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Article

Determinants and Barriers of Cervical Cancer Screening Uptake among Women: Narrative Literature Review

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A B S T R A C T

Cervical cancer remains a major public health concern in low- and middle-income countries, including Indonesia. Although screening programs have been implemented, women's participation in cervical cancer screening remains suboptimal. This review aimed to synthesize recent empirical evidence on the determinants and barriers influencing cervical cancer screening uptake, with particular relevance to clinical and community nursing practice. A narrative literature review was conducted using peer-reviewed articles retrieved from Scopus, PubMed, and Google Scholar. Studies published between 2021 and 2025 examining determinants or barriers to cervical cancer screening among women were included. Article selection followed the PRISMA 2020 framework, and methodological quality was assessed using the Joanna Briggs Institute critical appraisal tools. Data were analyzed through thematic synthesis. Seven eligible studies were included. The findings identified three major thematic domains affecting screening uptake: individual factors (knowledge, risk perception, fear of procedures), sociocultural factors (stigma, shame, family support), and health system factors (accessibility, availability of trained health workers, and screening facilities). Improving screening coverage requires comprehensive and integrated strategies emphasizing health education, family engagement, and health system strengthening, particularly through the roles of nurses and midwives in clinical and community settings.

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I. INTRODUCTION

Cervical cancer remains a major public health concern among women worldwide and continues to contribute substantially to cancer-related morbidity and mortality in low and middle income countries, including Indonesia. National statistics indicate that cervical cancer is among the most prevalent cancers affecting Indonesian women and is frequently diagnosed at an advanced stage, resulting in poor prognosis and high mortality rates (1); (2). The high proportion of late stage diagnoses reflects persistent gaps in preventive strategies and early detection efforts, particularly within primary healthcare and community based services (3). Strengthening cervical cancer prevention is therefore a critical priority in reducing the national cancer burden.

Cervical cancer is a preventable disease through effective screening and timely management of precancerous lesions. The Government of Indonesia has implemented several screening strategies, including the Papanicolaou (Pap) smear, human papillomavirus (HPV) testing, and visual inspection with acetic acid (IVA), with IVA being widely adopted in primary healthcare settings due to its feasibility and cost-effectiveness (4). Previous studies have demonstrated that IVA is effective in detecting precancerous lesions among women of reproductive age and plays a significant role in reducing delayed diagnosis (5); (6). Within primary healthcare systems, nurses and midwives are central actors in delivering promotive and preventive services through community based approaches (7). These efforts position cervical cancer screening as an essential component of integrated women's health services.

Despite the availability and integration of screening programs into basic healthcare services, cervical cancer screening coverage in Indonesia remains suboptimal. Women's participation has not yet reached national targets, particularly in rural and underserved areas with limited healthcare access (1); (8). Consequently, referral healthcare facilities continue to report a high proportion of cervical cancer cases diagnosed at advanced stages (9). This persistent gap between policy availability and community participation suggests the presence of complex and interrelated barriers affecting women's screening behaviors.

A growing body of research in Indonesia has identified multiple determinants and barriers influencing cervical cancer screening uptake. At the individual level, limited knowledge, low perceived susceptibility, misconceptions regarding screening benefits, and fear of examination procedures or results are frequently reported barriers (10). Socio cultural influences including embarrassment, stigma surrounding reproductive health examinations, and lack of spousal or family support also significantly shape women's decisions (6); (7). At the healthcare system level, inadequate access to screening facilities, shortages of trained healthcare personnel, and insufficient community health education further constrain participation (6); (10). While these studies provide valuable insights, most examine determinants in isolation and lack an integrated conceptual synthesis that connects individual, socio cultural, and system level factors within a comprehensive framework.

The absence of a synthesized and contextualized understanding of these multidimensional determinants limits the translation of research findings into practical strategies for community nursing and midwifery interventions. Without an integrated perspective, intervention programs may address isolated factors without considering the broader structural and cultural context influencing women's screening behaviors.

Therefore, the purpose of this narrative literature review is to comprehensively synthesize current empirical evidence regarding the determinants and barriers to cervical cancer screening among women in Indonesia. By integrating findings across individual, socio cultural, and healthcare system domains, this review aims to develop a cohesive conceptual understanding that can inform evidence-based promotive and preventive interventions. The contribution of this study lies in providing an integrated analytical framework to support community based nursing and midwifery practice, guide health policy development, and ultimately enhance cervical cancer screening coverage in Indonesia.

II. METHODS

This study was conducted as a narrative literature review aimed at synthesizing recent empirical findings on the determinants and barriers to cervical cancer screening among women. A narrative approach was selected to identify patterns, inconsistencies, and research gaps relevant to clinical and community nursing practice, rather than to calculate effect sizes or quantitatively compare interventions as in systematic reviews or meta analyses. This approach allowed for an in depth exploration of contextual, complex, and multidimensional determinants influencing cervical cancer screening behaviors (11); (12).

A comprehensive literature search was conducted using the Scopus, PubMed, and Google Scholar databases. The search strategy employed the following keywords combined with Boolean operators: "cervical cancer screening," "Pap smear," "human papillomavirus test," "visual inspection with acetic acid," "determinants," "barriers," and "women" (13). Articles were limited to peer-reviewed empirical studies published between 2021 and 2025 and available in full text. Studies were included if they examined determinants or barriers to cervical cancer screening among women. Non empirical articles and studies not relevant to the research objective were excluded.

The article selection process followed the PRISMA 2020 flow framework, including identification, duplicate removal, title and abstract screening, and full-text review (13). Methodological quality was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Tools according to the respective study design (14). Only studies meeting at least 70% of the appraisal criteria were considered to have adequate methodological quality and were included in the final synthesis. Studies with significant methodological limitations were excluded from the analysis.

Data were extracted and analyzed using thematic synthesis. Findings were systematically coded and categorized into three domains: individual factors, socio-cultural factors, and healthcare system factors. This analytical framework enabled an integrated understanding of the multidimensional determinants and barriers to cervical cancer screening and their implications for clinical and community nursing practice (11); (14).

III. RESULT

The stages of the narrative literature review in this study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 (PRISMA 2020) guidelines, which included the processes of identification, screening, and inclusion, as illustrated in Figure 1. During the identification stage, an initial search was conducted across Google Scholar, PubMed, and Sage Journals databases using the predetermined keywords.

In the screening stage, articles were reviewed based on titles and abstracts to ensure relevance to the research topic and alignment with the specified population characteristics. Articles that passed the screening phase proceeded to the inclusion stage, where eligibility was assessed through a critical appraisal process using the Joanna Briggs Institute (JBI) Critical Appraisal Tools. Following this process, seven articles met the inclusion criteria and were deemed methodologically appropriate and relevant to the objectives of the study.

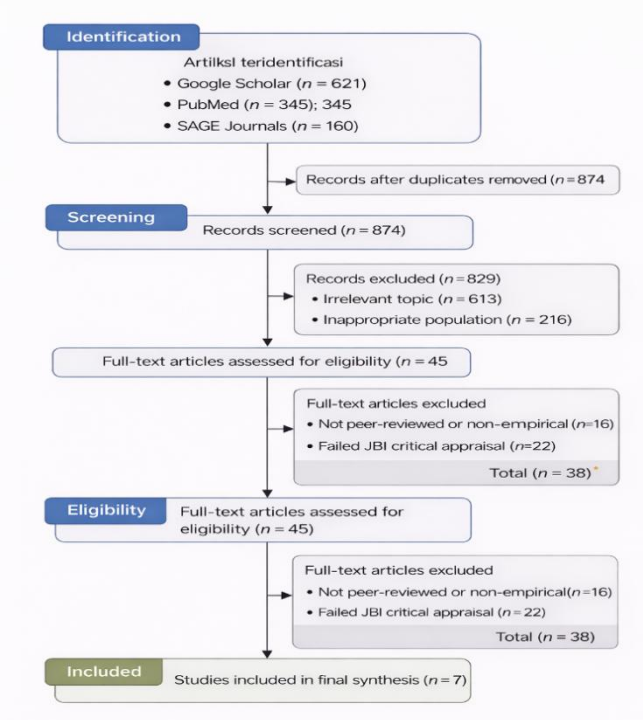


Figure 1. Flow Diagram (PRISMA Flow Diagram)

The results of the article search and selection process, based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow, yielded seven studies that met the inclusion criteria and were analyzed in this review. The included articles were published between 2021 and 2024, with the majority conducted in Indonesia. The study designs comprised cross-sectional and qualitative studies, with sample sizes ranging from 25 to 420 participants. The study populations included women of reproductive age to adult women, and several studies also involved healthcare professionals as research informants. The characteristics of the included studies and their main findings are presented in Table 1.

Table 1. Mapping of Article Findings on Determinants and Barriers to Cervical Cancer Screening

No.	Title, Author, Year	Sample, Setting, Instrument, and Study Design	Main Findings
1	*Determinants of Cervical Cancer Screening Uptake among Women in Indonesia* Putri et al., 2021 (5)	312 women aged 30–50 years in Indonesia. Structured questionnaire. Cross-sectional survey.	Low knowledge and low perceived risk were associated with low screening participation.
2	*Barriers to Visual Inspection with Acetic Acid Screening* Sari et al., 2021 (6)	25 women of reproductive age in Indonesia. In-depth interviews. Qualitative study.	Embarrassment, fear, and stigma were identified as major barriers to IVA screening.
3	*Factors Associated with IVA Screening Participation* Lestari et al., 2022 (10)	420 women aged 30–49 years. Structured questionnaire. Cross-sectional survey.	Access to services and facility affordability were associated with screening uptake.
4	*Women's Perception toward Cervical Cancer Screening* Wulandari et al., 2022 (15)	198 women in Indonesia. Perception questionnaire. Descriptive study.	Negative perceptions and fear of pain influenced low interest in screening.
5	*Health System Barriers in Cervical Cancer Screening*	30 healthcare professionals. Semi-structured interviews.	Barriers included limited workforce, inadequate

	Program Rahmawati et al., 2023 (16)	Qualitative study.	facilities, and insufficient health education.
6	*Family Support and Cervical Cancer Screening Uptake* Suryani et al., 2023 (17)	180 married women. Family support questionnaire. Cross-sectional survey.	Family support significantly increased screening participation.
7	*Determinants of HPV Screening Acceptance among Women* Handayani et al., 2024 (10)	256 women. HPV screening acceptance questionnaire. Cross-sectional survey.	Education level and health education influenced HPV screening acceptance.

The first article examined the determinants of women's participation in cervical cancer screening, emphasizing the role of knowledge and risk perception. The findings indicated that women with low levels of knowledge and inadequate perceived risk of cervical cancer were less likely to participate in screening programs. This suggests that insufficient understanding of the benefits and purpose of screening is associated with lower participation rates in cervical cancer examinations.

The second article explored women's barriers to participating in visual inspection with acetic acid (IVA) screening using a qualitative approach. The findings revealed that embarrassment, fear of screening results, and social stigma associated with reproductive organ examinations were major barriers. Additionally, psychological discomfort during the examination process influenced women's decisions not to undergo screening.

The third article analyzed factors associated with IVA screening participation among women aged 30–49 years. The study found that healthcare facility affordability and ease of access were significantly related to women's decisions to undergo cervical cancer screening. Women living closer to healthcare facilities and having better access to services were reported to participate in screening more frequently.

The fourth article investigated women's perceptions of cervical cancer screening. The findings showed that negative perceptions of the screening procedure, including beliefs that the examination causes pain and discomfort, were associated with low screening interest. These findings highlight the role of subjective perceptions in shaping women's decision-making regarding screening participation.

The fifth article examined cervical cancer screening barriers from the healthcare system perspective. The results indicated that a limited number of trained healthcare personnel, inadequate screening facilities and infrastructure, and suboptimal community health education were key barriers to the implementation of screening programs in primary healthcare settings.

The sixth article assessed the relationship between family support and cervical cancer screening participation. The findings demonstrated that women who received support from their spouses and family members had higher screening participation rates. Family support was reported to enhance women's motivation to undergo cervical cancer examination.

The seventh article analyzed the determinants of human papillomavirus (HPV) screening acceptance among women. The findings indicated that educational level and prior exposure to health education were associated with HPV screening acceptance. Women with higher education levels and adequate access to health information were more likely to accept HPV screening.

To comprehensively address the research objective, findings from all included articles were subsequently synthesized into three major thematic categories: individual factors, socio-cultural factors, and healthcare system factors. This thematic synthesis served as a conceptual framework to illustrate how various determinants and barriers interact in influencing women's participation in cervical cancer screening, as presented in Table 2.

Table 2. Thematic Synthesis of Determinants and Barriers to Cervical Cancer Screening

No.	Factor	Variables	Authors
1	Primary Risk Factors	• Low knowledge of cervical cancer and screening • Low perceived risk • Fear of screening procedures and results	Putri et al.; Wulandari et al.; Sari et al.
2	Socio-Cultural Factors	•Embarrassment regarding reproductive organ examination • Social stigma related to cervical cancer screening • Family and spousal support	Sari et al.; Rahmawati et al.; Suryani et al.
3	Healthcare System Factors	• Limited access to screening facilities •Availability of trained healthcare personnel • Inadequate screening infrastructure and resources	Lestari et al.; Rahmawati et al.
4	Screening Acceptance Factors	• Women's educational level • Exposure to health education	Handayani et al.; Suryani et al.

Based on the synthesis of the reviewed articles, the determinants and barriers to cervical cancer screening among women did not emerge as isolated factors; rather, they demonstrated interconnected patterns across multiple domains. Individual factors, such as level of knowledge, perceived risk, and fear of screening procedures, were closely linked to socio-cultural factors, including embarrassment, stigma, and family support, in shaping women's attitudes and decisions regarding screening participation.

These patterns further interacted with healthcare system factors, such as access to services, availability of trained healthcare personnel, and adequacy of screening facilities, which could either reinforce or mitigate existing barriers. This interrelated pattern provides the foundation for a deeper discussion of the dynamic interplay between determinants and barriers to cervical cancer screening within the context of clinical and community nursing practice.

IV. DISCUSSION

The synthesis of the seven articles analyzed in this review indicates that women's participation in cervical cancer screening is influenced by a combination of individual, socio-cultural, and healthcare system factors. The interaction among these factors forms complex patterns of barriers that contribute to low screening coverage, particularly in low- and middle-income countries, including Indonesia (18); (19).

The findings demonstrate that the determinants and barriers to cervical cancer screening operate through a multilevel and interactive mechanism. Individual factors such as knowledge, perceived risk, and fear of screening procedures shape women's initial readiness to make decisions regarding screening. However, this readiness does not function independently; rather, it is influenced by the surrounding socio cultural context, including social norms, stigma, embarrassment, and support or opposition from family members and partners. Socio cultural factors therefore act as mediators that can either strengthen or weaken the influence of individual factors on screening behavior.

At the individual level, limited knowledge about cervical cancer and the benefits of screening remains a primary barrier to women's engagement in early detection programs. Women with insufficient understanding are less likely to perceive screening as an urgent health need, even when services are available (5); (20). These findings suggest that improving health literacy should extend beyond the provision of information to fostering awareness of risk and the long-term benefits of screening (19). In addition to knowledge, psychological factors such as fear of examination procedures and anxiety about potential diagnostic results significantly

influence women's decisions. Perceptions that screening is painful or uncomfortable continue to be reported and are associated with low screening interest (15); (20). These barriers highlight the need for more empathetic and supportive communication approaches by healthcare professionals in both clinical and community practice settings (21).

Socio cultural factors also play a critical role in shaping women's attitudes toward cervical cancer screening. Social norms, embarrassment, and stigma related to reproductive organ examinations remain significant obstacles in many communities (22); (23). However, support from spouses and family members has been shown to enhance women's motivation to participate in screening by providing a sense of security and social legitimacy (7); (19). This underscores the importance of family centered approaches in community nursing interventions.

The interaction between individual and socio-cultural factors is further influenced by healthcare system characteristics. Accessible services, competent healthcare personnel, and adequate screening facilities can function as enabling factors that reduce barriers at both individual and social levels. Conversely, limitations within the healthcare system may reinforce existing barriers, thereby decreasing the likelihood of screening participation. Cervical cancer screening can therefore be understood as a health behavior shaped by the dynamic interplay between personal factors, social environments, and structural health system components, emphasizing the need for integrated rather than fragmented intervention strategies.

From the healthcare system perspective, limited access to screening facilities, uneven distribution of trained personnel, and inadequate infrastructure remain frequently reported barriers. These conditions directly affect the availability and continuity of screening services at the primary healthcare level (7); (18). Furthermore, the capacity and competence of nurses and midwives in implementing screening procedures particularly visual inspection with acetic acid (IVA) and HPV sample collection are crucial determinants of service quality and coverage (14); (19).

In line with evolving global policies, recent literature emphasizes the need to transform screening strategies toward human papillomavirus (HPV) based testing, which demonstrates higher sensitivity compared to conventional methods (18); (24). However, the implementation of HPV testing in developing countries requires health system readiness, including financial support, workforce training, and effective communication strategies to improve public acceptance (19); (20). In the Indonesian context, the gradual and context sensitive implementation of HPV screening may represent a relevant strategy for improving coverage. The findings of this review have important implications for clinical and community nursing practice. Nurses and midwives occupy strategic positions in increasing screening participation through health education, anxiety reduction, and facilitation of more accessible and patient centered services (5); (7). Integrated intervention approaches that combine education, family engagement, and capacity strengthening of healthcare personnel appear to be more effective than isolated interventions (19).

This review has several limitations. The narrative literature review approach limits the ability to draw causal conclusions or quantify the strength of associations among determinants. Additionally, most of the reviewed studies employed cross sectional designs, which preclude confirmation of temporal relationships between determinants and cervical cancer screening participation. The purpose of the discussion is to interpret and describe the significance of your findings in light of what was already known about the research problem being investigated, and to explain any new understanding or insights about the problem after you've taken the findings into consideration. The discussion will always connect to the introduction by way of the research questions or hypotheses you posed and the literature you reviewed, but it does not simply repeat or rearrange the introduction; the discussion should always explain how your study has moved the reader's understanding of the research problem forward from where you left them at the end of the introduction.

V. CONCLUSION

This narrative literature review demonstrates that women's participation in cervical cancer screening is shaped by interconnected determinants operating at the individual, socio-cultural, and healthcare system levels. Limited knowledge, low perceived risk, fear of examination procedures, social stigma, lack of family support, and restricted access to healthcare services collectively contribute to low screening uptake. These findings underscore that cervical cancer screening behavior cannot be addressed through isolated interventions, but requires a comprehensive and integrated approach.

The review highlights the critical role of clinical and community nursing practice in improving screening participation through sustained, empathetic health education, family centered promotive strategies, and strengthened competencies of nurses and midwives in screening implementation and therapeutic communication. At the system level, improving accessibility and equitable distribution of screening facilities is essential to support sustainable program success.

Beyond its practical implications, this review contributes to a more integrated understanding of how multilevel determinants interact in shaping preventive health behaviors. Addressing cervical cancer screening gaps therefore demands coordinated strategies that bridge individual awareness, socio-cultural engagement, and structural health system strengthening. Future research should focus on evaluating the effectiveness of community-based interventions and exploring innovative, context-sensitive screening approaches within primary healthcare settings.

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BIOGRAPHY

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Second Author Endah Yuliani Rahmawati received her Bachelor's degree in Nursing in 2015, completed her professional Nurse (Ners) qualification in 2016, and earned her Master's degree in Nursing in 2019. She is currently a lecturer at Universitas 'Aisyiyah Bandung. Her academic and professional interests focus on medical-surgical nursing, clinical care management, and preventive healthcare.