IMPROVING KNOWLEDGE AND ATTITUDES ABOUT CERVICAL CANCER DETECTION IN JAVA'S PANTURA REGION

PENINGKATAN PENGETAHUAN DAN SIKAP TENTANG DETEKSI KANKER SERVIKS DI PANTURA PULAU JAWA

Scope:
Health

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A B S T R A C T

Background: *Early detection of cervical cancer through IVA and Pap smear examination is crucial for preventing and reducing cervical cancer mortality. However, IVA and Pap smear coverage in Indonesia, particularly in Mentaras Village, Gresik Regency, remains low. The low knowledge and attitudes of women of childbearing age towards IVA and Pap smear examinations are major obstacles to early detection.* **Objective:** *This community service aims to improve the knowledge and attitudes of women of childbearing age in Mentaras Village towards IVA and Pap smear examinations through health socialization.* **Method:** *Health socialization was conducted for 23 participants from the PKK mothers' group using PowerPoint presentations and brochures. Evaluation was performed using a post-test questionnaire to measure participants' knowledge and attitudes after the activity.* **Results:** *After the socialization, all participants (100%) demonstrated a good level of knowledge, and 91.30% showed a positive attitude towards IVA and Pap smear examinations. These results indicate that the socialization activity positively impacted participants' awareness.* **Conclusion:** *Health socialization effectively improved understanding and attitudes towards the early detection of cervical cancer. Regular similar activities are recommended to expand community participation.*

A B S T R A K

Latar belakang: *Deteksi dini kanker serviks melalui pemeriksaan IVA dan pap smear merupakan salah satu upaya penting dalam mencegah dan menurunkan angka kematian akibat kanker serviks. Namun, cakupan pemeriksaan IVA dan pap smear di Indonesia, khususnya di Desa Mentaras, Kabupaten Gresik, masih tergolong rendah. Rendahnya pengetahuan maupun sikap dari wanita-wanita usia subur terkait pemeriksaan IVA dan pap smear menjadi hambatan utama dalam pelaksanaan deteksi dini.* **Tujuan:** *Kegiatan ini bertujuan meningkatkan pengetahuan dan sikap wanita usia subur di Desa Mentaras terhadap pentingnya pemeriksaan IVA dan pap smear melalui pendekatan sosialisasi kesehatan.* **Metode:** *Sosialisasi dilakukan kepada 23 peserta dari kelompok ibu PKK dengan menggunakan media PowerPoint dan brosur edukasi. Evaluasi dilakukan dengan kuesioner post-test untuk mengukur pengetahuan dan sikap peserta setelah kegiatan.* **Hasil:** *Setelah sosialisasi, seluruh peserta (100%) memiliki tingkat pengetahuan yang baik, dan 91,30% menunjukkan sikap positif terhadap pemeriksaan IVA dan pap smear. Hasil ini menunjukkan bahwa kegiatan sosialisasi berdampak positif dalam meningkatkan kesadaran peserta.* **Kesimpulan:** *Sosialisasi kesehatan terbukti efektif dalam meningkatkan pemahaman dan sikap terhadap deteksi dini kanker serviks. Pelaksanaan kegiatan serupa secara rutin dianjurkan untuk memperluas cakupan dan partisipasi masyarakat.*

BACKGROUND

Cervical cancer is a form of malignancy that occurs in the cervix, caused by Human Papillomavirus (HPV) infection (Hogi, 2018). Globally, cervical cancer ranks fourth among the most common cancers affecting women, with 604,000 new cases and approximately 342,000 deaths in 2020 (Sung *et al.*, 2021). In Indonesia, cervical cancer is one of the two most prevalent cancers in women, following breast cancer, with 36,964 cases and 20,708 deaths in 2022 (Globocan, 2022). The high incidence and mortality rates are partly influenced by the low coverage of early detection methods such as Visual Inspection with Acetic Acid (IVA) and Pap smear in Indonesia. Participation in cervical cancer screening remains critically low, at just 7.02% of the target 70% set for 2023 (Kementerian Kesehatan, 2023).

The Ministry of Health of the Republic of Indonesia (Kemenkes RI) has launched a national early detection program through IVA testing as one of the strategies to reduce cervical cancer prevalence in Indonesia. However, cervical cancer screening coverage in primary health services remains relatively low. Data from the 2021-2023 period shows that only 14.8% of Indonesian women aged 30 to 50 years have undergone cervical cancer screening using the IVA method (Kementerian Kesehatan, 2024). Meanwhile, East Java Province ranks 32nd out of 38 provinces in Indonesia with an extremely low IVA testing rate of approximately 1.8% (Kementerian Kesehatan, 2024). The percentage of IVA and Pap smear screenings in the northern coastal areas of Java, particularly in Gresik Regency, remains very low. This is reflected in the data from the Performance Assessment of Community Health Centers (PKP) in 2023 and 2024, including at the Mentaras Health Center in Dukun District, Gresik Regency. Data analysis from PKP at Mentaras Health Center for the period of January to October 2024 shows that the coverage for early cervical cancer detection reached only 19.5% of the 100% target by the end of 2024, representing a gap of 80.5% between the target and actual performance. This is partly due to the perception that cervical cancer is a taboo subject, as well as some community members' fears and reluctance regarding IVA and Pap smear testing (Lole *et al.*, 2024). Therefore, efforts to promote and prevent cervical cancer through IVA screening need to be intensified, including through health education campaigns about the importance of IVA testing.
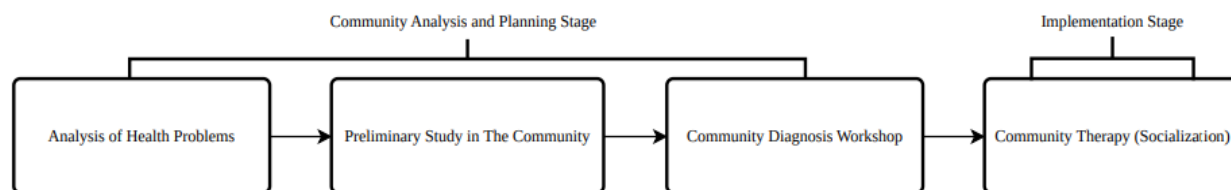
Health education is a form of promotional effort aimed at increasing public awareness of the importance of disease prevention and the adoption of healthy lifestyles (Kartini *et al.*, 2023). This approach is educational and beneficial for improving knowledge, encouraging healthier behavior changes, and engaging the community in maintaining individual and public health (Rahmanto *et al.*, 2023; Vilasari *et al.*, 2024). Health education has the advantage of a community-based approach and active participation, where people not only receive information but also actively participate in educational activities such as group discussions, simulations, and training (Kartini *et al.*, 2023). Community service with a health education approach has the potential to be applied as a strategy for educating women of reproductive age about cervical cancer, IVA testing, and Pap smear screening. Several community service studies have demonstrated increased knowledge and improved attitudes after health education interventions, which contributed to higher participation rates in IVA and Pap smear screenings (Lestari *et al.*, 2023; Taqwin *et al.*, 2018).

Based on the issues raised, community service was conducted to increase the coverage of IVA and Pap smear screenings in Gresik Regency, particularly at the Mentaras Health Center. The aim of this activity is to provide education on cervical cancer and the importance of IVA and Pap smear testing using health education outreach methods to the target group, namely women of reproductive age living in Mentaras Village, Dukun District, Gresik Regency. The health education was delivered using educational materials such as PowerPoint (PPT) presentations and brochures/leaflets containing information on cervical cancer, IVA, and Pap smear screening. This initiative is expected to enhance participants' knowledge and shift their attitudes towards cervical cancer and screening methods, ultimately increasing participation in IVA and Pap smear screenings and improving screening coverage in Gresik Regency, particularly in the working area of Mentaras Health Center.

METHOD

This community service activity (Pengmas) was conducted by medical students from the Faculty of Medicine, Universitas Airlangga (FK UNAIR), who were undergoing a community medicine rotation. The program collaborated with the implementing partner, the Mentaras Health Center, with the target community being the residents of Mentaras Village, Gresik Regency, East Java Province. The implementation of this activity involved several stages, including: 1) Health problem analysis in the Mentaras Health Center area, 2) Preliminary study on the community, 3) A workshop to identify the root causes of the problem (community diagnosis) and community-based solutions, and 4) Community therapy in the form of health education outreach.

Figure 1. Implementation Flowchart of The Program

The health education outreach was conducted at the Mentaras Village Hall on November 30, 2024, targeting 23 members of the PKK (Family Welfare Movement) group in Mentaras Village, Gresik Regency. The educational materials were presented using a PowerPoint (PPT) presentation and educational brochures/leaflets on cervical cancer, as well as IVA and Pap smear screening. The presentation was delivered by the FK UNAIR medical student team, with supervision from faculty advisors and healthcare professionals from the Mentaras Health Center. The evaluation of the activity was conducted using a post-test only design method with a Likert scale questionnaire, which consisted of 15 questions to assess knowledge and 10 questions about attitudes regarding cervical cancer, IVA, and Pap smear screenings. The collected respondent data was processed and classified based on cumulative scores with the following criteria: good (score ≥ 70) and poor (score < 70).

RESULT AND DISCUSSION

The data analysis process of the PKP at the Mentaras Health Center from January to October 2024, as well as systematic interviews with program managers and relevant clusters, was conducted as an initial step in this community service activity. Based on the gap analysis between the achievement percentage and the target, the results showed that the early detection rate of cervical cancer in the Mentaras Health Center area was still very low, with a gap value of 80.5%. Subsequently, the activity continued with a preliminary study using a questionnaire, which was administered to 21 randomly selected female respondents of productive age to confirm the low achievement of IVA and Pap smear screening in the area and to determine the community diagnosis. The results revealed that 7 respondents (33.33%) were unaware of cervical cancer, IVA, and Pap smear screening, and 10 respondents (47.62%) exhibited inadequate attitudes regarding IVA and Pap smear screening. Therefore, the problem identified in this community service activity was the low level of knowledge and attitudes related

to cervical cancer, IVA, and Pap smear screening among women of reproductive age in Mentaras Village, Gresik Regency.

The next step was the workshop held on November 25, 2024, which involved academic staff from FK UNAIR, healthcare workers from Mentaras Health Center, local community members, and cross-sectoral participants such as staff from the Mentaras Village Hall and local police officers. The goal of the workshop was to identify the root causes of the problem and determine community-based solutions. The session began with a presentation of the preliminary study survey results, followed by a Focus Group Discussion (FGD), and the identification of the root causes of the problem and the proposed solutions using the Nominal Group Technique (NGT) method. Based on the results of the NGT, the main community issue in Mentaras Village was identified as a lack of knowledge and awareness about the importance of IVA and Pap smear screening. The agreed-upon solution was to conduct health education on the importance of IVA and Pap smear screening for early detection of cervical cancer, targeting women of reproductive age in Mentaras Village, Gresik Regency. A summary of the identified problem, solution, and desired output (outcome) from this community service activity can be seen in Table 1.

The main activity was health education about cervical cancer and IVA and Pap smear screening, which took place on November 30, 2024, at the Mentaras Village Hall. This event was attended by 23 participants, consisting of PKK (Family Welfare Movement) women with ages ranging from 26 to 59 years. The series of activities included an opening and welcome speech, health education, a Q&A session, completion of post-test questionnaires, and a closing. The material presented focused on explaining cervical cancer (definition, symptoms, risk factors, and prevention) as well as IVA and Pap smear screening (indications, procedures, benefits, requirements, and participant testimonials), while also addressing myths and facts that circulate. The educational material was presented by a team of medical students from FK UNAIR using PowerPoint (PPT) presentations and brochures/

leaflets about cervical cancer and the importance of early detection. Observations showed that participants displayed high enthusiasm during the socialization. This was evidenced by participants paying close attention to the material and actively engaging in the Q&A session. Several participants who had already undergone IVA and Pap smear screening also exchanged information and shared testimonials about their experiences, motivating other participants to get screened as well.

Table 1. Identification of Problems, Solutions, and Outputs

Aspects	Problems	Solutions	Outputs
Knowledge	Limited knowledge regarding cervical cancer, IVA, and Pap smear	Health education through presentations and brochures focusing on myths and facts about cervical cancer, IVA, and Pap smear	Increased knowledge of participants after the socialization, assessed through a post-test questionnaire
Attitude	Lack of awareness regarding early screening for cervical cancer	Delivery of health education and testimonials from participants who have undergone IVA and Pap smear screening IVA dan pap smear	Improved attitude of participants after socialization, assessed through a post-test questionnaire

Figure 2. Documentation of the Health Socialization Activity on Cervical Cancer and Early Detection through IVA and Pap Smear

The demographic data of the socialization participants were predominantly composed of adults aged 26–44 years (73.91%), with the majority having completed senior high school education (43.48%) (Table 2). In addition, most participants were housewives (78.26%) and all of them were married (100%). The assessment of the questionnaire results was conducted on 23 participants who attended the socialization session, using post-test scores that were categorized as either good (score ≥ 70) or poor (score < 70) (Table 3). The post-test scores indicated positive outcomes, with all respondents (100%) demonstrating knowledge categorized as good. Moreover, 21 respondents (91.30%) exhibited a positive attitude, while only 2 respondents (8.70%) showed a less favorable attitude. These findings suggest that the educational intervention had a positive impact on the community, as evidenced by the questionnaire results.

Figure 3. Educational Brochure/Leaflet on Cervical Cancer and Early Detection (Bahasa Indonesia)

Table 2. Demographic Data of Socialization Participants

	Characteristics	Frequency (n = 23)	Percentage (%)
Age	Adult (26 - 44 years)	17	73.91%
	Pre-senior (45 - 59 years)	6	26.09%
Last Education	No School	3	13.04%
	Elementary School /Equivalent	1	4.35%
	Junior High School /Equivalent	5	21.74%
	Senior High School /Equivalent	10	43.48%
	Bachelor's Degree /Equivalent	4	17.39%
Occupation	Housewife	18	78.26%
	Farmer	1	4.35%
	Trader	1	4.35%
	Teacher	3	13.04%
Marital Status	Unmarried	0	0.00%
	Married	23	100.00%

Table 3. Post-test Score Classification Results of Socialization

Variables	Score	Total (%)	Category	Total (%)
Knowledge	<50	0 (0.00%)	Poor	0.00%
	50 - 59	0 (0.00%)		
	60 - 69	0 (0.00%)		
	70 - 79	0 (0.00%)	Good	100.00%
	80 - 89	2 (8.70%)		
	90 - 100	21 (91.30%)		
Attittude	<50	0 (0.00%)	Poor	8.70%
	50 - 59	0 (0.00%)		
	60 - 69	2 (8.70%)		
	70 - 79	10 (43.47%)	Good	91.30%
	80 - 89	9 (39.13%)		
	90 - 100	2 (8.70%)		

The results of this community service activity align with the study conducted by Lestari et al., (2023) on 45 respondents, who stated that after receiving health education about IVA screening for early cervical cancer detection, the majority of respondents, 32 people (71.10%), were classified as having good knowledge. Compared to the pre-test results, there was an increase in knowledge about early cervical cancer detection using IVA, as evidenced by the increase in the number of respondents with good knowledge. A study on 40 reproductive-aged respondents in Birobuli Village reported an increase in the number of respondents with good knowledge from 13 respondents (32.50%) before receiving health education about IVA to 37 respondents (92.50%) after the education (Taqwin et al., 2018). A similar study by Rosyadi et al., (2022) also reported the same result, where education about IVA screening was effective in improving participants' knowledge levels. Before the education, only half of 60 mothers in Tirta Kencana Village had good knowledge regarding the screening. However, after the education, there was a significant increase, with 83.00% of participants achieving good knowledge.

This community service also aligns with findings related to attitude aspects regarding IVA and Pap smear screening. A study by Wulandari and Susanti, (2018) mentioned a significant improvement in attitudes among reproductive-aged women after health education. The study found an average increase of 12.02 points from the pre- and post-education questionnaire results. Another study on 114 reproductive-aged women at Aras Kabu Health Center in Beringin District, Deli Serdang Regency, showed a significant effect on participants' attitudes before and after receiving health education about IVA and Pap smear (Sikumbang, 2019). Similar findings were supported by Taqwin et al., (2018) with 40 reproductive-aged respondents in Birobuli Village, reporting an increase in the number of respondents with a positive attitude from 14 respondents (35.00%) before receiving education about IVA and Pap smear to 35 respondents (87.50%) after receiving the education.

CONCLUSION AND SUGGESTION

The community service through health education about cervical cancer, as well as IVA and Pap smear screenings in Mentaras Village, showed positive results in improving participants' knowledge and attitudes. All participants gained a good understanding after the activity, and the majority exhibited a more supportive attitude toward IVA and Pap smear screenings. Furthermore, the explanation of materials focusing on myths and facts about IVA and Pap smear screenings, along with testimonies from participants who had undergone the screenings, played a significant role in increasing enthusiasm, trust, and community participation. This indicates that a community-based educational approach is effective in raising awareness and promoting participation in cervical cancer early detection.

To ensure the sustainability of the impact, similar socialization activities should be regularly carried out, involving broader target groups such as young mothers or adolescent girls. Cross-sector collaboration with healthcare workers, village governments, and community organizations should also be enhanced to expand coverage and increase participation in IVA and Pap smear screening activities aimed at eradication, particularly for the prevention and early diagnosis of cervical cancer.

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