

Smart Talk About Cervical and Breast Cancer in Women of Reproductive Age

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Abstract

Background: Cervical cancer and breast cancer are two leading causes of cancer-related mortality among women in Indonesia. Low levels of knowledge and awareness in the community, particularly among Women of Reproductive Age (WRA), regarding early detection remain a serious challenge in cancer prevention and management.

Objective: This activity aims to improve WRA's knowledge and awareness of the importance of early detection of cervical and breast cancer through a community-based educational approach. **Method:** This community service program employed a pre-experimental one-group pre-test and post-test design. The intervention was implemented through education, utilising the peer group method, educational video screenings, and discussion sessions with cancer survivors. Data were collected using pre-test and post-test questionnaires and analyzed descriptively.

Results: Before the educational intervention, the majority of respondents (52.3%) had low levels of knowledge. After the intervention, a significant improvement was observed: respondents with good knowledge increased to 47.7%, while those with poor knowledge decreased to 11.4%.

Conclusion: Peer group- and video-based educational activities proved effective in enhancing WRA's knowledge and awareness regarding the importance of early cancer detection. This educational model is recommended for broader implementation as a promotive and preventive strategy in women's cancer prevention.

Keywords: Health education, Cervical cancer, Breast cancer, Early detection

Introduction

Cervical cancer and breast cancer are the two most prevalent cancers among women in Indonesia and are the leading causes of cancer-related mortality. According to (Globocan, 2020), breast cancer accounts for 22.5% of all cancer cases in women, while cervical cancer contributes 8.1%. Both diseases are often diagnosed at advanced stages, which reduces the likelihood of recovery and significantly increases the burden of healthcare costs.

Although cancer screening programs have been established as a national priority, awareness and practice of early detection remain low within the community. Data from the Indonesian Ministry of Health (Kementerian Kesehatan RI, 2023) indicate that only about 10–15% of women routinely undergo cervical cancer screening (via IVA or Pap smear), and more than 70% of cases are detected at an advanced stage. Regarding breast cancer, the Indonesian Basic Health Research (Riskesdas, 2018) reported that approximately 89.1% of women in West Java did not perform regular breast self-examinations (BSE). This reflects a practice gap in which knowledge about the importance of early detection is

increasing, yet its translation into actual behavior in the community remains minimal.

A similar issue is observed in Beji Timur, Depok City. Findings from a community service program conducted by STIKes Sumber Waras revealed that only 29.5% of women in the area had ever undergone IVA screening, while 72% of respondents did not participate in routine screening. Barriers included limited understanding of early detection methods, fear of diagnostic outcomes, and the perception of high examination costs. These findings highlight a contextual gap between national policy on early cancer detection and its real-world implementation at the community level (Dini Qurrata Ayuni, 2019).

Globally, the (WHO, 2021) emphasizes that community-based education and peer group support can enhance awareness and participation in cancer early detection. Several international studies have also demonstrated the effectiveness of involving cancer survivors as educational agents, as they can provide strong emotional impact (Smith, 2023) . However, in Indonesia, research evaluating participatory educational approaches that combine peer group methods with the

involvement of cancer survivors remains very limited, revealing a research gap that needs to be addressed.

In response to these practice and research gaps, the community engagement team from STIKes Sumber Waras designed a participatory educational program entitled “NGOPI (Ngobrol Pintar) Seputar Kanker pada Wanita – Smart Talks on Women’s Cancer).” This program integrates peer group methods, educational videos, and the involvement of cancer survivors as resource persons. Such an approach is expected to improve knowledge, awareness, and active participation of women of reproductive age in early detection of cervical and breast cancers, while also contributing scientifically to the development of community-based educational intervention models in Indonesia.

Method

This community service activity applied an educational and participatory approach using a pre-experimental one-group design (one group pre-test and post-test design). This method aimed to assess changes in the knowledge level of women of reproductive age (WRA) regarding early detection of cervical and breast cancer before and after the educational intervention.

1. **Location and Time of Activity**
The program was conducted on May 20, 2025, in Beji Timur Subdistrict, Beji District, Depok City, West Java. It involved a team of lecturers and students from STIKes Sumber Waras in collaboration with UPTD Puskesmas Beji Timur.
2. **Population and Sample**
The target population was women of reproductive age (18–59 years). A total of 44 participants took part in the educational activity.
3. **Procedure of Activity**
The activity was carried out in several stages as follows:
 - **Preparation Stage:** coordination with the local government and public health center, development of educational materials, and preparation of pre-test and post-test instruments.
 - **Pre-Test:** conducted to measure participants’ baseline knowledge on early detection of cervical and breast cancer.
 - **Health Education:** delivered through peer group discussions and educational video screenings. The activity also involved cancer survivors as speakers in a sharing session.

- Post-Test: administered after the education session to assess improvement in participants' knowledge.
 - Monitoring and Evaluation: conducted by the service team through observation and short interviews with participants to assess understanding and the impact of the activity.
4. Data Collection Instrument
The instrument used was a multiple-choice questionnaire designed to measure the level of knowledge before and after the intervention.
5. Data Analysis Technique
Pre-test and post-test data were analyzed descriptively using quantitative methods by calculating the percentage increase in knowledge scores. In addition, qualitative analysis was conducted on participants' feedback obtained during discussion sessions and interviews.

Results

The community service program was carried out in several stages, including preparation, implementation, and monitoring and evaluation, all of which were conducted effectively and according to plan.

1) Preparation Stage

Representatives from the community service team coordinated with the village midwife, the subdistrict office, and the public health center (Puskesmas). This stage also included the development of educational materials as well as the preparation of pre-test and post-test instruments.

2) Implementation Stage

A sharing session was conducted using the peer group method, involving cancer survivors as facilitators to share information, provide emotional support, and deliver motivation. This method emphasized two-way communication, where participants actively exchanged experiences and received education from both peers and healthcare professionals .

The sharing session was divided into three groups:

Group 1: Breast cancer survivor Mrs. Wiwin as the speaker, facilitated by Mr. Donny Richard.

Group 2: Cervical cancer survivor Mrs. Haryani as the speaker, facilitated by Ns. Irman, M.Kep., Sp.Kep.MB.

Group 3: Breast cancer survivor Mrs. Wini as the speaker, facilitated by Ns. Mia Atlantic, M.Kep.

The sharing sessions lasted for 45 minutes and ran smoothly. Both participants and speakers were enthusiastic in sharing experiences (Marfianti, 2021). Participants reported gaining new knowledge from the survivors and expressed the hope that such positive activities should be held regularly. Moreover, several participants realized the importance of early cancer detection and acknowledged that women over 35 years of age should routinely undergo mammography and Pap smear examinations.



Figure 1. Watching together



Figure 2. Peer Group with Survivors

3) Monitoring and Evaluation

Table 1. Knowledge Level Before the Educational Sharing Session

| Knowledge Level | Frequency | Percentage (%) |
|-----------------|-----------|----------------|
| Good | 4 | 9.1 |
| Fair | 17 | 38.6 |
| Poor | 23 | 52.3 |
| Total | 44 | 100.0 |

(Source: Primary Data, 2025)

Based on the data presented in the table of knowledge levels prior to the educational intervention, it was found that the majority of respondents had a low level of knowledge. Out of a total of 44 respondents, 23 individuals (52.3%) were categorized as having poor knowledge, 17 individuals (38.6%) demonstrated fair knowledge, and only 4 individuals (9.1%) showed good knowledge. These findings indicate that more than half of the participants did not yet possess adequate understanding of the topic that became the focus of the education. This highlights the urgency of implementing educational interventions to comprehensively improve participants' understanding and knowledge. Accordingly, the designed educational program is expected to make a significant contribution to enhancing the knowledge of the target community.

Table 2. Knowledge Level After Educational Intervention and Sharing Session

| Knowledge Level | Frequency | Percentage (%) |
|-----------------|-----------|----------------|
| Good | 21 | 47.7 |
| Fair | 18 | 40.9 |
| Poor | 5 | 11.4 |
| Total | 44 | 100.0 |

(Source: Primary Data, 2025)

Based on the data in the table “*Knowledge Level After Cancer Education*,” a significant improvement in respondents’ knowledge was observed after the intervention. Out of 44 participants, 21 (47.7%) demonstrated good knowledge, 18 (40.9%) fell into the fair category, and only 5 (11.4%) remained in the poor category. Compared to pre-intervention data, the proportion of respondents with poor knowledge decreased from 52.3% to just 11.4%. Conversely, those with good knowledge increased from 9.1% to 47.7%. This clearly indicates that the cancer education intervention had a positive impact on enhancing participants’ knowledge, both in terms of quantity and quality of understanding.

Discussion

Cervical and breast cancers are major public health problems threatening the lives of Indonesian women. According to Globocan (2020), breast cancer accounts for approximately 22.5% of all cancer cases, while cervical cancer contributes 8.1%. Both cancers rank at the top as leading causes of cancer-related

mortality among women. These figures emphasize the urgent need to strengthen promotive and preventive efforts, particularly through health education programs that directly reach the community.

The community service program titled “*NGOPI (Ngobrol Pintar/Smart Talk on Women’s Cancer)*” was designed to address the low levels of knowledge and awareness among women of reproductive age (WRA) regarding early detection of cervical and breast cancer. The program was conducted in Beji Timur Subdistrict, Depok City, using participatory methods including peer group discussions, educational video screenings, and sharing sessions with cancer survivors.

Pre-test results from 44 participants revealed that most had poor knowledge about early detection of cancer. A total of 23 respondents (52.3%) were in the poor category, 17 (38.6%) in the fair category, and only 4 (9.1%) in the good category. These findings align with data from (Kemenkes RI, 2018) which reported that 93.3% of women in West Java had never undergone cervical cancer screening, and 89.1% had never routinely performed Breast Self-Examination (BSE).

After the intervention, there was a significant improvement in participants' knowledge levels. Twenty-one respondents (47.7%) achieved good knowledge, 18 (40.9%) were in the fair category, and only 5 (11.4%) remained in the poor category. Compared to baseline, there was a 40.9% reduction in poor knowledge and a 38.6% increase in good knowledge. This change demonstrates the effectiveness of the educational approach in improving health literacy within the community.

The success of this program can be explained through the Health Belief Model (HBM). According to (Rosenstock, n.d.), health behavior change is strongly influenced by individuals' perceptions of susceptibility, disease severity, benefits of preventive actions, and perceived barriers. The NGOPI health education intervention effectively shifted participants' perceptions by enhancing knowledge, reducing fear of screening, and raising awareness about the importance of early detection.

The use of peer group discussions also proved to be highly effective. Active participation in small-group settings allowed participants to express opinions, ask questions, and receive immediate

responses from healthcare professionals and cancer survivors. This fostered a personal and empathetic atmosphere, which facilitated the acceptance of information. As noted by (Notoatmodjo, 2012a), participatory methods such as group discussions are more effective in changing attitudes and behaviors compared to one-way lecture methods.

This finding is consistent with a study by (Widyaningsih, 2021) at Tambun Selatan Health Center, which showed that health education using audiovisual media and interactive discussions improved women's knowledge of cervical cancer and early detection using VIA methods. The results further reinforce the effectiveness of NGOPI's use of video media as a primary educational tool.

In addition, involving cancer survivors as resource persons in the sharing sessions provided significant added value. Survivors offered real-life perspectives on their disease journeys, including diagnosis, treatment, and psychological struggles. Direct interaction with survivors fostered emotional awareness among participants, enhanced empathy, and encouraged behavior change. A study by (Marfianti, 2021) also concluded that

cancer education programs involving survivors can improve community understanding and readiness for independent early screening.

The NGOPI program also resonates with community service conducted by Loso (Loso Judijanto et al., 2023) in Yogyakarta City, where educational videos were presented to PKK women at Mantrijeron Health Center. Their results demonstrated a 30% increase in Pap smear participation within one month after the intervention. This further illustrates that educational approaches addressing both cognitive and affective domains can yield significant short-term outcomes (Notoatmodjo, 2012b).

Sociocultural barriers also remain significant challenges, as stigma around reproductive organ examinations persists. Fear of results, feelings of shame, and the perception that screening is expensive remain major obstacles for women. Thus, the success of the NGOPI program, even on a small scale, represents an important step toward breaking these barriers and promoting positive behavioral change (Wu et al., 2021).

Importantly, this activity also provides implications for developing community-based health education models.

Combining peer group methods with visual educational media and survivor testimonies represents a replicable model for other regions. Such strategies not only improve knowledge but also build social solidarity and mutual support among community members, particularly among women of reproductive age.

For sustainability, this program can be integrated into primary health center (Puskesmas) initiatives through training of health cadres or establishing community-based cancer support groups at the neighborhood level (RT/RW). Furthermore, cross-sector collaboration among educational institutions, healthcare providers, and local governments will be essential to ensure continuity and broader reach.

In conclusion, community-based education using peer group discussions and educational media has proven to be highly effective in improving women's knowledge and awareness of cervical and breast cancer. This model deserves policy support so that it can be integrated into national strategies aimed at reducing cancer incidence and mortality among Indonesian women (Direktorat Jenderal Bina Upaya Kesehatan Kemenkes RI, 2012).

The discussion should interpret the findings presented in the results section within the context of existing knowledge (not a repetition of results). It should highlight new insights. Any assumptions must be clearly stated. The relationship between the results and the target population context, as well as the possibility of generalizing to other populations, should be addressed. Strengths and weaknesses of the community empowerment activity should be discussed in light of the local community conditions (Soekidjo Notoatmodjo, 2014).

Conclusion

The community service program entitled “*NGOPI (Ngobrol Pintar) on Women’s Cancer*” successfully improved the knowledge of women of reproductive age in Beji Timur Village, Depok City, regarding early detection of cervical and breast cancer. The educational approaches employed—namely peer group discussions, educational video screenings, and sharing sessions with cancer survivors—proved effective in enhancing understanding, changing attitudes, and raising awareness of the importance of routine examinations such as VIA, Pap smear, and BSE (Akbari et al., 2018).

The significant improvement in participants’ knowledge levels before and after the educational intervention reflects the effectiveness of this method in addressing both cognitive and affective domains. Furthermore, the active involvement of the community and the interactive educational atmosphere fostered the creation of a supportive learning environment.

Thus, this activity not only had a positive individual impact on participants but can also serve as a potential community-based educational model to be replicated in other areas. Simple interventions designed in a participatory manner such as this represent a strategic step in reducing delayed cancer diagnoses and improving the overall quality of life of Indonesian women .

Conflict of Interests Statement

The authors declare that there is no conflict of interest regarding the implementation and publication of this community service activity. All activities were carried out solely for academic, educational, and community empowerment purposes, without any financial or personal interests that could influence the results or interpretation of the program outcomes.

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