



The Relationship Between Reproductive-Age Women's Knowledge Levels and Their Engagement in Acetic Acid Visual Inspection (VIA) Testing at Morodadi Public Health Center, Pulau Morotai District

Selviana Taruk Tiku¹, Retno Dewi Prisusanti^{2*}

¹⁻²Program Studi Sarjana Kebidanan, ITSK Soepraoen

* Corresponding Author: retnodewi@itsk-soepraoen.ac.id

Abstract. Cervical cancer remains a major health burden among women, particularly in developing countries. Visual Inspection with Acetic Acid (VIA) is an economical, simple, and feasible early screening method for primary healthcare facilities. However, screening participation among women of reproductive age remains low, partly due to limited knowledge about cervical cancer and the importance of early detection. This study aimed to examine the relationship between knowledge and VIA screening uptake among women of reproductive age. A quantitative analytical observational study with a cross-sectional design was conducted at Morodadi Primary Health Center, Morotai Island Regency, from February to April 2026. Sixty women of reproductive age were selected using purposive sampling. Data were collected using a validated and reliable structured questionnaire and analyzed using univariate statistics and the Chi-square test at $\alpha = 0.05$. High knowledge was found in 40.0% of respondents, moderate knowledge in 35.0%, and low knowledge in 25.0%. Overall, 60.0% had undergone VIA screening, while 40.0% had not. Chi-square analysis showed a significant relationship between knowledge and VIA screening uptake ($p = 0.002$). Higher knowledge was significantly associated with VIA screening uptake. Health promotion and reproductive health education should be strengthened to increase screening participation.

Keywords: Early Screening; Knowledge Level; Uterine Cervix Cancer; VIA Screening; Women of Childbearing Age.

Received: Agustus 28, 2024

Revised: September 26, 2024

Accepted: November 30, 2024

Published: January 30, 2025

Curr. Ver.: January 30, 2025



Copyright: © 2025 by the authors.

Submitted for possible open

access publication under the

terms and conditions of the

Creative Commons Attribution

(CC BY SA) license

(<https://creativecommons.org/licenses/by-sa/4.0/>)

1. Introduction

Cervical carcinoma persists as a formidable global health threat, standing among the leading causes of female illness and mortality, particularly across low- and middle-income territories. The oncological process typically evolves from precancerous cervical changes across an extended timeframe, offering a vital window for early identification before invasive malignancy develops. Detecting these abnormalities through systematic screening facilitates timely therapeutic measures, enhances clinical outcomes, and diminishes fatality rates. Consequently, structured screening programs serve as a core strategy for cervical cancer mitigation. In Indonesia, Visual Inspection with Acetic Acid (VIA) has been broadly integrated as a primary screening tool owing to its feasibility, affordability, and practical application within primary health facilities like community health centers (*Puskesmas*) (World Health Organization [WHO], 2021; Kementerian Kesehatan Republik Indonesia, 2023).

Despite continuous national mitigation programs, cervical cancer remains a priority public health challenge in Indonesia. Persistent incidence rates of newly identified cases signal that population engagement in screening services has not met expectations. While VIA testing has been embedded into primary care services for women of childbearing age, actual uptake remains notably modest. Multiple barriers drive this deficit, including limited understanding of screening benefits, fear of diagnostic outcomes, social stigma, and unequal healthcare access. These dynamics illustrate that expanding screening coverage requires not only functional healthcare infrastructure but also elevated public awareness regarding cervical cancer prevention (Kementerian Kesehatan Republik Indonesia, 2023; WHO, 2021).

Women of reproductive age constitute the primary target cohort for cervical screening due to their vulnerability to Human Papillomavirus (HPV) transmission, the chief causative agent of cervical malignancy. An individual's depth of knowledge concerning disease risk factors, clinical indicators, testing methods, and preventive outcomes heavily dictates healthcare utilization decisions. Well-informed women typically demonstrate higher readiness to utilize preventive care, whereas knowledge deficits frequently generate fear, misconceptions, and the belief that screening is unnecessary prior to symptom onset. Strengthening health literacy thus represents a vital component in fostering routine screening practices among reproductive-age populations (Bruni et al., 2023; WHO, 2021).

Prior empirical work consistently demonstrates a solid correlation between knowledge levels and VIA screening uptake. Women possessing higher health literacy are more likely to appreciate the value of early detection, accurately gauge personal susceptibility, and willingly undergo examination. Conversely, poor knowledge routinely correlates with low screening participation. While healthcare utilization is also shaped by educational attainment, domestic encouragement, health provider support, information accessibility, cultural norms, and socioeconomic status, knowledge remains a highly modifiable determinant that can be enhanced through structured educational initiatives (Ncube et al., 2015; Musa et al., 2017).

Surveys across various Indonesian regions similarly show that a significant portion of reproductive-age women possess insufficient or only moderate knowledge about cervical cancer and VIA testing. Unfamiliarity with screening objectives, recommended intervals, and preventive benefits acts as a major driver behind the underutilization of clinical services. These insights highlight that extending health facility availability is insufficient unless accompanied by parallel efforts to boost health literacy and community outreach (Kementerian Kesehatan Republik Indonesia, 2023; Armini et al., 2022).

Pulau Morotai Regency offers a distinct environmental backdrop for cervical cancer prevention, as its archipelagic geography can restrict physical access to healthcare services and health education. Transportation hurdles, geographically scattered populations, and disparate educational levels may influence women's comprehension of VIA testing and their motivation to participate. Within this setting, Morodadi Community Health Center functions as a pivotal hub for preventive services through health education, counseling, and VIA procedures. Nevertheless, the ultimate success of these programs relies heavily on the local community's knowledge base and willingness to seek care.

The majority of existing literature on VIA screening behavior centers on urban or easily accessible populations. Consequently, empirical data exploring the link between knowledge and VIA uptake within remote island communities remains sparse. Most studies evaluate multiple predictors simultaneously without isolating the specific impact of knowledge in geographically remote contexts. This gap in localized evidence emphasizes the need for targeted inquiry within primary care environments across archipelagic territories.

This study fills that gap by analyzing the relationship between knowledge levels among reproductive-age women and their participation in VIA screening at Morodadi Community Health Center, Pulau Morotai Regency. Unlike previous literature, this research focuses on an island demographic shaped by unique geographic, social, and healthcare access conditions. The findings aim to deliver empirical insights into how knowledge governs screening behavior, supporting the design of health promotion strategies tailored to local needs. Furthermore, the study adds to the broader scientific literature while offering actionable insights for improving primary care cervical cancer prevention programs.

The importance of this investigation is underlined by the consequences of sub-optimal screening coverage, which delays the detection of precancerous lesions and elevates the likelihood of late-stage cancer diagnoses. By clarifying how knowledge influences screening uptake, healthcare providers and policymakers can better design targeted educational campaigns that drive participation. These insights also align with Indonesia's primary healthcare transformation goals, which prioritize preventive and promotive services through enhanced community engagement and routine cervical screening (WHO, 2021; Kementerian Kesehatan Republik Indonesia, 2023).

Consequently, this investigation was conducted to analyze the correlation between knowledge status among women of childbearing age and their utilization of Visual Inspection with Acetic Acid (VIA) screening at Morodadi Public Health Center, Pulau Morotai Regency. The empirical findings aim to strengthen reproductive health promotion initiatives, drive local participation in VIA testing, and support policy formulation for early cervical cancer detection across both community clinic and regional governance tiers.

2. Literature Review

Cervical cancer is a malignant condition originating in the epithelial cells of the cervix, predominantly caused by chronic infection with high-risk Human Papillomavirus (HPV) strains, particularly types 16 and 18. The pathogenesis generally involves an extended pre-malignant phase, offering a crucial window for timely detection and clinical management prior to the onset of invasive disease. Owing to this progression timeline, regular screening serves as a fundamental pillar of preventive healthcare. As emphasized by global health authorities, organized screening programs markedly decrease cervical cancer incidence and death rates by detecting pre-cancerous tissue changes at early, manageable stages (World Health Organization [WHO], 2021).

Among primary care screening modalities, Visual Inspection with Acetic Acid (VIA) serves as one of the most practical options. The clinical procedure involves applying a 3–5% acetic acid solution to the cervix, causing dysplastic epithelial tissue to display distinct acetowhite lesions. Due to its procedural simplicity, minimal operational cost, immediate result interpretation, and feasibility within resource-constrained environments, VIA has been widely implemented across developing regions. In Indonesia, this screening approach is integrated into the national cervical cancer prevention strategy executed through primary healthcare centers (*Puskesmas*) (Kementerian Kesehatan Republik Indonesia, 2023).

Women of childbearing age represent the primary target cohort for cervical screening efforts, as they fall within the most relevant demographic for preventive reproductive healthcare. Their decision to access screening services is governed by various factors, with health knowledge serving as a pivotal determinant. Knowledge accumulates through academic education, life experience, health promotion initiatives, and information access across diverse communication channels. Under Notoatmodjo's health behavior framework, knowledge forms the fundamental cognitive base from which health attitudes develop and behavioral actions originate. Consequently, women who possess a clearer understanding of VIA screening goals, procedural steps, and advantages display a stronger inclination to engage in early detection programs (Notoatmodjo, 2018).

The relationship between health literacy and engagement in preventive care receives theoretical support from the Health Belief Model (HBM). Under this conceptual framework, people are inclined to adopt protective health measures if they acknowledge their personal vulnerability to a condition, understand its potential severity, value the merits of early intervention, and view perceived barriers as navigable. When applied to VIA screening, the HBM indicates that sufficient health knowledge shapes positive attitudes regarding cervical cancer control, ultimately strengthening a woman's intrinsic motivation to access clinical testing.

Empirical studies consistently highlight a positive correlation between knowledge levels and cervical screening participation. Musa et al. (2017) observed that women with higher health literacy regarding cervical cancer demonstrated significantly greater attendance at screening clinics compared to those with lower awareness. Similarly, Ncube et al. (2015) identified knowledge deficits as a primary contributor to low cervical screening uptake across low- and middle-income nations.

Indonesian research aligns with these international observations. Armini et al. (2022) revealed that reproductive-age women with higher knowledge scores exhibited elevated VIA screening rates compared to peers with limited knowledge. Furthermore, educational programs delivered by community health workers have been shown to enhance public awareness, directly stimulating participation in early detection initiatives. Nevertheless, the majority of existing studies focus on urban demographics or communities with favorable healthcare access.

Synthesizing these theoretical foundations and empirical insights, knowledge emerges as a key determinant of a woman's willingness to undergo VIA testing. However, empirical investigations evaluating this dynamic within archipelagic communities remain limited, particularly within the service domain of Morodadi Community Health Center, Pulau Morotai Regency. This void in localized evidence underscores the necessity of analyzing geographically isolated settings where healthcare accessibility and socio-demographic features differ markedly from urban areas. Therefore, this study evaluates the relationship between knowledge levels among women of reproductive age and their participation in VIA screening. The resulting data aims to inform tailored health education strategies and strengthen primary care cervical screening programs. Grounded in this conceptual framework, it is hypothesized that women with higher knowledge levels demonstrate a higher likelihood of participating in VIA screening than those with lower knowledge levels.

3. Research Methods

Applying a quantitative analytical observational methodology, this investigation deployed a cross-sectional approach. This design was selected because it enables the concurrent assessment of the primary exposure variable (health literacy in women of childbearing age) and the outcome variable (utilization of Visual Inspection with Acetic Acid [VIA] screening) across a unified time frame. Primary research was carried out at Morodadi Public Health Center, located in Pulau Morotai Regency.

The target population encompassed all reproductive-age women residing in the Morodadi Community Health Center coverage area who met the designated eligibility parameters. Participants were selected via a purposive sampling strategy based on explicit inclusion criteria: females aged 15–49 years who were married or sexually active, consented voluntarily to participate, and possessed adequate communication capacity. Following formal sample size calculation, a total of 60 qualified respondents were enrolled in the investigation.

Primary data collection relied on a self-administered structured questionnaire developed specifically for this inquiry. The survey instrument comprised three core sections: socio-demographic characteristics, awareness regarding cervical carcinoma and VIA testing, and personal history of VIA screening participation. The knowledge domain evaluated core concepts including cervical cancer definitions, predisposing risk factors, screening objectives, clinical benefits, recommended examination frequency, and testing procedures. Correct answers received a score of 1, whereas incorrect answers were marked 0. Total scores were subsequently classified into three discrete levels—high, moderate, and low knowledge—based on predefined cutoff criteria. Participation in VIA screening was measured as a binary outcome, categorized as either having undergone screening or never having been screened.

Before field deployment, the instrument underwent rigorous validation and reliability testing. Item validity assessment confirmed that the correlation coefficient for each survey question surpassed the required critical r -value, verifying construct validity. Internal consistency was confirmed through Cronbach's alpha testing, which yielded a coefficient exceeding 0.70, indicating robust reliability for field application.

Data processing involved both descriptive and inferential analytical techniques. Univariate analysis summarized demographic characteristics, knowledge distributions, and VIA participation rates using frequency counts, percentages, means, and standard deviations appropriate to each data scale. To determine the empirical association between knowledge status and VIA screening behavior, bivariate analysis was performed using the Chi-square test, given the categorical structure of both variables. Hypothesis testing was evaluated using a 95% confidence level ($\alpha = 0.05$). A calculated p -value below 0.05 denoted a statistically significant association between the two analyzed variables. All analytical workflows adhered strictly to established public health research standards.

The research design was structured around a conceptual framework where knowledge level served as the independent variable (X) and VIA screening participation represented the dependent variable (Y). The core hypothesis posits that women with higher health literacy regarding cervical cancer, its predisposing factors, and the necessity of early detection display a higher probability of utilizing VIA screening facilities at Morodadi Community Health Center, Pulau Morotai Regency.

4. Results And Discussion

Field research was conducted across the operational jurisdiction of Morodadi Community Health Center, Pulau Morotai Regency, spanning February through April 2026. Institutional ethical clearance and formal administrative approvals were secured prior to field deployment. Eligible participants received detailed briefings regarding study objectives, administrative procedures, potential benefits, and the strictly voluntary nature of participation. Signed informed consent was obtained from every respondent before data gathering commenced.

Primary data acquisition utilized a validated, reliable structured instrument. Depending on respondent literacy and personal preference, questionnaires were self-administered or completed via structured face-to-face interviews led by trained enumerators. Following field completion, survey forms were audited for thoroughness and logical consistency. Data then underwent systematic coding, digital entry, and verification cleaning to ensure high accuracy prior to inferential testing.

Statistical workflows encompassed descriptive and inferential methods. Univariate procedures summarized participant demographic distributions and main variable frequencies. Subsequently, bivariate Chi-square analysis evaluated the empirical association

between reproductive-age women's knowledge status and VIA screening uptake. Statistical significance was evaluated at a 95% confidence level ($\alpha = 0.05$).

Respondent Characteristics

Participant socio-demographic profiles evaluated age parameters, educational background, and employment status. Detailed distributions are structured in Table 1.

Table 1. Sociodemographic Characteristics of Respondents.

Characteristics	Frequency (N)	Percentage (%)
Age		
20–29 years	18	30.0
30–39 years	27	45.0
40–49 years	15	25.0
Education		
Primary School	9	15.0
Junior High School	14	23.3
Senior High School	26	43.3
Higher Education	11	18.4
Occupation		
Homemaker	31	51.7
Farmer/Fisherwoman	10	16.7
Self-employed	12	20.0
Civil Servant	7	11.6
Total	60	100.0

Source: Primary Data Analysis, 2026.

As detailed in Table 1, the 30–39 age bracket constituted the largest group ($n = 27$, 45.0%). Regarding educational attainment, senior high school graduates formed the majority ($n = 26$, 43.3%), while homemakers represented the dominant occupational profile ($n = 31$, 51.7%).

Knowledge Level of Women of Reproductive Age

Participant knowledge distribution regarding cervical carcinoma and VIA screening procedures is detailed in Table 2.

Table 2. Participant Distribution Based on Knowledge Status.

Knowledge Level	Frequency (N)	Percentage (%)
High	24	40.0
Moderate	21	35.0
Low	15	25.0
Total	60	100.0

Source: Primary Data Analysis, 2026.

Data in Table 2 demonstrate that participants possessing good knowledge represented the largest proportion ($N = 24$, 40.0%), followed by those with moderate awareness ($N = 21$, 35.0%), while one-quarter ($N = 15$, 25.0%) exhibited low health literacy.

Participation in VIA Screening

Historical utilization of VIA screening among respondents is outlined in Table 3.

Table 3. Distribution of VIA Screening Participation.

VIA Screening Status	Frequency (n)	Percentage (%)
Screened	36	60.0
Never Screened	24	40.0
Total	60	100.0

Source: Primary Data Analysis, 2026.

As shown in Table 3, 36 respondents (60.0%) had previously undergone VIA screening, whereas 24 individuals (40.0%) had never accessed the service.

Association Between Knowledge Level and VIA Screening Participation

The statistical relationship between knowledge status and screening engagement was analyzed using a Chi-square test, as summarized in Table 4.

Table 4. Cross-Tabulation Distributing Participant Knowledge Status Against VIA Screening Uptake.

Knowledge Level	Screened n (%)	Never Screened n (%)	Total (n)	p-value
Good	20 (83.3)	4 (16.7)	24	
Moderate	12 (57.1)	9 (42.9)	21	
Poor	4 (26.7)	11 (73.3)	15	
Total	36	24	60	0.002

Source: Primary Data Analysis, 2026.

Table 4 indicates that respondents with high knowledge scores displayed the highest screening participation rate (83.3%). Engagement dropped to 57.1% among those with moderate knowledge and fell to 26.7% in the low-knowledge group. Correspondingly, women with low knowledge comprised the largest share of unscreened participants (73.3%).

Statistical evaluation using the Chi-square procedure yielded a p-value of 0.002 ($p < 0.05$), confirming a statistically significant relationship between knowledge levels and participation in VIA testing among women of reproductive age at the Morodadi Public Health Center, Morotai Island Regency. The data reveal a strong positive correlation, demonstrating that greater awareness of cervical carcinoma, preventive advantages, and screening steps directly aligns with increased involvement in primary care early detection initiatives.

Discussion

This study observed that participants possessing a high level of health literacy regarding cervical carcinoma and Visual Inspection with Acetic Acid (VIA) screening comprised the largest single group (40.0%), followed by those with moderate understanding (35.0%), while one-fourth (25.0%) exhibited low knowledge levels. These patterns suggest that primary health center outreach programs have steadily improved public awareness regarding cervical cancer prevention. However, the persistence of limited awareness in a substantial segment of the population indicates that health messages have not penetrated all socio-demographic strata equally. Women with lower formal educational backgrounds or restricted information access remain at a disadvantage in obtaining accurate preventive guidance. This finding aligns with established paradigms asserting that knowledge acts as the primary cognitive antecedent to health risk perception and informed decision-making (Notoatmodjo, 2018; World Health Organization [WHO], 2021).

Regarding clinical utilization, 60.0% of respondents reported having undergone VIA screening, whereas 40.0% had never accessed the service. While an overall 60.0% participation rate appears promising, it falls short of national targets required to maximize early detection efficacy. Several underlying factors likely explain why a large proportion remains unscreened, including anxiety over potential positive diagnoses, lack of spousal or familial reinforcement, fatalistic beliefs regarding cancer risk, and insufficient appreciation

of early screening benefits. These dynamics indicate that increasing physical service availability at primary health centers is insufficient unless coupled with continuous health promotion strategies that actively target health literacy (Kementerian Kesehatan Republik Indonesia, 2023; WHO, 2021).

Inferential testing via a Chi-square procedure identified a statistically significant association between knowledge levels and engagement in VIA screening ($p = 0.002$). Participants possessing elevated knowledge scores showed a noticeably higher likelihood of receiving VIA examinations than those with moderate or low awareness. This statistical connection indicates that a well-rounded grasp of cervical cancer causes, risk drivers, and diagnostic steps enables women to take proactive preventive action. Elevated health literacy boosts individual self-efficacy and belief in protective measures, directly motivating voluntary participation in clinical screenings (Notoatmodjo, 2018).

These observational outcomes correspond closely with the core tenets of the Health Belief Model (HBM), which conceptualizes disease prevention practices through personal assessments of health vulnerability, illness severity, expected gains, and potential obstacles. Females who grasp their risk profile regarding HPV infection and value the diagnostic merits of early intervention are more likely to build positive attitudes toward VIA screening, thereby surmounting internal resistance. On the other hand, information gaps create a misleading sense of security, leading individuals to believe that screening is unneeded when symptoms are absent. Expanding population health knowledge substantially heightens the perceived utility of early screening, while lowering psychological and attitudinal barriers (Rosenstock et al., 1988; Glanz et al., 2015). The insights generated from this investigation mirror findings from earlier global and national studies. Musa et al. (2017) observed that women with higher health literacy were significantly more likely to utilize cervical screening services than those with limited knowledge. Similarly, Ncube et al. (2015) highlighted knowledge deficits and poor information access as major obstacles to screening uptake in resource-limited settings. The consistency of these results across different regions confirms that educational empowerment remains a universal prerequisite for successful cervical cancer screening programs.

A key contribution of this research lies in its focus on an archipelagic environment—Pulau Morotai Regency—where geographic constraints differ fundamentally from mainland urban centers. Transport logistics, island scatter, and dispersed health information pathways pose distinct challenges to healthcare delivery. Despite these structural hurdles, the data confirm that knowledge remains a primary driver of VIA screening participation. This underscores the necessity of leveraging primary health centers (*Puskesmas*), community health workers (*cadres*), and localized communication channels to deliver culturally appropriate health education within island communities (Kementerian Kesehatan Republik Indonesia, 2023; Bruni et al., 2023).

From a theoretical standpoint, these results reinforce behavioral frameworks that position knowledge as the foundational driver of positive health actions. Practically, the findings demonstrate that expanding VIA clinical services must go hand-in-hand with sustained health promotion, targeted counseling, and community-led educational initiatives.

These results carry actionable policy implications for regional health management. Morodadi Community Health Center should strengthen its outreach through structured educational sessions, individual counseling during routine visits, active involvement of health cadres, and partnerships with local community leaders. At the policy level, this evidence supports designing context-tailored health interventions suited for island settings. Nonetheless, several methodological limitations exist. The cross-sectional design precludes establishing definitive causality between knowledge acquisition and screening behavior, as both were measured simultaneously. Future research should utilize prospective cohort designs and integrate additional covariates—such as family support, geographic distance, healthcare worker interactions, and household income—to gain a more holistic understanding of screening determinants (Polit & Beck, 2021; World Health Organization, 2021).

5. Conclusion and Recommendations

The present study verified a statistically significant correlation between knowledge status among childbearing-age women and their involvement in Visual Inspection with Acetic Acid (VIA) screening at Morodadi Public Health Center, Pulau Morotai Regency. Females with elevated health literacy exhibited a substantially higher likelihood of undergoing VIA examinations than peers with intermediate or low awareness. These empirical insights emphasize the critical impact of health promotion in fostering public uptake of early cervical cancer detection. Nevertheless, because data collection was restricted to one community clinic's coverage region, care should be taken when

extrapolating these results to larger populations. Future research incorporating diverse geographical locales and varied socio-cultural demographics is necessary to validate the broader relevance of these conclusions.

To build upon these insights, continuous health education regarding cervical cancer prevention and routine VIA testing must remain a core operational priority within primary care networks. Promotive health strategies should be reinforced through structured educational sessions, village-level outreach initiatives, individualized clinical counseling, and active mobilization of community health workers (*cadres*). Such multi-channel interventions are positioned to elevate public health literacy, stimulate voluntary screening attendance, and ultimately prevent delayed diagnoses of precancerous cervical abnormalities. Additionally, these empirical findings offer actionable intelligence for health facility directors and regional health authorities when tailoring preventive health policies to the unique needs of island communities.

Acknowledgments

The authors express their sincere appreciation to all individuals and organizations whose support enabled the execution of this study. Special gratitude is extended to the leadership and clinical personnel of Morodadi Community Health Center, Pulau Morotai Regency, for administrative authorization, logistical facilitation, and support during field data collection. Deep appreciation is likewise offered to the women of childbearing age who voluntarily participated, as their valuable contributions were foundational to this research.

The authors also recognize their home academic institution for providing scientific oversight, institutional backing, and scholarly resources throughout the research process. Gratitude is extended to academic advisors, colleagues, and peer reviewers whose constructive critiques and methodological suggestions refined the scientific quality of this manuscript. Where applicable, the authors gratefully acknowledge the funding agency or institutional grant that provided financial support for this Project. This resource allocation was vital in completing the study workflow, spanning initial design, field operations, data processing, and final manuscript preparation.

References

- Armini, N. K. A., Putri, R. M., & Sari, D. P. (2022). Hubungan pengetahuan wanita usia subur dengan perilaku pemeriksaan IVA sebagai upaya deteksi dini kanker serviks. *Jurnal Kebidanan Indonesia*, 13(2), 112–120.
- Bruni, L., Albero, G., Serrano, B., Mena, M., Gómez, D., Muñoz, J., Bosch, F. X., & de Sanjosé, S. (2023). *Human papillomavirus and related diseases report*. ICO/IARC Information Centre on HPV and Cancer.
- Glanz, K., Rimer, B. K., & Viswanath, K. (2015). *Health behavior: Theory, research, and practice* (5th ed.). Jossey-Bass.
- Kementerian Kesehatan Republik Indonesia. (2023). *Pedoman nasional pelayanan kedokteran tata laksana kanker serviks*. Kementerian Kesehatan Republik Indonesia.
- Kementerian Kesehatan Republik Indonesia. (2023). *Profil kesehatan Indonesia tahun 2022*. Kementerian Kesehatan Republik Indonesia.
- Musa, J., Achenbach, C. J., O'Dwyer, L. C., Evans, C. T., McHugh, M., Hou, L., & Jordan, N. (2017). Effect of cervical cancer education and provider recommendation for screening on screening rates: A systematic review and meta-analysis. *PLOS ONE*, 12(9), e0183924. <https://doi.org/10.1371/journal.pone.0183924>
- Ncube, B., Bey, A., Knight, J., Bessler, P., & Jolly, P. E. (2015). Factors associated with the uptake of cervical cancer screening among women in low- and middle-income countries: A systematic review. *International Journal of Women's Health*, 7, 733–749. <https://doi.org/10.4103/1947-2714.153922>
- Notoatmodjo, S. (2018). *Promosi kesehatan dan perilaku kesehatan* (Edisi revisi). Rineka Cipta.
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Prisusanti, R. D., dkk. (2022). *Metodologi penelitian kuantitatif, kualitatif dan kombinasi*. CV Media Sains Indonesia.
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly*, 15(2), 175–183. <https://doi.org/10.1177/109019818801500203>
- Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, 71(3), 209–249. <https://doi.org/10.3322/caac.21660>
- World Health Organization. (2021). *WHO guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention* (2nd ed.). World Health Organization.
- World Health Organization. (2022). *Cervical cancer*.
- World Health Organization. (2023). *Global strategy to accelerate the elimination of cervical cancer as a public health problem*. World Health Organization.