

## Deteksi Dini Kanker Payudara dan Lesi Prakanker Serviks pada Tenaga Kesehatan

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### Abstrak

**Tujuan:** Kegiatan ini untuk menganalisis pengetahuan kanker payudara dan serviks tenaga kesehatan di faskes pertama kabupaten Bogor.

**Metode:** Pelatihan deteksi dini kanker serviks dan payudara tenaga kesehatan di faskes pertama kabupaten Bogor dilakukan 6 hari melalui kuliah, *dry lab*, dan praktik lapangan. Dilakukan *pre-test* dan *post-test* untuk menilai pengetahuan tenaga kesehatan faskes pertama kabupaten Bogor.

**Hasil:** Dari 75 responden perwakilan dari Puskesmas di kabupaten Bogor, 6,67% melakukan pelayanan deteksi dini kanker payudara dan 4,00% melakukan pelayanan deteksi dini kanker serviks. Pengetahuan responden setelah diklat, 100% responden menjawab benar tanda klinis IVA test negatif, pembacaan hasil IVA test setelah 1 menit, anjuran setelah krioterapi, tidak berhubungan selama 4 minggu setelah krioterapi, langkah pemeriksaan payudara, hal yang dilakukan bila menemukan kelainan pada payudara dan setelah digunakan, spekulum didekontaminasi 10 menit direndam dalam larutan klorin 0,5%. Pengetahuan meningkat signifikan mengenai perubahan leher rahim yang abnormal hampir selalu terjadi pada sambungan skuamo-kolumnar, yaitu naik 42,67% (56,00% pada menjadi 98,67% pada *post-test*).

**Kesimpulan:** Terdapat peningkatan pengetahuan dan keterampilan setelah pelatihan kanker payudara dan serviks, terutama deteksi dini lesi prakanker serviks dan payudara, sehingga dapat disimpulkan upaya pelatihan penting untuk meningkatkan pengetahuan dan keterampilan deteksi dini kanker payudara dan serviks.

**Kata kunci:** kanker serviks, kanker payudara, tes IVA

## *Knowledge of Healthcare Providers on Early Detection of Breast Cancer and Precancerous Cervical Lesions*

### Abstract

**Objective:** This community service program aims to analyze the level of knowledge of breast cancer and cervical cancer by providing solutions through training for healthcare providers at primary health facilities in Bogor Regency.

**Method:** Training on early detection of cervical cancer and breast cancer for doctors and midwives at primary health facilities at the Bogor Regency health office. The training was carried out for 6 days and was divided into lecture delivery, *dry lab*, and fieldwork practice at Padasuka Health Center and Puter Health Center. Pre-tests and post-tests were carried out to assess the level of knowledge of healthcare providers at primary health facilities in Bogor Regency.

**Results:** Out of 75 representative respondents from each health center in Bogor Regency, 6.67% provided early detection of breast cancer, and 4.00% provided early detection of cervical cancer. As for respondents' knowledge after being given training, as many as 100% of respondents answered correctly about the clinical signs of a negative VIA test reading the VIA test results after 1 minute, recommendations after cryotherapy, not to have sexual intercourse for 4 weeks after cryotherapy, steps for breast examination, what to do if they find abnormalities in the breast and after use, and the speculum that should be decontaminated for 10 minutes by immersion in 0.5% chlorine solution. Respondents' knowledge significantly increased regarding abnormal cervical changes-dysplasia almost always occurred in the squamous columnar junction, which went up 42.67% (from 56.00% on the pre-test to 98.67% on the post-test).

**Conclusion:** There was an increase in knowledge and skills after being given training on breast cancer and cervical cancer, especially knowledge about early detection of precancerous cervical lesions and breast cancer, so it can be concluded that training efforts are very important to increase knowledge and skills for early detection of breast cancer and cervical cancer.

**Key words:** cervical cancer, breast cancer, VIA test

## Introduction

Breast cancer is cancer that occurs in the breast tissue.<sup>1</sup> Breast cancer forms when cells in the tissues of the breast develop uncontrollably and take over a healthy surrounding tissue.<sup>1</sup> Breast cancer can occur in the mammary glands (lobules) or in the ducts that carry milk from the gland to the nipple.<sup>1</sup> It can also occur in the fatty tissue or connective tissue within the breast.<sup>2</sup> Although it most commonly occurs in women, breast cancer can also affect men.

The number of breast cancer cases worldwide is up to 1.7 million cases with the number of deaths reaching 521,900 in 2012.<sup>3</sup> Since 2021, breast cancer has become the most common cancer in the world accounting for 12% of the total new cancer cases each year. About 2.3 million new breast cancer cases are reported each year.<sup>4</sup>

In Indonesia, the recording of breast cancer incidence is still at the subnational stage, making it difficult to determine changes in breast cancer incidence rates, prognosis, and evaluation of breast cancer screening programs in Indonesia.<sup>5</sup> Based on pathology-based recording, the relative incidence of breast cancer is up to 11-12 new cases per 100,000 at-risk population.<sup>6</sup>

Besides breast cancer, cervical cancer is also the second most common cancer affecting women. Cervical cancer is cancer that grows on cells in the cervix.<sup>7</sup> This cancer generally develops slowly and only shows symptoms when it has entered an advanced stage.<sup>7</sup> The cervix is the part of the uterus that connects to the vagina.<sup>8</sup> Its function is to produce mucus that helps channel sperm from the vagina to the uterus during sexual intercourse.<sup>8</sup> The cervix also functions to protect the uterus from outside bacteria and foreign objects.<sup>8</sup>

Cervical cancer is one of the most common types of cancer in women.<sup>9</sup> Based on research in 2020, there are more than

600,000 cases of cervical cancer with 342,000 deaths worldwide.<sup>10</sup> Cervical cancer has a high incidence, especially in developing countries. Cervical cancer in Indonesia is cancer in women with the highest prevalence in 2013, which was 0.8%.<sup>11</sup> Cervical cancer was ranked second after breast cancer as the most common type of cancer of all cancer cases in Indonesia in 2020.<sup>11</sup> There are more than 36,000 cases and 21,000 deaths from this cancer.<sup>11</sup> The prevalence of cervical cancer reaches 0.7 per 1,000 female population in West Java.<sup>12</sup>

Until now, cervical cancer is still a women's health problem in Indonesia due to its high incidence and mortality rates, late diagnosis at advanced stages, weak general condition, and low socioeconomic status.<sup>13</sup> Therefore, it is important to detect breast and cervical cancer early before serious complications arise. Training activity for healthcare providers is a step to provide knowledge and skills for early detection of breast cancer and cervical cancer so that later they can carry out the detection program at their own health centers.

The reason for selecting the main issue of the Bogor Regency health office training activities in the form of gynecology problems has been described previously. The first issue raised was the breast cancer early detection program through SADARI-SADANIS (Checking your own breast clinically) and cervical cancer early detection through VIA test, TeleDoIVA, and cryotherapy. There is less data about this knowledge. So, we collected data to analyze the level of knowledge of healthcare providers in the primary health facilities in Bogor Regency. Respondents who participated in this activity were 75 healthcare providers consisting of midwives and doctors who served in 75 Public Health Center Integrated Service Units in the working area of Bogor Regency. This activity focuses on increasing the knowledge and skills of healthcare providers regarding

early detection of breast cancer and cervical cancer, diagnosis, documentation procedures for consultation through TeleDoIVA, and cryotherapy management for doctors at Public Health Centers.

This activity aims to increase the knowledge of healthcare providers about early detection of breast cancer and cervical cancer. In addition, the community can also be more vigilant and can get better health services. Other benefits obtained are an overview of the quality of life of the targeted community which is expected to be useful for planning to improve the quality of life of the community in the future.

## Method

Health education and training are a training activity to improve human resources in the health sector. This is required to continue to improve competencies in order to become professionals in accordance with their respective fields.

The aim is to discover that an increase in knowledge and expertise can make healthcare providers gain better knowledge about health. Ultimately, this knowledge is expected to affect health services. With the existence of education and training, it can have an impact on changes in health services in the work area of each target. Health education and training are also a process, which has inputs and outputs. In a process, health training leads to the achievement of educational goals, which are changes in behavior and health services.<sup>14</sup>

The training began with a pre-test for all training participants with the aim of measuring the knowledge and insights of training participants regarding breast cancer, cervical cancer, early detection, treatment and follow-up, and counseling. After providing training, supported by providing material in the form of videos and booklets, then it was continued with dry lab practice using mannequins and other props. After the delivery of the entire

material, the participants were then given a post-test and practical exam to measure the effectiveness of the training and knowledge of the participants.

## Results

**Table 1 Primary Data of Breast Cancer and Cervical Cancer Early Detection Services at Bogor Regency Health Centers**

Early Detection Services	N (%)
Breast Cancer	5 (6.67)
Cervical Cancer	3 (4.00)

Table 1 shows that out of 75 respondents representing each health center in Bogor Regency. Based on it, 6.67% of health centers in Bogor Regency perform breast cancer early detection services and 4.00% perform cervical cancer early detection services. Of these percentages, all of them will make referrals to advanced health facilities without proper documentation and confirmation of examination results.

## Insights

Post-test data from 75 respondents showed the knowledge of healthcare providers after being given training and practice that as many as 100% of respondents answered correctly about the clinical signs of a negative VIA test, reading the results of the VIA test after 1 minute, recommendations after cryotherapy, no contact for 4 weeks after cryotherapy, breast examination steps, what to do when finding abnormalities in the breast, and after use of the speculum, it must be decontaminated for 10 minutes by soaking in 0.5% chlorine solution. The knowledge regarding abnormal cervical changes-dysplasia that almost always occurs in columnar squamous junction also increased by 42.67% (from 56.00% on the pre-test to 98.67% on the post-test). The level

**Tabel 2 Pre-test and Post-test Questionnaire**

Question and Answers	N (%) True		Number of Differences
	Pre-test	Post-test	
Cervical cancer (Has a precursor stage that can last for several years)	50 (66.67)	63 (84.00)	13 (17.33)
Effective methods for treating pre-cancerous cervical lesions (All Answers are Correct)	52 (69.33)	68 (90.67)	16 (21.33)
The columnar squamous junction (SSK) is the place on the cervix where the columnar epithelium meets the squamous epithelium.	43 (57.33)	55 (73.33)	12 (16.00)
Risk factors for cervical cancer (multiple sexual partners, smoking, and early sexual intercourse)	55 (73.33)	64 (85.33)	9 (12.00)
The most important precancerous lesions are (high-grade lesions as they are more likely to develop into cancer)	37 (49.33)	66 (88.00)	29 (38.67)
Abnormal cervical changes-dysplasia almost always occurs in: (columnar squamous junction)	42 (56.00)	74 (98.67)	32 (42.67)
Early-stage counseling patients should be informed (the importance of VIA test and treatment options)	68 (90.67)	74 (98.67)	6 (8.00)
Pre-treatment counseling, important to inform about cryotherapy (has various side effects and limitations)	57 (76.00)	69 (92.00)	12 (12.00)
After cryotherapy, patients are educated about self-care at home and control (at any time when experiencing warning signs).	61 (81.33)	72 (96.00)	11 (14.67)
One of the important steps in protecting healthcare providers is (washing hands regularly for 10-15 seconds before and after contact with patients).	67 (89.33)	74 (98.67)	7 (9.3)
After use, the speculum should be decontaminated for 10 minutes by immersion in (0.5% chlorine solution)	75 (100.00)	75 (100.00)	0 (0.00)
A mother with a positive VIA test is eligible for cryotherapy if (lesions covering the cervix are less than 75%)	54 (72.00)	71 (94.67)	7 (9.3)
Clinical signs of a negative VIA test result are (ovula naboti)	55 (73.33)	75 (100.0)	20 (26.67)
When performing a VIA test (the attendant should wait about one minute before examining the cervix after applying acetic acid)	51 (68.00)	75 (100.0)	24 (32.0)
When performing a VIA test for cervical cancer screening, bimanual examination (performed after speculum examination)	57 (76.00)	65 (86.67)	8 (10.67)
A positive VIA test result should be referred for further consultation if: (the lesion extends to the vaginal wall)	15 (20.00)	27 (36.0)	12 (16.00)
When performing cryotherapy: (the frozen tissue should be 3-5 mm beyond the cryo-probes)	17 (22.67)	24 (32.0)	7 (9.3)
After cryotherapy, side effects (liquid vaginal discharge for 4-6 weeks)	45 (60.00)	73 (97.33)	28 (37.3)
After cryotherapy, patients are advised to return immediately if (fever for more than 2 days)	50 (66.67)	75 (100.0)	25 (33.33)
After cryotherapy, the mother should (no sexual intercourse for 4 weeks)	59 (78.67)	75 (100.0)	16 (21.3)

The following are not risk factors for breast cancer: (family history of lymph node infection)	43 (57.33)	68 (90.67)	25 (33.33)
In breast examination, the steps to remember are: (looking at and palpating the breast, squeezing the nipple, and palpating the axillary lymph nodes).	67 (89.33)	75 (100.0)	8 (10.67)
Not a sign to watch for breast cancer (swelling of the lower arm)	58 (77.33)	67 (89.33)	9 (12.00)
Breast cancer early detection efforts that need to be informed (all statements above are true)	55 (73.33)	63 (84.0)	8 (10.67)
If there is an abnormality in the patient's breast, what needs to be done is: (record and refer to the surgeon)	69 (92.00)	75 (100.0)	6 (8.00)

**Table 3 Comparison of breast and cervical cancer knowledge levels**

	Average value	p
<i>Pre-test</i>	43.15 ± 15.52	0.000
<i>Post-test</i>	88.59 ± 8.02	

of knowledge that has a significant increase is regarding precancerous lesions, the most important of which are high-grade lesions because they are more likely to develop into cancer, which increased by 38.67% (from 49.33% on the pre-test to 88% on the post-test). The knowledge that patients will experience 4-6 weeks of liquid vaginal discharge after cryotherapy increased by 37.33% (from 60.00% on the pre-test to 97.33% on the post-test). Then, the knowledge that patients are advised to return immediately if they have a fever for more than 2 days after cryotherapy increased by 33.33% (from 66.67% on the pre-test to 100.00% on the post-test). The knowledge that a family history of lymph node infection is not a risk factor for breast cancer increased by 33.33% (from 57.33% on the pre-test to 90.67% on the post-test). Also, the knowledge that VIA test readings have to wait about one minute after the application of acetic acid increased by 32% (from 68.00% on the pre-test to 100.00% on the post-test). Then, the knowledge that clinical signs of a negative VIA test result were ovule naboti increased by 26.67% (from 73.33% on the pre-test to 100.00% on the post-test). Finally, the knowledge about the effective methods for treating pre-cancerous cervical

lesions (All Answers are Correct) increased by 21.33% (from 69.33% on the pre-test to 90.67% on the post-test).

The data in Table 2 shows that the knowledge that increased significantly was that respondents' knew abnormal cervical changes-dysplasia almost always occurs in columnar squamous joints, which was 42.67%.

Pre-test data obtained an average value of 43.15, while the average post-test value was 88.59. Comparative analysis using paired t-test was conducted and the p-value was 0.000. This shows that the level of breast and cervical cancer knowledge of healthcare providers increased significantly after training and education.

### Discussion

The results of the analysis show that respondents have increased knowledge about abnormal cervical changes or dysplasia that always occurs in squamocolumnar junction. A person's knowledge of an object has different intensities or levels. Sources of information, age, and education as well as social, economic, and cultural conditions can affect a person's level of knowledge.

Prevention has the same meaning as early detection or secondary prevention, which is an examination or test performed on people who have not yet shown symptoms of disease to find diseases that are not yet visible or are still in the preclinical stage. A recommended screening program for cervical cancer (WHO): screening every woman at least once at the age of 35-40 years old. If facilities are available, it must be done every 10 years in women aged 35-55 years old. If more facilities are available, it must be done every 5 years in women aged 35-55 years old. Ideally, it must be done every 3 years in women aged 25-60 years old.<sup>7</sup>

VIA test is a visual test using a vinegar solution (5% acetic acid) on the cervix to see the color changes that occur after the spread. The aim is to see the presence of dysplasia cells as one of the screening methods for cervical cancer. VIA test is not recommended in postmenopausal women, as the transitional zone area is often located in the cervical canal and is not visible by inspekulo examination. VIA test is positive when there is a white, raised area with clear borders around the transformation zone.

## Conclusion

There is an increase in the knowledge of healthcare providers after training on early detection of cervical cancer and breast cancer. Therefore, the training program on early detection of cervical cancer and breast cancer can achieve secondary prevention and the See & Treat program can be carried out. By holding education and training for healthcare providers in primary health facilities, it is hoped that the early detection program for breast cancer and cervical cancer can be carried out properly with the See & Treat program.

## References

1. Torre LA, Bray F, Siegel RL, Ferlay J. Global Cancer Statistics, 2012. *CA A Cancer J Clin* [Internet]. 2015;65(2):87–108. Available from: <http://onlinelibrary.wiley.com/doi/10.3322/caac.21262/full>
2. van Diest P, Buerger H, Kuijper A, van der Wall E. Breast Carcinogenesis. In: Kuerer H, editor. *Kuerer's Breast Surgical Oncology*. New York: McGraw-Hill; 2010. p. 3–152.
3. Hunt KK, Robertson JFR, Bland KI. The Breast. In: Brunicardi F, Andersen D, Billiar T, Dunn D, Hunter J, Matthews J, et al., editors. *Schwartz's Principles of Surgery*. 10th ed. New York: McGraw-Hill; 2015. p. 511–54.
4. Piccart MJ, Gathani T, Zardavas D, Azim H, Sotiriou C, Viale G, et al. Cancer of The Breast. In: Kerr D, Haller D, van de Velde C, Baumann M, editors. *Oxford Textbook of Oncology*. 3rd ed. Oxford: Oxford University Press; 2016. p. 546–75.
5. World Health Organization. *Cancer Country Profiles: Indonesia*. *Cancer Ctry Profiles*. 2014;22–3.
6. Wahidin M, Noviani R, Hermawan S, Andriani V, Ardian A, Djarir H. Population-based cancer registration in Indonesia. *Asian Pacific J Cancer Prev*. 2012;13(4):1709–10.
7. Bhatla N, Aoki D, Sharma DN, Sankaranarayanan R. Cancer of cervix uteri: 2021 update. *International Journal of Gynecology Obstetrics*. 2021;155:28–44.
8. Fowler JR, Maani EV, Jack BW. *Cervical cancer*. StatPearls Publishing. 2022.
9. Sung, H., et al. (2021). Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *ACS Journals*, 71(3), pp. 209–249.
10. Zhang S, Xu H, Zhang L, Qiao Y. Cervical

- cancer: Epidemiology, risk factors, and screening. *Chin J Cancer Res.* 2020 Dec 31;32(6):720-728. doi: 10.21147/j.issn.1000-9604.2020.06.05. PMID: 33446995; PMCID: PMC7797226.
11. World Health Organization (2021). The Global Cancer Observatory.
  12. Kementerian Kesehatan RI. InfoDATIN beban kanker di Indonesia: Pusat data dan informasi Kementerian kesehatan RI. Jakarta, 2019.
  13. IARC. GLOBOCAN 2020: Indonesia. 2020. <https://gco.iarc.fr/today/data/factsheets/populations/360-indonesia-fact-sheets.pdf>
  14. Notoadmojo s. Metodologi penelitian kesehatan [internet]. Jakarta: rineka cipta; 2018. Available from: <http://dx.doi.org/10.1186/s13662-017-1121-6><https://doi.org/10.1007/s41980-018-0101-2>