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CERVICAL CANCER SCREENING WITH PAP SMEAR METHOD AND IVA TEST AT DERWATI PRATAMA CLINIC BANDUNG ON JULY 4, 2024

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ABSTRACT

Cervical cancer is the second most common cancer case, with 36,633 cases or 9.2% of the total cancer cases in Indonesia. Cervical cancer screening through IVA test and Pap smear in Indonesia have only covered 9.3% of women in the target population, which shows how important cervical cancer screening testing is in various regions in Indonesia. This study discusses the results of cervical cancer screening through Pap smear and IVA test conducted at the Derwati Pratama Clinic, Bandung on July 4, 2024. The results of the study showed a microcrystalline cellulose yield of 56.103%. The results of cervical cancer screening in 30 female participants aged 20-70 years from the area around Derwati, Rancasari District, Bandung showed that no patients were positive for intraepithelial lesions and malignancies.

Keywords: cervical cancer screening, pap smear, IVA test, cervical cancer

1. INTRODUCTION

Cervical cancer is the fourth most common cancer in the world, with 660,000 new cases and 350,000 deaths in 2022. The highest mortality rates for cervical cancer are in African, Central American and Southeast Asian countries including Indonesia [1]. In Indonesia itself, cervical cancer is the second most common cancer case, with 36,633 cases or 9.2% of all cancer cases in Indonesia [2]. 95% of cervical cancer is caused by repeated human papillomavirus (HPV) infection, which is transmitted through sexual intercourse. Abnormal cells that cause cervical cancer take 20 years to develop into cervical cancer, so cervical cancer prevention should be done as early as possible through the Papanicolau (Pap) smear cervical cancer screening method and visual inspection of acetic acid (IVA), as well as HPV vaccination for women aged 9-14 years [1]. Pap smear examination is not only useful for detecting low-stage cervical cancer, but also useful in detecting precancerous lesions, which can be given therapy to treat the lesions [3]. IVA test examination is a crucial examination to see the color changes of lesions that react with acetic acid [4].

Women are advised to have a Pap smear at least once a year to evaluate their health. However, this test is not recommended for women under the age of 21, given the low incidence of cervical cancer and the high risk of false-positive results [5]. Pap smear testing has been shown to reduce the number of cervical cancer incidents in various developed countries over the past 50 years [6]. In 2020, cervical cancer screening through IVA test and Pap smear in Indonesia only covered 9.3% of women in the target population [7]. This shows how important cervical cancer screening testing is in various regions in Indonesia.

2. METHODOLOGY

This data collection was conducted retrospectively with a cross-sectional approach method of descriptive observational studies. The data obtained were descriptive of the discovery of intraepithelial lesions and inflammatory malignancies, as well as the discovery of pathogenic organisms. PAP smear and IVA test examination was conducted on 30 female participants at the Pratama Derwati clinic, Jl. Derwati Mas No.17, Bandung City on July 4, 2024. The population of female participants in this study were aged between 20-70 years who lived in the area around Derwati, Rancasari District, Bandung. Sampling for Pap smear examination and application of acetic acid for IVA test examination were carried out on all study participants.

2.1 Pap Smear Test

A health worker places a speculum into a woman's vagina and identifies her cervix. Then, cells from the cervical transformation zone are collected using a brush and transferred to a bottle containing a preservative fluid. The sample fluid is then tested in the lab under a microscope to see pathogenic cells [8].

2.2 IVA test

IVA test is carried using 5% acetic acid applied to the cervix, then observed for white discoloration indicating precancerous cervical lesions [4].

3. RESULTS AND DISCUSSION

The results of cervical cancer screening in 30 female participants aged 20-70 years from the Derwati area, Rancasari District, Bandung showed that no patients tested positive for intraepithelial lesions and malignancy. The vaginal canal is inhabited by microorganisms, known as the vaginal microbiota. These microorganisms, in addition to synergizing and

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forming complexes between protein and peptide secretions, epithelial cells, and immune cells, also play an important role in the defense of the female genital tract against infection and inflammation. In a healthy mucosal layer, the various components are in a state of balance. Disruption of mucosal homeostasis is determined by changes in one of the various actors and often results in increased host susceptibility to infection [9]. Of the 30 participants, 8 participants were detected with Coccen organisms, 1 participant was positive for Candida spp., 1 participant was positive for Coccobacili organisms and 20 participants were negative for pathogenic organisms.

Table 1. Results of Pap smear and Cervical Cancer Tests of 30 female patients at the Derwati Clinic, Bandung, July 4, 2024

No	No Lab	Patient Initial	Pap Smear and IVA test result
1	3240700182	SR	(-) intraepithelial lesion and malignancy Inflammation, Organism:coccen
2	3240700183	EW	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen
3	3240700186	PS	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen
4	3240700187	SS	(-) intraepithelial lesion and malignancy (-) pathogen organism
5	3240700188	R	(-) intraepithelial lesion and malignancy (-) pathogen organism
6	3240700189	LCS	(-) intraepithelial lesion and malignancy (-) pathogen organism
7	3240700192	SAS	(-) intraepithelial lesion and malignancy (-) pathogen organism
8	3240700193	ELW	(-) intraepithelial lesion and malignancy (-) pathogen organism
9	3240700194	CF	(-) intraepithelial lesion and malignancy (-) pathogen organism
10	3240700195	EW	(-) intraepithelial lesion and malignancy (-) pathogen organism
11	3240700196	TM	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:Candida spp.
12	3240700197	EH	(-) intraepithelial lesion and malignancy (-) pathogen organism
13	3240700198	YH	(-) intraepithelial lesion and malignancy (-) pathogen organism
14	3240700201	RR	(-) intraepithelial lesion and malignancy (-) pathogen organism
15	3240700202	HK	(-) intraepithelial lesion and malignancy (-) pathogen organism
16	3240700203	ES	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen
17	3240700204	IK	(-) intraepithelial lesion and malignancy Lower estrogen levels (-) pathogen organism
18	3240700205	YL	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen

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19	3240700206	IMS	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen
20	3240700207	LH	(-) intraepithelial lesion and malignancy (-) pathogen organism
21	3240700209	EH	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen
22	3240700213	A	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccen
23	3240700214	SD	(-) intraepithelial lesion and malignancy (+) Inflammation, Organism:coccobacilli
24	3240700215	EA	(-) intraepithelial lesion and malignancy (-) pathogen organism
25	3240700216	AUA	(-) intraepithelial lesion and malignancy (-) pathogen organism
26	3240700217	DK	(-) intraepithelial lesion and malignancy (-) pathogen organism
27	3240700218	R	(-) intraepithelial lesion and malignancy (-) pathogen organism
28	3240700219	TT	(-) intraepithelial lesion and malignancy (-) pathogen organism
29	3240700220	HD	(-) intraepithelial lesion and malignancy (-) pathogen organism
30	3240700221	IS	(-) intraepithelial lesion and malignancy (-) pathogen organism

(-) indicates negative or none; (+) indicates positive

Of the 30 participants, 10 participants were found to have inflammation of the cervix. Inflammation of the cervix or what is commonly called cervicitis can be caused by sexually transmitted infections such as Neisseria gonorrhoea, Candida sp., or other bacteria that cause vaginosis [10]. Cervicitis can contribute to the development of cervical cancer, so it must be treated early [11]. In participant Mrs. IK, a decrease in estrogen was found, where through research [12] it was found that patients who experience menopause and decreased estrogen have a greater likelihood of developing intraepithelial lesions.

The cause of cervical cancer is the Human Papilloma Virus (HPV) with the most common subtypes being 16 and 18. Risk factors for cervical cancer include: sexual activity at a young age, having sex with multiple partners, smoking, having many children, low socioeconomic status, use of birth control pills (with negative or positive HPV), sexually transmitted diseases, and immune disorders [13]. The development of cervical cancer begins with the occurrence of lesions in the epithelial layer of the cervix. Pap smear cytology examination is used as screening, if the result is positive, histopathological examination is needed as diagnostic confirmation. At the time this precancerous lesion has not given symptoms, but when it has become invasive cancer, the most common symptoms are bleeding (contact bleeding, bleeding during intercourse) and vaginal discharge [14]. The Papanicolaou classification system refers to the patient's Pap smear cytology results (according to Table 2) [15]. Based on the results obtained, it was found that no malignancy and intraepithelial lesions were detected in the cervix of 30 participants.

Table 2. Pap Smear examination results based on Papanicolaou classification of 30 female patients at Derwati Clinic, Bandung, July 4, 2024.

No	Papanicolau Classification	Description	Total patients	Percentage
1	Class 1: Normal	No abnormal or atypical cells	30	100%
2	Class II: Normal / Atypical	Atypical cells but no evidence of malignancy	0	0%
3	Class III: Mencurigakan	Undefined (cytology results suggest malignancy but are not conclusive)	0	0%

4	Class IV: Suggestive	Cytology indicates malignancy	0	0%
5	Class V: Indicative	Conclusive cytology indicates malignancy	0	0%

4. CONCLUSION

The results of cervical cancer screening in 30 female participants aged 20-70 years from the area around Derwati, Rancasari District, Bandung on 4 July, 2024 showed that:

1. All participants (100%) did not detect intraepithelial lesions and malignancies that could indicate cervical cancer.
2. 8 patients (26,6%) have inflamed cervix with Coccen infection
3. 1 patient (3,33%) have inflamed cervix with Candida sp infection
4. 1 patient (3,33%) have inflamed cervix with Coccobacilli infection
5. 1 patient (3,33%) have lower estrogen levels.

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