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Original Article

Multi-stakeholder perspectives on cervical cancer screening implementation in Indonesia: A qualitative study of cervical screening barriers in Banda Aceh

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Abstract

Indonesia is committed to the WHO's cervical cancer elimination strategy through the National Action Plan for Cervical Cancer Elimination 2023–2030, aiming to achieve 75% screening coverage by 2030. However, current rates remain critically low at 7.02%. This study aimed to explore the multi-stakeholder perspectives to identify implementation barriers and facilitators for policy enhancement. A qualitative descriptive case study was conducted in Banda Aceh (July-August 2025) involving 25 stakeholders: the City Health Office head, 11 *Puskesmas* heads, 11 coordinators of visual inspection with acetic acid (VIA) test, and 2 community organization representatives. Thematic analysis was conducted using NVivo v.16 to identify key implementation factors. Five major themes emerged: (1) knowledge gaps—screening perceived necessary only when symptomatic despite available information; (2) access paradox—excellent geographic access and flexibility undermined by limited examination rooms, insufficient midwives, and psychosocial barriers (shame, fear, lack of spousal support); (3) financial sustainability—free services threatened by complex National Health Insurance claims and low reimbursement affecting logistics; (4) service quality variation—dependent on cross-sector collaboration and staff competency, with uneven training and limited cryotherapy; and (5) communication challenges—inconsistent digital media use necessitates face-to-face counseling and cadres, though reach remains limited. Implementation faces psychological barriers, capacity limitations, and uneven digital adoption despite strong infrastructure. Priority policy recommendations include: (1) human papillomavirus (HPV) DNA self-sampling to overcome privacy barriers; (2) simplified National Health Insurance claims with adequate reimbursement; (3) systematic competency-building and cryotherapy expansion; and (4) culturally-adapted education integrating local language and religious leaders. In conclusion, strengthening health-system capacity and culturally responsive service delivery is essential to close the gap between national policy commitments and community-level screening uptake, thereby accelerating progress toward Indonesia's cervical cancer elimination targets.

Keywords: Uterine cervical neoplasms, mass screening, stakeholder participation, health policy, barriers to health care

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Introduction

Cervical cancer remains a major public health challenge globally, with an estimated 660,000 new cases and 350,000 deaths annually, 88% occurring in low- and middle-income countries (LMICs) [1]. In Indonesia, over 36,000 women are diagnosed with cervical cancer yearly, with 21,000 deaths, making it the second most common cancer among women [2]. The burden is particularly significant as 70% of cases are diagnosed at advanced stages when treatment efficacy is limited, and mortality is high [3].

Recognizing cervical cancer as a preventable disease, the World Health Organization (WHO) launched the Global Strategy for Accelerating Cervical Cancer Elimination in 2020, calling for all countries to achieve the "90–70–90" targets by 2030: 90% of girls fully vaccinated with HPV vaccine by age 15; 70% of women screened using a high-performance test by ages 35 and 45; and 90% of women identified with cervical disease receive treatment [4]. If achieved globally, modeling suggests 74.1 million cases and 62.6 million deaths could be averted this century [5].

Indonesia is committed to this elimination agenda through the National Action Plan for Cervical Cancer Elimination 2023–2030, which emphasizes three pillars: HPV vaccination, screening, and treatment [3]. However, current screening coverage remains critically low. As of 2023, only 7.02% of the target population has been screened—far below the 70% target [6]. Even with expanding access to free screening through the National Health Insurance and primary health centers (*Puskesmas*), uptake has stagnated, indicating that barriers extend beyond cost and availability [7].

Previous studies have identified multiple barriers to cervical screening in Indonesia, including limited knowledge, cultural stigma, access constraints, and healthcare system limitations [8,9,10]. However, most studies have focused on individual-level factors or single-stakeholder perspectives. Comprehensive multi-stakeholder analyses that explore policy implementation from health office to the community levels remain scarce. Understanding how different actors within the health system perceive barriers and facilitators is essential for designing effective, context-appropriate policy interventions. Therefore, this study aimed to explore multi-stakeholder perspectives—from policymakers to service providers to community organizations—on the implementation of the national cervical cancer screening program in Indonesia, to identify perceived barriers, facilitators, and system-level gaps that influence screening uptake and service delivery. The study was conducted in Banda Aceh, the capital of Aceh Province, which presents a unique context. With a predominantly Muslim population and strong cultural conservatism, the region faces particular challenges around reproductive health discussions and examinations. In 2018, Aceh reported 1,401 cervical cancer cases (0.6% of the female population), with a 15% increase from 2014–2017 [2]. Despite all 11 *Puskesmas* offering free visual inspection with acetic acid (VIA) screening, uptake remains minimal. The findings are expected to inform evidence-based policy recommendations to enhance screening coverage and accelerate progress toward the targets of Indonesia's National Action Plan for Cervical Cancer Elimination 2023–2030.

Methods

Study design and setting

This qualitative descriptive case study employed in-depth interviews to explore stakeholders' perspectives on the implementation of a cervical cancer screening program. The study was conducted from July to August 2025 in Banda Aceh, Aceh Province, Indonesia, encompassing the Banda Aceh Health Office, all 11 *Puskesmas* across the city's subdistricts, the Indonesian Cancer Foundation (in Indonesian *Yayasan Kanker Indonesia* – YKI), and Female Cancer Program (FCP).

Participants and sampling

A purposive sampling strategy with a saturation approach was employed to capture diverse stakeholders' perspectives. The study included 25 participants: (1) head of Banda Aceh Health Office (n=1); (2) head of *Puskesmas* (n=11); (3) VIA screening coordinators (n=11); and (4) community organization representatives from YKI and FCP (n=2). Inclusion criteria included: official appointment with a valid decree for health officials, active involvement in screening program implementation, willingness to participate and provide informed consent, and age ≥18 years.

Data collection

Semi-structured in-depth interviews were conducted using a pre-developed interview guide covering five thematic domains: (1) knowledge about cervical cancer and screening; (2) access to screening services; (3) financing mechanisms; (4) service delivery quality; and (5) promotional media strategies. Interviews were audio-recorded with participant consent, lasting 30–60 minutes, and conducted in Indonesian or Acehnese as preferred by participants. The interview guide was pilot-tested with two *Puskesmas* staff who were not included in the final sample to assess its clarity, relevance, and question flow. Minor wording adjustments were made to improve comprehension and reduce ambiguity, but no substantive changes to the thematic domains were required. All interviews were conducted by first author with qualifications.

Data analysis

Thematic analysis was performed using NVivo version 16 software following established qualitative methodology: (1) familiarization: all interview transcripts were read repeatedly to gain a comprehensive understanding; (2) coding: open inductive coding was applied to meaningful phrases, sentences, or paragraphs using NVivo's nodes feature; (3) theme development: similar codes were grouped into sub-themes, then consolidated into major themes; (4) review and refinement: themes were reviewed for internal coherence and inter-theme clarity; and (5) definition: each theme was conceptually defined to strengthen theoretical and contextual relevance. Trustworthiness was ensured through: (1) member checking—returning findings to participants for verification; (2) peer debriefing—discussion with thesis supervisors experienced in qualitative research; and (3) triangulation across multiple stakeholder groups.

Results

Participant characteristics

A total of 25 participants were included in the final analysis, and their characteristics are presented in **Table 1**. All 11 *Puskesmas* heads were female (100%), aged 36–55 years, with Bachelor's or Master's degrees and 2–20 years of experience. The VIA screening coordinators were female (100%), aged 27–40 years, mostly with Diploma-level education, and 1–9 years of experience. Community organization representatives (YKI and FCP) were female, aged 39–44 years, with Bachelor's degrees and 3–5 years in health education roles.

Table 1. Characteristics of study participants included in the study (n=25)

Stakeholder group	n	Age range (year)	Education	Experience range
City Health Office head (CHO)	1	50	Bachelor	2 months
Puskesmas head (PUS)	11	36–55	Bachelor-Master	2–20 years
VIA coordinator (VIA)	11	27–40	Diploma-Bachelor	1–9 years
NGO representative (NGO)	2	39–44	Bachelor	3–5 years

VIA: visual inspection with acetic acid

Theme 1: The paradox of knowledge – when information does not lead to action

Scattered awareness across communities

Despite ongoing education efforts, cervical cancer knowledge remains patchy and uneven. *Puskesmas* leaders describe understanding as "very limited in the field" (PUS10), with awareness often spiking only after tragedy strikes.

"Many still wait until there's a severe case or even death, only then it becomes widely discussed" (PUS2).

Urban areas with better internet access fare slightly better, yet gaps persist everywhere. As one coordinator noted, awareness varies dramatically.

"In some areas, response is quite good. In coastal areas, it's more difficult" (VIA4).

Fatal misunderstanding

Even women who know about cancer often miss the crucial point: screening prevents disease, it does not just diagnose it. Many believe testing is only needed when symptoms appear, failing to understand that early cervical changes are silent. Compounding this, most women know about Pap smears but not VIA – despite VIA being simpler, faster, and providing immediate results at their local health center (VIA7).

When knowledge breeds fear

Ironically, awareness sometimes backfires. The more women know about cancer, the more they fear screening results.

"It's better not to know about the disease than to have to examine oneself, so the fear is quite large" (PUS7).

This reflects a deeper gap in understanding that early detection of precancerous lesions enables timely treatment and substantially improves survival.

Theme 2: Access paradox—availability without utilization

Excellent geographic access and service flexibility

Geographic access was uniformly good across Banda Aceh. All stakeholders confirmed that *Puskesmas* locations were strategically placed near residential areas with public transportation (including free Government-provided Trans Kutaraja buses) available.

"Distance between villages to Puskesmas is only about 10–15 minutes. So, barriers are not because of distance or transportation" (PUS10).

Moreover, nearly all *Puskesmas* implemented flexible scheduling beyond official weekly slots, allowing screening whenever patients presented.

"No special schedule. Service is open every working day. We don't limit it because if people come and there happens to be no service that day, they may be reluctant to return." (PUS10).

This patient-centered flexibility was recognized as critical to preventing lost opportunities.

Structural barriers: limited examination facilities

Despite good access, structural constraints hindered service delivery. Many *Puskesmas* lacked dedicated private examination rooms.

"Limitation of space at the Puskesmas, it's rather difficult to provide a special room" (PUS1).

"At this Puskesmas, family planning as well as maternal and child health services are still combined in one room. So, when I do VIA testing, I usually use a curtain divider" (VIA5).

Older buildings with small, shared spaces using only curtains for privacy created discomfort, particularly given the cultural sensitivity around genital examination. Additionally, limited gynecologic examination beds (often only one per facility) prevented simultaneous service provision, and insufficiently trained midwives constrained both facility and outreach capacity.

Psychosocial barriers: shame, fear, and lack of support

The most dominant and consistent barriers were psychosocial. Cultural shame around reproductive organ examination emerged as the primary impediment.

"The main obstacle is the community's shame because this examination involves reproductive organs. Many still feel it's taboo" (PUS5).

"Even though they understand, shame remains the main barrier. Some say, 'I'm embarrassed if examined by a health worker I know" (PUS8).

This shame crossed educational levels—even highly educated women expressed reluctance to undress and assume examination positions. VIA coordinators described having to "cajole at length" (VIA3) before women would consent.

Fear of results further deterred participation

Fear of screening outcomes further discouraged participation. Several providers reported that women avoided testing because of anxiety about receiving a positive diagnosis. One *Puskesmas* head explained:

"Many think, if examined, it will turn out they have the disease—that is what they fear" (PUS8).

Similarly, a VIA coordinator observed that uncertainty was sometimes perceived as psychologically safer than knowing the result:

"Besides shame, some are also afraid of examination results. Some think, if they don't know the results, it means they're safe—while if they know, they actually become worried" (VIA2).

Low participation despite good access

The consequence of psychosocial barriers was critically low utilization. Despite good geographic access and flexible service provision, utilization of cervical cancer screening remained very low. Providers consistently reported limited community interest in preventive screening. VIA coordinators also reported that only a few women typically attended screening sessions, which often coincided with other services.

"Looking at it overall in Banda Aceh, interest in screening is still low, not only for cervical cancer" (PUS7).

"Not many, Doc. Usually only about four people, and most of those coincide with patients getting an intrauterine device (IUD)" (VIA9).

Monthly screening numbers typically ranged from 1–7 women per *Puskesmas*, with higher numbers (20–40) only during mass family planning events. Most screening occurred opportunistically when women accessed other services (IUD insertion, contraception counseling), not from proactive health-seeking behavior. Fundamentally, the community had not adopted screening as routine preventive behavior:

"Most of the community come to the Puskesmas only when sick... if there are no complaints, they feel they don't need to be examined yet." (PUS10)

Theme 3: Free services yet financial sustainability threatened

All stakeholders confirmed that VIA screening services were provided free of charge at all *Puskesmas*, funded by the City Health Office, the National Population and Family Planning Board (BKKBN), and operational budgets.

"No cost. Everything is free. Funding sources come from Puskesmas operational costs, as well as support from BKKBN" (PUS2).

"Free. VIA examination is covered by BPJS, no cost to patients" (PUS8).

This elimination of financial barriers for patients represented a significant policy achievement. Providers actively communicated this during outreach to reduce access concerns.

Although cervical cancer screening services were provided free of charge to women through the National Health Insurance system, their sustainability was undermined by complex reimbursement procedures and low payment rates. Health facilities reported that claims for VIA and cryotherapy were frequently delayed, partially reimbursed, or rejected due to administrative and coding issues. These financial uncertainties affected Puskesmas's ability to cover operational costs, including consumables, staff time, and essential supplies such as liquid nitrogen for cryotherapy. As a result, service continuity and the implementation of a reliable "screen-and-treat" approach were compromised despite the absence of direct user fees.

Theme 4: Service quality depends on collaboration and capacity

Cross-sector collaboration enhances reach

Service quality and coverage were significantly higher in *Puskesmas* with active partnerships. Collaboration with government agencies such as National Population and Family Planning Board (in Indonesian called BKKBN), universities, and NGOs (YKI, FCP) resulted in larger screening events. One head of *Puskesmas* state:

"We have several times collaborated with BKKBN in IUD installation activities, which also include VIA screening. In one activity, there can be 25–30 participants who come" (PUS10).

However, collaboration was uneven; several *Puskesmas* reported no such partnerships due to limited policy support, resources, or leadership turnover.

Effective referral system with capacity gaps

The referral system for VIA-positive cases functioned systematically through clinical consultation. When suspicious lesions were identified, VIA coordinators photographed the findings and consulted specialists via a WhatsApp group or in person, enabling rapid triage decisions.

"Consultation via group with supervising doctor… response is usually fast. If still in doubt, patients are referred." (VIA4)

This digital communication strategy effectively addressed consultation needs in resource-limited settings. However, referral capacity varied by facility. Only two *Puskesmas* in Banda Aceh offered cryotherapy for treating pre-cancerous lesions. Others had to refer even manageable cases. A VIA from a *Puskesmas* stated:

"Usually, patients are referred to Puskesmas Batoh for cryotherapy procedures" (VIA6).

This created referral burden concentration and required additional patient travel, potentially increasing loss to follow-up.

Uneven provider competency

Training coverage for VIA varied substantially. Some *Puskesmas* had entire teams trained as trainers of trainers (TOT). A head of Batoh Puskesmas stated:

"In Batoh, almost all midwives and doctors have attended TOT training for VIA. So, we're ready" (PUS3).

Others had staff who had never received formal training, relying instead on guidance from senior colleagues.

"Haven't had any. I happen to be new here... up to now, I indeed haven't participated in training." (VIA5).

Post-pandemic training gaps were particularly notable. A VIA coordinator stated:

"Last one was before COVID-19. After the pandemic, there hasn't been any training. So, it's been more than five years" (VIA1).

Staff rotation without replacement training created a competency gap that undermined service consistency. This heterogeneity in provider skills posed quality assurance challenges across the city.

Limited cryotherapy access

The City Health Office confirmed that cryotherapy was available at only two Puskesmas, with equipment provided by the Ministry of Health. The head City Head Office stated:

"Currently, cryotherapy is only available at two Puskesmas, and the equipment is distributed with assistance from the Ministry of Health. We always submit proposals so that cryotherapy facilities can be added to other Puskesmas" (CHO1).

Even where available, nitrogen supply issues frequently disrupted service. This limited the "screen-and-treat" continuum, which is critical to prevention effectiveness.

"There have been several times nitrogen was empty, so patients who should have undergone cryotherapy had to be postponed" (VIA3).

Theme 5: Communication challenges—digital potential underutilized

Digital media potential is recognized but inconsistently used

Stakeholders recognized social media's potential for health education. WhatsApp groups effectively reached housewives with appointment reminders and information. One of the NGO representatives stated:

"WhatsApp groups are faster in reaching housewives" (NGO1).

Instagram and Facebook were used for infographics and survivor testimonials, while some innovative providers even used TikTok and YouTube for educational content.

"I use social media like YouTube and TikTok for education... easier to reach many people" (VIA1).

However, digital utilization was far from uniform. Many *Puskesmas* had official social media accounts that were inactive or irregularly updated.

"We don't yet have an official account that's active for education" (PUS7).

"Actually, the Puskesmas has a website and social media, but they're not very active. Maybe also we're not very skilled at managing them" (PUS5).

This inconsistency meant education remained dependent on in-person encounters at *Puskesmas*—reaching only those already accessing health services, not the broader community.

Face-to-face methods remain dominant

Due to limited digital reach, traditional methods dominated. *Puskesmas* conducted education at *Posyandu* (community health posts), pregnant mother classes, religious gatherings, and village events.

"It's routine. That's part of health promotion duties and program responsibilities. Usually, counseling is done directly in villages" (PUS9).

Personal approaches were particularly important for overcoming shame and taboo. A *Puskesmas* head stated:

"Last year I tried group counseling, but the mothers weren't very open. This year I tried a one-on-one approach… usually they start to open up" (PUS3).

However, without consistent mass screening events (limited by funding and cross-sector support), the reach of education remained constrained.

Community cadres and local leaders are critical yet underutilized

Health cadres served as crucial bridges between health systems and communities, particularly for sensitive topics:

"If conveyed by village figures, the message is usually better received" (VIA6).

When effectively trained and mobilized, cadres significantly increased screening participation during mass events.

"When there's a mass activity, cadres really help in inviting the community. In 2018, around 40 people participated in examination" (VIA1).

Religious leaders (Ustaz) provided moral validation, encouraging women to overcome shame barriers. YKI and FCP systematically incorporated local language and religious leaders into campaigns to reduce stigma. However, cadre involvement was inconsistent. Some remained uncomfortable discussing reproductive topics. A VIA coordinator particularly stated:

"Cadres aren't active yet. They still feel embarrassed if discussing things that are personal" (VIA8).

Without systematic capacity building and sustained engagement strategies, this community asset remained underutilized.

Discussion

This comprehensive multi-stakeholder analysis reveals that while Indonesia's National Action Plan for Cervical Cancer Elimination has established strong foundations in Banda Aceh, including universal free services, good geographic access, and institutional commitment, critical implementation gaps threaten achievement of the 2030 targets. The access paradox, in which services are available but unutilized, reflects complex interactions among knowledge, psychosocial barriers, system capacity, and communication strategies that require multi-level policy interventions.

The persistent knowledge gaps found in this study align with previous Indonesian research showing that even when cervical cancer awareness increases, understanding of prevention concepts and screening benefits often remains superficial [8,9]. Our findings extend this by documenting how partial knowledge can paradoxically deter participation when coupled with fear—a phenomenon observed across LMICs [12]. The misperception that screening is only for symptomatic women reflects a fundamental misunderstanding of cancer's natural history and preventive healthcare paradigms.

To address these knowledge–behavior gaps, Policy Implication 1 is proposed. Education strategies must shift from awareness-raising to behavior change communication, emphasizing: (1) the asymptomatic nature of early cervical lesions; (2) high curability of pre-cancer; (3) screening as protection, not diagnosis. Following successful models from Thailand and Rwanda

[13,14], Indonesia should develop standardized education modules incorporating local languages (Acehnese in this context), religious framing endorsed by Islamic scholars, and survivor testimonials to counter fear narratives. In Aceh, culturally appropriate communication should involve formal endorsement from the Aceh Ulama Council (*Majelis Permusyawaratan Ulama*) to frame cervical cancer screening as a morally permissible and socially responsible act, thereby reducing stigma and increasing community acceptance.

The dominance of shame, fear, and spousal control as participation barriers reflects deeply rooted gender and cultural norms that cannot be addressed through conventional healthcare approaches alone. The shame associated with genital examination in conservative Muslim contexts has been extensively documented [9,15], yet health systems have insufficiently adapted service delivery to these realities.

In response to these findings, Policy Implication 2 is proposed. Indonesia should prioritize scale-up of human papillomavirus (HPV) DNA self-sampling, recently included in National Health Insurance coverage. Self-sampling has demonstrated equivalent diagnostic accuracy to provider-collected samples (sensitivity 92.9%, specificity 93.9% for cervical intraepithelial neoplasia grade 2 or worse (CIN2+)) [16] while dramatically increasing participation—particularly among women who refuse speculum examination [17,18]. Pilot implementation in conservative areas like Aceh could demonstrate feasibility and acceptability. This represents the most promising strategy to overcome the shame barrier that no amount of education has yet resolved. Additionally, engaging men through couple-based education, as successfully implemented in Kenya and Uganda [19], could address spousal permission barriers. Religious leaders' endorsement, already identified as effective by YKI/FCP, should be systematically integrated into all screening campaigns rather than remaining organization-dependent.

Our study found that although screening was free for women, complex National Health Insurance reimbursement procedures and low payment rates undermined program sustainability, affecting the procurement of supplies, staff time, and service continuity. Policy Implication 3 is then proposed. The Ministry of Health should: (1) simplify VIA and cryotherapy claim procedures through bundled coding and reduced documentation requirements; (2) increase reimbursement rates to cover true costs, including supplies and staff time; and (3) establish dedicated budget lines for screening programs rather than relying solely on claims, ensuring liquid nitrogen and other supplies are centrally procured and distributed. Thailand's success in cervical cancer control was partly attributable to such dedicated prevention financing [13].

The inconsistent use of digital media in this study represents a missed opportunity, particularly given Indonesia's high smartphone penetration (83%) and social media usage [22]. However, our findings confirm that digital strategies alone cannot reach all segments—face-to-face community engagement through cadres and local leaders remains essential for trust-building in conservative contexts [9]. The most effective approaches likely combine both, as demonstrated by the WHO's communication framework for cervical cancer elimination [23].

Therefore, we proposed Policy Implication 4. The City Health Office should establish a coordinated communication strategy including: (1) dedicated social media officer positions or contracts for all *Puskesmas* with content calendars and quality standards; (2) professionally produced Acehnese-language educational videos featuring respected local figures (religious leaders, teachers, *Puskesmas* heads) for widespread distribution via YouTube, Facebook, Instagram, WhatsApp, and TikTok; (3) systematic cadre training programs including communication skills, shame-reduction counseling, and mobile screening event facilitation; and (4) quarterly screening events at workplace, schools, and mosques with high-visibility campaigns. Learning from successful campaigns in Malaysia [24] and the Philippines [25], multi-channel approaches increase reach across diverse population segments.

The finding that *Puskesmas* with active partnerships achieved substantially higher participation rates demonstrates that screening programs cannot succeed solely through health-sector efforts. However, the opportunistic nature of such collaborations creates a dependence on individual initiative rather than on systematic processes. Countries that have successfully scaled up screening have institutionalized cross-sector platforms [13,26]. Therefore, Policy Implication 5 is recommended. Establish a City-Level Cervical Cancer Elimination Task Force chaired by the

Vice Mayor with membership from the Health Office, Education Office, Religious Affairs, Women's Empowerment Agency, BKKBN, YKI, FCP, community representatives, and the private sector. This body should meet quarterly to coordinate screening campaigns, resolve implementation bottlenecks, secure resources, and monitor progress toward the National Action Plan for Cervical Cancer Elimination 2030 targets. District-level task forces have proven effective in accelerating HPV vaccination and screening in regions of some countries [19,27].

This study's key strength is its comprehensive stakeholder approach, spanning policymakers, facility leaders, frontline providers, and community organizations, providing a 360-degree perspective on implementation realities. The qualitative depth enabled an understanding not only of the barriers that exist but also of how they interact and which are most influential from different stakeholder positions. Use of systematic thematic analysis with NVivo and trustworthiness measures (member checking, peer debriefing, triangulation) enhanced rigor.

This study however have some limitations including: (1) geographic specificity—findings reflect Banda Aceh's context and may not fully generalize to other Indonesian regions with different cultural norms, health system capacities, or program maturity; (2) social desirability bias—health officials may have presented more positive views than reality; and (3) limited patient voice—while planned, women's perspectives were less systematically integrated than health provider views in the final analysis. Future research should more deeply explore women's lived experiences, including those who refused screening, and conduct longitudinal evaluations of policy interventions.

Conclusion

Indonesia's ambitious National Action Plan for Cervical Cancer Elimination 2030 targets will not be achieved through current implementation approaches. While Banda Aceh has established foundational elements—free universal services, good access, dedicated staff, and stakeholder commitment—these necessary conditions have proven insufficient to drive population-level behavior change. The "access paradox," in which services exist but remain underutilized, underscores the need for culturally adapted social and structural strategies to complement biomedical interventions. These recommendations align with WHO's updated guidance emphasizing that cervical cancer elimination requires health system strengthening, community engagement, and addressing gender and equity dimensions—not just technical interventions.

Implementation should be accompanied by operational research evaluating effectiveness, cost-efficiency, and scalability. The stakes are high. At the current 7% screening coverage, Indonesia will fall far short of the 2030 goals, allowing preventable suffering and death to continue. However, if evidence-informed policies are rapidly implemented, accelerated progress is possible—as demonstrated by countries like Thailand achieving elimination-level incidence through comprehensive programs [13]. Banda Aceh's experience provides actionable insights for cities and districts across Indonesia working to translate national commitment into local reality, ultimately protecting millions of Indonesian women from this preventable cancer.

Ethics approval

Ethical approval was obtained from the Research Ethics Committee of Dr. Zainoel Abidin General Hospital/Faculty of Medicine, Universitas Syiah Kuala (No.159/EA/FK/2025). All participants provided written informed consent after receiving detailed information about the study purpose, procedures, voluntary participation, confidentiality, and right to withdraw. Data were anonymized using alphanumeric codes.

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Competing interests

All the authors declare that there are no conflicts of interest.

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Underlying data

Derived data supporting the findings of this study are available from the corresponding author on request.

Declaration of artificial intelligence use

We hereby confirm that no artificial intelligence (AI) tools or methodologies were utilized at any stage of this study, including during data collection, analysis, visualization, or manuscript preparation. All work presented in this study was conducted manually by the authors without the assistance of AI-based tools or systems.

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