



EARLY DETECTION AND PREVENTION OF CERVICAL CANCER THROUGH EDUCATION

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Abstract

Cervical cancer is one of the most common types of cancer in women worldwide. The main cause of cervical cancer is infection with oncogenic types of Human Papilloma Virus (HPV), especially types 16 and 18. Early detection through methods such as Pap smear, IVA (Visual Inspection with Acetic Acid), and HPV DNA testing is very important to identify precancerous lesions before they develop into invasive cancer. Public education about cervical cancer prevention, including HPV vaccination, routine screening, and a healthy lifestyle, is a strategic step to reduce the incidence and mortality due to this disease. This community service program aims to increase public awareness of the importance of early detection and prevention of cervical cancer through a structured educational approach. Thus, it is hoped that a community can be created that is more aware of reproductive health and is able to take preventive measures against cervical cancer. Objective: to increase public understanding and knowledge about early detection of cervical cancer and its prevention. Method: Community service is carried out by providing education to the public about early detection of cervical cancer and its prevention. Results: The activity was carried out on Sunday, February 23, 2025, at PKM Chiba, Japan. Twenty-nine people attended community service activities. Educational activities were carried out from preparation to evaluation. The materials provided included early detection and prevention of cervical cancer. Conclusion: Community service activities went smoothly. This educational activity is expected to be recommended and continued by other health workers so that it can increase mothers' confidence in early detection and prevention of cervical cancer.

Keywords: Cervical cancer, Early detection, HPV vaccine, Pap smear.

INTRODUCTION

Cervical cancer is a type of cancer that develops in the cervix and most often affects women aged 35 to 55 years, although it is possible to be found at a younger age. This disease is generally caused by infection with the Human papillomavirus (HPV), with about 90% of cases related to squamous cells. Some risk factors for cervical cancer include smoking, number of children born, and age at first birth. Early symptoms of cervical cancer are often non-specific but can progress to bleeding after intercourse, pelvic pain, and bloody vaginal discharge. Based on data published by WHO in 2020, there were 3,799 deaths from cervical cancer in Japan, contributing 0.34% to the total death toll. The age-adjusted death rate is 2.73 per 100,000 population, placing Japan in 152nd place in the world. (World Health Organization, 2020, Cancer Incidence and Mortality Worldwide).

Although the cancer mortality rate in Japan shows an increasing trend, if age is removed, it is seen that the mortality rate is actually decreasing despite the growing number of cancer diagnoses. This decrease is mainly due to better early detection and more effective treatment. (Nishino et al., 2020, Journal of Cancer Research and Clinical Oncology, 146(5): 1189–1197).

Cervical cancer prevention focuses on increasing awareness of reproductive health among women, including education about the causes, signs, and symptoms of cancer. Early screening is highly recommended, starting approximately three years after a woman becomes sexually active.

Although awareness of breast and cervical cancer is increasing in Japan, participation in screening is still low compared to other developing countries, indicating the need for improvement in this area. (Shibuya et al., 2021, *Lancet Oncology*, 22(10): 1401-1413).

In an effort to improve the early detection of cervical cancer among Indonesian women living in Japan, various technologies and sciences will be implemented to facilitate access and understanding of the importance of cervical cancer prevention (WHO, 2022). One of the main tools used in the early detection of cervical cancer is the Pap smear examination, which is a standard method for detecting cell changes in the cervix that have the potential to become cancerous (American Cancer Society, 2021). This examination is carried out using a spatula or small brush to take a sample of cells from the cervix (Solomon & Nayar, 2015). This test is then analyzed in the laboratory to see if there are any changes or abnormal cells (CDC, 2020). On the other hand, to detect HPV infection that can trigger cervical cancer, a PCR-based HPV test will be used (Franco et al., 2012). By using PCR technology, this test can detect the presence of HPV virus DNA in samples taken from the cervix (Mitra et al., 2021). These tools have an important role in detecting cervical cancer early, providing a greater opportunity for more effective treatment and cure (Cuzick et al., 2006; Arbyn et al., 2020).

METHOD AND PROCEDURES

The activity was carried out on February 23, 2025, and the location for the implementation of Community Service was determined based on actual interests, namely in the Islamic Community of PKM Chiba, Japan. The target of this community service is mothers of childbearing age.

This community service activity is carried out by educating and discussing about early detection and prevention of cervical cancer. The materials, tools, or instruments in this community service are:

1. Material
2. Room
3. LCD
4. Laptop
5. Leaflets

Before implementing community service, a preparation stage is carried out. The preparation stage begins with processing permits for Chiba PKM central management with the aim of smooth implementation of the service. Then, preparation for implementation continues, including making promotional flyers, materials, rooms, and the needed tools. Next, the implementation stage of community service is carried out at a predetermined location. Community service activities consist of:

1. Conducting introductions of the community service implementers and participants.
2. Accommodating participants' hopes regarding early detection activities for cervical cancer.
3. Conduct a pretest.
4. Providing information/education about early detection and prevention of cervical cancer.

5. Conduct discussions and Q&A.
6. Conduct a posttest.
7. Giving souvenirs.

Finally, the team prepares the report after completing the community service implementation.

RESULTS

Community service activities are carried out at PKM Chiba, Japan. Chiba is a prefecture in the Kanto region of Japan, located east of Tokyo. Chiba has a strategic position as a buffer zone for the capital with direct access to Tokyo Bay and the Pacific Ocean. As an area near Tokyo, Chiba has a fairly large international population, including student communities and foreign workers. PKM programs in Chiba can focus on health, social, technology, or environmental education, considering the diverse and dynamic character of the community.

Community service was implemented on Sunday, February 23, 2025, with 29 participants.

At the implementation stage, education is carried out at a predetermined location. Educational activities consist of: 1) introducing the community service implementers and participants; 2) accommodating participants' expectations regarding the activity; 3) conducting a pretest; 4) providing information/education about early detection of cervical cancer and its prevention; 5) conducting discussions and questions and answers; 6) conducting a posttest; and 7) providing souvenirs.

The information provided in the community service activity with the theme of early detection of cervical cancer is about the definition of cervical cancer, causes of cervical cancer, risk factors, symptoms, stages of cervical cancer staging, cell journey, and prevention and management of cervical cancer.

In the discussion and Q&A session, the participants were enthusiastic, as evidenced by the many questions given by the participants. The results of the pretest and posttest evaluations showed an increase in participants' knowledge before and after being given education.

Table 1. Pretest and Posttest Results

Pretest score	Posttest score	Results (%)
50	66	+32.00%
80	100	+25.00%
90	100	+11.11%
82	100	+21.95%
47	77	+63.83%
60	73	+21.67%
78	95	+21.79%
58	70	+20.69%
62	92	+48.39%
50	61	+22.00%

Effectiveness An average score increase of +26.94% indicates that the learning method used is effective in improving participants' understanding. Based on the results of the pre-test and post-test, this community service program has succeeded in improving participants' understanding. A significant increase in scores indicates that the training method applied is effective in delivering material to participants.



Figure 1. Opening Ceremony by The Dean and Head of The Chiba Community



Figure 2. Education about early detection of cervical cancer



Figure 3. Discussions and questions and answers



Figure 4. Providing souvenirs



Figure 5. Closing



Figure 6. Leaflet

NO	NAMA	ALAMAT	TANDA TANGAN
1	Fitriyanti	Chiba, Indonesia	[Signature]
2	Dian Marlina	Malindi, Chiba	[Signature]
3	Fitriyanti	Chiba, Indonesia	[Signature]
4	Wahyuni	Chiba, Indonesia	[Signature]
5	Fitriyanti	Chiba, Indonesia	[Signature]
6	Fitriyanti	Chiba, Indonesia	[Signature]
7	Fitriyanti	Chiba, Indonesia	[Signature]
8	Fitriyanti	Chiba, Indonesia	[Signature]
9	Fitriyanti	Chiba, Indonesia	[Signature]
10	Fitriyanti	Chiba, Indonesia	[Signature]
11	Fitriyanti	Chiba, Indonesia	[Signature]
12	Fitriyanti	Chiba, Indonesia	[Signature]
13	Fitriyanti	Chiba, Indonesia	[Signature]
14	Fitriyanti	Chiba, Indonesia	[Signature]
15	Fitriyanti	Chiba, Indonesia	[Signature]
16	Fitriyanti	Chiba, Indonesia	[Signature]
17	Fitriyanti	Chiba, Indonesia	[Signature]
18	Fitriyanti	Chiba, Indonesia	[Signature]
19	Fitriyanti	Chiba, Indonesia	[Signature]
20	Fitriyanti	Chiba, Indonesia	[Signature]
21	Fitriyanti	Chiba, Indonesia	[Signature]
22	Fitriyanti	Chiba, Indonesia	[Signature]
23	Fitriyanti	Chiba, Indonesia	[Signature]
24	Fitriyanti	Chiba, Indonesia	[Signature]
25	Fitriyanti	Chiba, Indonesia	[Signature]
26	Fitriyanti	Chiba, Indonesia	[Signature]
27	Fitriyanti	Chiba, Indonesia	[Signature]
28	Fitriyanti	Chiba, Indonesia	[Signature]
29	Fitriyanti	Chiba, Indonesia	[Signature]

Figure 7. List Documentation Present

CONCLUSION

Community service was implemented on Sunday, February 23, 2025, at PKM Islam Chiba, Japan, with 29 women of childbearing age participating. The community service activities carried out included education related to early detection and prevention of cervical cancer. The event went smoothly. This educational activity is expected to be recommended and continued by other health workers so that it can increase mothers' confidence in early detection and prevention of cervical cancer.

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