasia. Several studies have shown that some periods for cervical carcinoma postplasia are 12% after 5 years, 18% after 10 years and 30% after 20 years (13) (14). The Banik Research, conducted at the Gynae Outpatient Department (GODP) of a tertiary hospital in Bangladesh which examined 1699 women with a cross-sectional design obtained a cytopathological picture of 91.81% with NILM, 0.18% with ASCUS, 0.12% with AGC, 6.36% with LSIL, and 0.35% with malignancy (15).

Frequent pregnancy and childbirth can also increase the risk of cervical cancer in women. The relationship between frequent delivery and cervical cancer may be due to a decreased ability of the cervix to maintain the transformation zone of the ectocervix against HPV infection, in addition to the possibility of hormonal factors which can also play a role (7). In the study, significant results were obtained between the use of hormonal contraception and the incidence of apithelial cell abnormalities. (p = 0.022). Obtaining ASCUS, LSIL and HSIL abnormalities, had a significant correlation with the use of implant and injection contraception. The presence of hormonal balance disorders greatly affects changes in cervical epithelial cells. The most common picture is a picture of atrophy which is very doubtful with a picture of intraepithelial lesions in cervical cells. Atrophy vaginitis was found at older ages and at the age of menopause, in this study there was vagnitis atrophy at age above 55 years, but this condition can also be found at a young age using long hormonal contraception (16) (17). The increase in risk factors for hormonal contraception with the incidence of cervical cancer associated with metabolic estrige by the CYP1A1 enzyme, where Paramita et al. Found CYP1A1 gene polymorphism also found both the frequency and distribution similar to other studies in Asian races (18).

IV. CONCLUSION

According to the results of community service in Muaro Pijoan Foster Village in Muaro Regency Jambi, the following conclusion can be made:

- The population was very enthusiastic to participate in this activity, even though there were still several women in productive age who were afraid of pap smear examination. The number of participants fulfilled the target of 100 people conducted in 2 effective days.
- The population that participated in pap smear program was in the age range of 22-62 years, mostly were multiparous and did not use any contraceptive method.
- The results of pap smear cytopathology were mostly negative for intraepithelial lesion or malignancy (NILM) with non-specific chronic cervicitis.

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