



Assistance for Reproductive Health Workers in Efforts to Increase Pap Smear Coverage

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ABSTRACT

Background: Pap smear screening is essential for early detection and prevention of cervical cancer, yet coverage in Indonesia remains low at approximately 7.3%. Although primary health centers are widely available and health workers are trained, active community engagement is still lacking. Objective: To evaluate the effectiveness of structured health worker assistance in increasing Pap smear coverage among married women. Methods: A descriptive cross-sectional study was conducted from July to September 2024 in Central Java, Indonesia. Thirty-three married women were recruited using consecutive sampling. Participants received counselling on the importance of Pap smear and step-by-step assistance in accessing free screening via the Indonesian national health insurance system (BPJS). Support was provided through a dedicated WhatsApp group, coordinated by two health workers. Results: Prior to the intervention, only 39.4% (13/33) of participants had ever undergone a Pap smear. After the intervention, 75.8% (25/33) completed the screening at a designated BPJS-affiliated laboratory. The main barriers identified before the intervention were fear of the procedure (70%), fear of results (15%), and cost concerns (15%). Conclusion: Structured health worker assistance significantly increased Pap smear uptake. This model can serve as a pilot for broader implementation in low-coverage areas.

Keywords: Pap smear; health worker assistance; BPJS; cervical cancer; counseling.

ABSTRAK

Latar Belakang: Skrining pap smear penting untuk deteksi dini dan pencegahan kanker serviks, namun cakupannya di Indonesia masih rendah, yaitu sekitar 7,3%. Meskipun puskesmas tersedia secara luas dan tenaga kesehatan terlatih, keterlibatan aktif masyarakat masih kurang. Tujuan: Mengevaluasi efektivitas pendampingan tenaga kesehatan terstruktur dalam meningkatkan cakupan Pap smear pada perempuan menikah. Metode: Sebuah studi deskriptif potong lintang dilakukan dari Juli hingga September 2024 di Jawa Tengah, Indonesia. Tiga puluh tiga perempuan menikah direkrut menggunakan metode pengambilan sampel konsekutif. Peserta menerima konseling tentang pentingnya Pap smear dan pendampingan langkah demi langkah untuk mengakses skrining gratis melalui Badan Penyelenggara Jaminan Sosial (BPJS) Kesehatan. Dukungan diberikan melalui grup WhatsApp khusus yang dikoordinasikan oleh dua tenaga kesehatan. Hasil: Sebelum intervensi, hanya 39,4% (13/33) peserta yang pernah menjalani Pap smear. Setelah intervensi, 75,8% (25/33) peserta menyelesaikan skrining di laboratorium terafiliasi BPJS yang ditunjuk. Hambatan utama yang diidentifikasi sebelum intervensi adalah ketakutan akan prosedur (70%), ketakutan akan hasil (15%), dan kekhawatiran biaya (15%). Kesimpulan: Bantuan tenaga kesehatan terstruktur secara signifikan meningkatkan partisipasi dalam tes Pap smear. Model ini dapat menjadi percontohan untuk implementasi yang lebih luas di wilayah dengan cakupan rendah.

Kata kunci: Pap smear; bantuan tenaga kesehatan; BPJS; kanker serviks; konseling.

INTRODUCTION

Cervical cancer is the fourth most common cancer among women worldwide, with developing countries bearing the highest burden (WHO, 2024). In Indonesia, Pap smear coverage remains critically low at 7.3% despite the availability of free screening through the national health insurance system (BPJS, 2024).

The Pap smear examination serves as a secondary prevention measure for cervical cancer (Wicaksana & Hertanti, 2021). The sensitivity of Pap smear examinations is 90% when conducted annually, 87% biennially, 78% triennially, and 68% every five years (Andrijono, 2016). Approximately 50% of newly diagnosed cervical cancer patients have not previously undergone a Pap smear examination (Kampono, 2017).

The Pap smear examination assesses the condition of the cervix, determining whether it is cytologically normal or abnormal. Abnormal cervical cytology is observed in approximately 0.72 to 1.6% of pregnancies. The evaluation of these abnormal results is challenging, given the standard conditions associated with metaplastic changes during pregnancy (Gill et al., 2020). Research on Pap smear examinations was conducted among female respondents with active sexual lives, including infertile women participating in pregnancy programs (Sachan et al., 2018). Abnormal Pap smear results were observed in 1.7% of infertile women participating in the pregnancy program. Pap smear examinations are conducted in infertile women participating in pregnancy programs (Brahmana & Widiyatmoko, 2022), alongside their role in the secondary prevention of cervical cancer.

Pap smear screening coverage in Indonesia remains low, recorded at 7.3% by the end of 2018, approximately five years after the initiation of the cervical cancer early detection program (Aoki et al., 2020). Pap smear coverage in Indonesia has reached only 9.8% 12 years after the initiation of the cervical and breast cancer early detection program (Wahidin et al., 2022). The health insurance system in Indonesia called *Badan Penyelenggara Jaminan Sosial (BPJS)* presently offers complimentary Pap smear examinations (BPJS, 2024). Health workers account for 73.2% of the factors inhibiting Pap smear examination. Enhancing health worker participation is anticipated to lower cervical cancer incidence and elevate the willingness to undergo Pap smear screening (Sanatha et al., 2018).

Although health workers are trained and health centres are accessible, community participation remains minimal. Previous studies have identified lack of awareness, fear, and poor health worker engagement as key barriers (Sanatha et al., 2018)(Imansari, 2022). However, few studies have examined the impact of structured health worker assistance combined with BPJS facilities in increasing Pap smear uptake. This study aims to address this gap by evaluating a pilot intervention in Central Java.

METHOD

Study Design, A descriptive cross-sectional study was conducted from July to September 2024. **Participants:** Thirty-three married women were recruited using consecutive sampling from a community group in Central Java. **Inclusion criteria:** married, aged ≥ 25 years, never or rarely screened for cervical cancer. **Instruments:** A structured questionnaire was used to collect socio-demographic data and screening history. A WhatsApp group was created for real-time coordination and support. **Procedure** The intervention consisted of two phases-1. **Counseling:** Participants attended a session on cervical cancer prevention and the importance of Pap smear. Information on free access via BPJS was provided. **Phase-2. Assistance:** Registration of all 33 participants, Coordination with a BPJS-designated laboratory, Step-by-step guidance via WhatsApp and Reminders and troubleshooting support. Participants were required to report their screening status and any barriers encountered. Data were analyzed descriptively using frequencies and percentages. **Ethical Approval:** Ethical clearance was obtained from the Health Research Ethics Committee of Universitas 'Aisyiyah Yogyakarta (No. 3870/KEP-UNISA/VII/2024).

RESULTS AND DISCUSSION

Counseling, as an activity that provides information to increase knowledge, is the initial activity carried out in this study. The assistance of health workers at each stage of the activity, namely enrollment respondents, laboratory coordination, and reporting, is very important in increasing Pap smear examinations in this study.

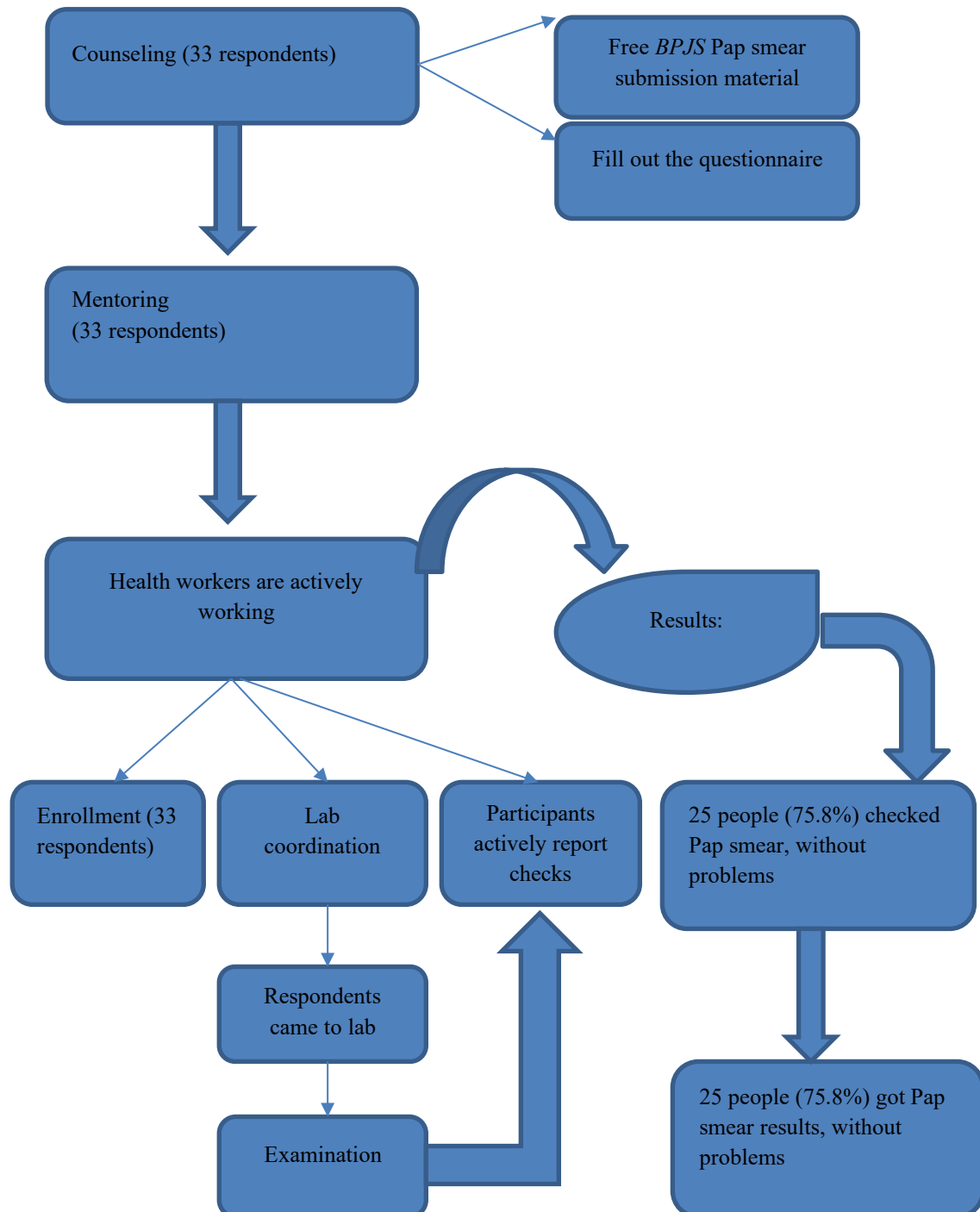


Figure 1. Research Flowchart

Figure 1 illustrates the detailed research flowchart. The two stages implemented are Counseling and Mentoring. A total of 33 respondents participated in counseling and mentoring. Two health workers accompanied them. Following an explanation of the significance of Pap smear examinations, health

workers collaborated with the local laboratory designated by *BPJS*. The identities of the 33 respondents who participated in the assistance were communicated to the laboratory supervisor, enabling the laboratory to compile a list of those who would undergo the Pap smear examination.

Health workers' assistance in providing education and motivation to the community to carry out Pap smear examinations is very necessary. It is in line with the following research, which states that The research results highlight four primary themes: the role played by the community, the influence of culture and family, the involvement of healthcare professionals, and the importance of healthcare centers in cervical cancer screening (Endriyani et al., 2017).

Table 1. Respondents' characteristics (n=33)

Characteristics	Classification	n	%	Mean ± SD
Age	<25 years old	2	6.1	43.06±10.721
	>=25 years old	31	93.9	
Number of children	0	1	3.0	
	1	6	18.2	
	2	10	30.3	
	>2	16	48.5	
Abortion	0	29	87.9	
	1	2	6.05	
	2	2	6.05	
Long married	<3 years	0	0	
	>3 years	33	100.0	
Contraception	None	20	60.6	
	Hormonal	5	15.2	
	Non-hormonal	8	24.4	
Pap smear examination before	Yes	13	39.4	
	No	20	60.6	

Table 1 presents the characteristics of the research subjects. The mean age was 43.06 ± 10.7 years. The study included 33 respondents as research subjects. Of the 33 participants, 25 (75.8%) successfully completed Pap smear screening at the designated laboratory. All reported no significant barriers during the process. Results were available within 2–4 weeks.

Respondents over 40 years of age constituted the majority, accounting for 57.6% (19 out of 33). The American Cancer Society (ACS) indicates that Pap smears should commence at the age of 25 (Fontham *et al.*, 2020). In this study, the majority of respondents were over 25 years old (93.95%), which is consistent with the ACS findings.

Among the respondents, those with more than two children constituted the largest group, representing 48.5% (16 out of 33). The majority of respondents, 87.9% (29 out of 33), reported never experiencing a miscarriage. All participants had been married for over three years. It aligns with the recommendation to conduct Pap smear examinations at least every three years following marriage. Sixty percent of respondents (20 out of 33) did not utilize contraceptives, whereas 15.2% (5 out of 33) employed hormonal contraceptives, and 24.4% (8 out of 33) used non-hormonal methods.

Sixty percent of respondents had never undergone a Pap smear examination, representing 20 out of 33 participants. A greater proportion of respondents have never undergone a Pap smear examination, accounting for 60.6% (20/33) compared to those who have 39.4% (13/33). Consequently, counseling regarding the significance of Pap smear examinations and support is warranted, given that a majority of respondents have not previously undergone such an examination. A lack of knowledge and awareness about the significance of cervical cancer screening is the main barrier to screening

participation (Imansari, 2022). A study conducted in a rural area of Indonesia indicated that 81% of respondents had never undergone a Pap smear examination (Sumarmi et al., 2021).

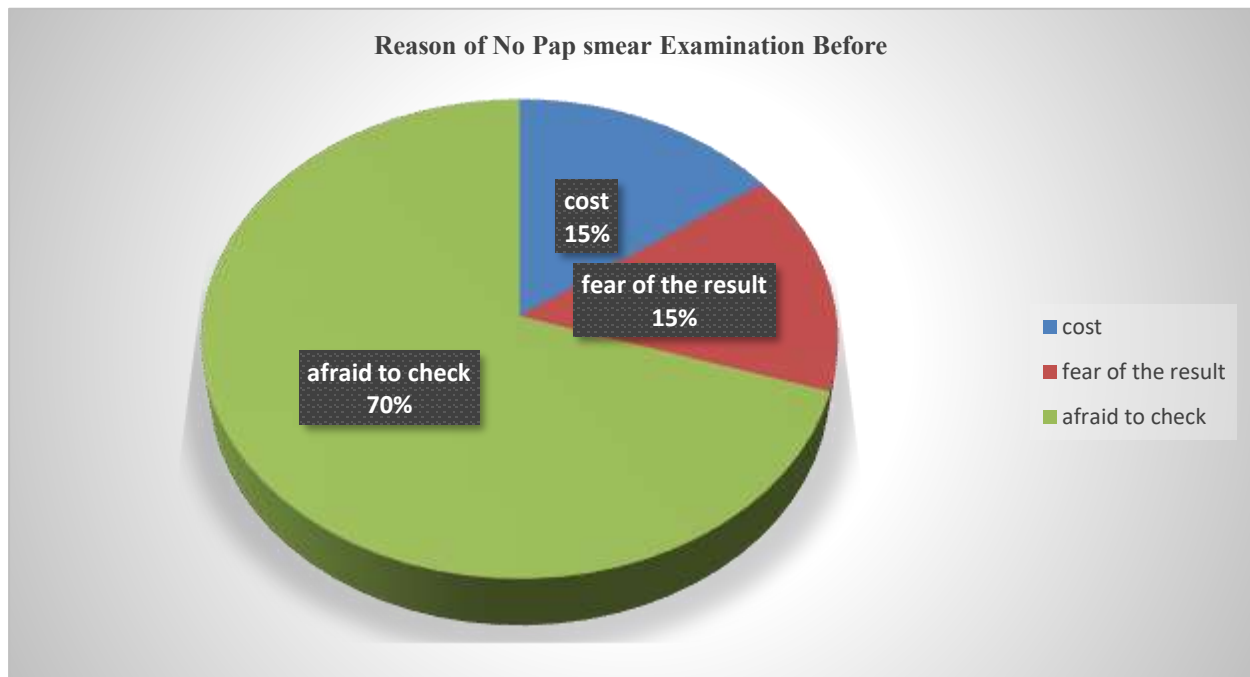


Figure 2. Reason of No Pap smear Examination Before (n=20)

Figure 2 illustrates the reasons provided by 20 respondents who have never undergone a Pap smear examination. The majority (60.6%) had never undergone a Pap smear. Fear of the procedure was the most common reason (70%), followed by fear of results (15%) and cost (15%).

Seventy percent (14 out of 20) of respondents indicated that fear of the Pap smear examination was the primary reason. The apprehension surrounding Pap smear examinations can be attributed to insufficient knowledge (79.3%), negative attitudes (81.7%), lack of information sources (72%), and the passive role of health workers (73.2%) (Sanatha et al., 2018).

Insufficient understanding of the Pap smear examination significantly contributes to the reluctance to undergo the procedure (Heryani, 2018). Counseling on cervical cancer influences people's knowledge about the disease (Wahyuni, 2015). It aligns with the study's findings that a lack of awareness regarding the importance of Pap smear examinations contributes to mothers' reluctance to undergo such screenings. Heryani recommended that health workers enhance the dissemination of information and counseling regarding the significance of Pap smear examinations for women's reproductive health (Heryani, 2018).

The education from health workers in increasing cervical cancer screening through visual inspection of acetic acid (VIA) also increased after being explained by health workers. There is a significant difference in the degree of interest in VIA examinations prior to and following the health education session (Sugiyanto & Febriana, 2016). It shows that education from health workers makes a significant contribution to the public's desire to undergo Pap smears and VIA examinations.

The Pap smear examination serves as a method for the early detection of cervical cancer (Terlan & Cesar, 2018). The HPV test can be conducted independently or in conjunction with other examinations (Rerucha et al., 2018). The implementation of early cervical cancer detection using HPV DNA testing has commenced (Ekawati et al., 2024). This examination is anticipated to be conducted through self-sampling utilizing urine samples (Indarti, 2023). Self-sampling is anticipated

to provide respondents with a more comfortable method of testing, thereby potentially reducing the apprehension associated with checking, as observed in this study.

Husband support significantly influences the willingness to undergo Pap smear examinations alongside knowledge (Triutomo & Wijayanti, 2022). The husband's support is likely to decrease the fear of undergoing examination (70%) and the fear of Pap smear results (15%), as indicated by the findings in this study, illustrated in Figure 2. Another study also identified low husband support regarding the willingness to undergo Pap smear examinations (Feriawati et al., 2018).

Family income significantly influences the willingness to undergo Pap smear examinations. In this study, cost was a factor for 15% of respondents who had never undergone a Pap smear examination. An increase in family income correlates with a 2,068-fold rise in the frequency of Pap smear examinations when compared to families with lower income levels (Kurniati & Meliani, 2021).

This study demonstrates that structured health worker assistance significantly increased Pap smear uptake from 39.4% to 75.8%. The use of a WhatsApp group for real-time support proved effective in addressing logistical and psychological barriers. Our findings align with previous research highlighting the role of health education and support in increasing screening participation (Endriyani et al., 2017) (Sugiyanto & Febriana, 2016). However, our study adds novelty by integrating BPJS access facilitation and digital coordination, which has not been widely reported. Fear of the procedure was the dominant barrier, consistent with Heryani (Heryani, 2018). This was effectively reduced through repeated reassurance and peer support in the WhatsApp group.

LIMITATION OF THE STUDY

This was a pilot study with a small, non-randomized sample. Selection bias may exist due to voluntary participation. Findings should be interpreted with caution and may not be generalizable to broader populations.

CONCLUSIONS AND SUGGESTIONS

Structured health worker assistance, combined with BPJS facilitation and digital coordination, significantly improved Pap smear uptake. This model can serve as a pilot for national scale-up, especially in low-coverage areas. Future studies should include: 1) Larger and more diverse samples, 2) Randomized controlled design, 3) Cost-effectiveness analysis and 4) Integration with digital health platforms

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ETHICAL CONSIDERATIONS

The research has received ethical approval from the Health Research Ethics Committee of the Universitas 'Aisyiyah Yogyakarta numbered: 3870/KEP-UNISA/VII/2024 dated July 23, 2024.

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Conflict of Interest Statement

The authors declare no conflict of interest.

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