

# Early Detection Education on Pap Smear and VIA Test to Improve Cervical Cancer Awareness in Sukaraja District, Bandung City

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## ABSTRACT

Cervical cancer remains a major public health problem among women and can be prevented through early detection using the visual inspection with acetic acid (VIA) test and Pap smear. Low awareness and limited knowledge are important barriers to screening participation. This community service activity aimed to improve the knowledge of parents and teachers of TKQ Fathussalam Al Mubaarok regarding cervical cancer and early detection through VIA test and Pap smear. A community-based health education activity with a one-group pre-test and post-test evaluation was conducted in Sukaraja District, Cicendo Village, Bandung City, on October 15, 2025. A total of 115 participants were included. Knowledge was measured using a structured questionnaire before and after education. Data were analyzed descriptively using frequency and percentage distributions. Before education, most participants had fair knowledge (54 participants; 46.96%), followed by poor knowledge (43 participants; 37.39%) and good knowledge (18 participants; 15.65%). After education, the proportion of participants with good knowledge increased to 63 participants (54.78%), while poor knowledge decreased to 8 participants (6.96%). Health education on cervical cancer, VIA test, and Pap smear improved participants' knowledge. Continuous reproductive health education and referral support for cervical cancer screening are recommended to encourage early detection behavior among women in the community.

**Keywords:** cervical cancer; health education; Pap smear; VIA test

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## INTRODUCTION

Cervical cancer is one of the most preventable cancers among women, yet it remains a major reproductive health problem, particularly in low- and middle-income countries. Persistent infection with high-risk human papillomavirus (HPV) is the main cause of cervical cancer. The disease develops gradually from precancerous lesions to invasive cancer; therefore, early detection provides an important opportunity to identify abnormalities before they progress into advanced disease.

In Indonesia, cervical cancer remains a significant public health concern. National cancer prevention programs emphasize early detection through the VIA test and Pap smear, particularly for women of reproductive age and women aged 30-50 years. These screening methods are relatively simple, affordable, and feasible for implementation at primary healthcare and community levels. However,

the utilization of screening services is still influenced by knowledge, perceptions, accessibility, family support, and the availability of information from health workers.

Low knowledge about cervical cancer may reduce women's awareness of risk factors, symptoms, prevention, and the importance of early detection. Health education is a promotive and preventive strategy that can improve knowledge and encourage positive attitudes toward screening. Education delivered in simple language and supported by appropriate media is expected to help the community understand cervical cancer prevention and motivate women to undergo VIA test or Pap smear examination.

Based on the preliminary situation in the Sukaraja District, parents of students and teachers at TKQ Fathussalam Al Mubaarok had not received structured health education regarding cervical cancer, VIA test, and Pap smear. Therefore, this community service activity was conducted to improve their knowledge and awareness regarding cervical cancer early detection.

## **METHODS**

This community service activity used a community-based health education approach with a one-group pre-test and post-test evaluation design. The activity was conducted at TKQ Fathussalam Al Mubaarok, Sukaraja District, Cicendo Village, Bandung City, on October 15, 2025.

The participants were parents of students and teachers of TKQ Fathussalam Al Mubaarok. A total of 115 participants were involved in the activity. Participants were included if they attended the education session and were willing to complete both the pre-test and post-test questionnaire.

The activity consisted of four stages: (1) coordination with school administrators and local stakeholders; (2) initial data collection and identification of participants' needs; (3) implementation of health education on cervical cancer, risk factors, prevention, VIA test, and Pap smear; and (4) evaluation of knowledge using pre-test and post-test questionnaires.

Knowledge was measured using a structured questionnaire that had been reviewed before implementation. The questionnaire assessed participants' understanding of cervical cancer, risk factors, prevention, and early detection methods. Knowledge was categorized into good, fair, and poor categories based on the total score. Data were processed descriptively and presented as frequencies and percentages. Participant confidentiality was maintained, and participation was voluntary.

## RESULTS AND DISCUSSION

A total of 115 participants took part in the health education activity and completed the pre-test and post-test questionnaires. The characteristics of participants are presented in Table 1.

**Table 1. Characteristics of Community Service Participants (n = 115)**

Characteristics	Frequency (f)	Percentage (%)
<b>Age</b>		
< 20 years	4	3.49
20-35 years	49	42.60
> 35 years	62	53.91
<b>Education</b>		
Elementary/Junior High School	12	10.43
Senior High School	72	62.62
Higher Education	31	26.95
<b>Occupation</b>		
Housewife	64	55.65
Self-employed	31	26.96
Formal worker	20	17.39
<b>Total</b>	<b>115</b>	<b>100.00</b>

Most participants were older than 35 years (62 participants; 53.91%), had senior high school education (72 participants; 62.62%), and were housewives (64 participants; 55.65%).

**Table 2. Knowledge Levels Before and After Health Education**

Knowledge Category	Pre-test f	Pre-test %	Post-test f	Post-test %
Good	18	15.65	63	54.78
Fair	54	46.96	44	38.26
Poor	43	37.39	8	6.96
<b>Total</b>	<b>115</b>	<b>100.00</b>	<b>115</b>	<b>100.00</b>

Table 2 shows an increase in participants' knowledge after the education session. The proportion of participants with good knowledge increased from 15.65% before education to 54.78% after education. Conversely, the proportion of participants with poor knowledge decreased from 37.39% to 6.96%.

The results indicate that health education improved participants' knowledge regarding cervical cancer, VIA test, and Pap smear. Before the education session, a considerable proportion of participants still had poor knowledge. This condition suggests that information related to cervical cancer early detection had not been adequately received or understood by the target community. After the education

session, more than half of the participants were categorized as having good knowledge, indicating that structured counseling can be useful for improving community understanding.

The improvement in knowledge may be related to the use of direct education, simple explanations, and discussion during the activity. Health education allows participants to receive accurate information, clarify misconceptions, and understand the benefits of early detection. In the context of cervical cancer prevention, knowledge is an important factor because women who understand risk factors, warning signs, and available screening methods are more likely to consider undergoing VIA test or Pap smear examination.

The findings are consistent with previous evidence showing that counseling and health promotion activities can improve women's knowledge about cervical cancer and screening. Educational interventions are particularly relevant in community settings because many women may not actively seek information unless it is delivered through accessible and familiar environments. Schools and community groups can therefore become strategic locations for reproductive health promotion.

Although knowledge increased after the intervention, knowledge improvement alone may not automatically lead to screening behavior. Participation in VIA test or Pap smear may also be influenced by fear, embarrassment, family support, cost, time availability, access to health facilities, and encouragement from health workers. Therefore, education should be followed by practical referral information, screening schedules, and collaboration with primary healthcare facilities to facilitate access to cervical cancer early detection services.

This activity has several limitations. First, the evaluation was limited to immediate pre-test and post-test knowledge scores, so it did not assess long-term knowledge retention or actual screening behavior. Second, the activity used a single-group design without a control group. Third, the questionnaire results were analyzed descriptively; therefore, future activities may include statistical testing and follow-up evaluation to assess changes in screening participation.

## **CONCLUSION**

Health education on cervical cancer, VIA test, and Pap smear increased participants' knowledge. Before education, 37.39% of participants had poor knowledge, while after education, 54.78% had good knowledge. These findings indicate that structured community-based education can support cervical cancer awareness and may encourage women to participate in early detection programs.

Regular cervical cancer education should be continued for women in the community, especially mothers and female teachers, using simple language and

attractive educational media. Collaboration with the nearest community health center is recommended to provide information on VIA test and Pap smear schedules and facilitate referral for participants who are willing to undergo screening. Future community service activities should evaluate not only knowledge but also attitudes, intentions, and actual participation in cervical cancer screening.

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