

Cervical cancer screening among women: A systematic literature review

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Cervical cancer screening among women: A systematic literature review

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Abstract

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Background: Cervical cancer is one of the major concerns of public health importance in today's world. It is a leading cause of mortality in women of reproductive age group worldwide, mainly in developing countries. It is almost always associated with human papilloma virus (HPV) infection. Reduction in mortality and morbidity due to cervical cancer is possible through early detection as a first step.

Purpose: To investigate about cervical cancer screening among women.

Method: A systematic literature review approach was employed to gather and assess data from PubMed, Science Direct, and Google Scholar. The keywords "cervical cancer screening," "adult women," "pap smear," "HPV vaccination," "behavior," and/or "health belief" were utilized for this purpose. A total of 79 items were identified. In all, the study comprised 7 papers that satisfied the specified criteria. Following that, we carry out a methodical examination and evaluation of the chosen papers in the current literature.

Result: Variables associated with cervical cancer screening including Pap smear, the impact of HPV vaccination, behavioral patterns, and health-related views. Health beliefs frequently act as the main driving force for persons to voluntarily get cervical cancer screening. Preventive cervical cancer screening enables early detection, so potentially averting the development of the illness or limiting its progression.

Conclusion: To advance the objective of eliminating cervical cancer as a global public health concern, it is necessary to enhance the accessibility and involvement in screening interventions.

Keyword: Behavior; Cervical Cancer; Health Belief; HPV Vaccination; Pap Smear.

INTRODUCTION

Cervical cancer is a complication of Human Papillomavirus (HPV) infection is the second most common cancer in women worldwide. Eighty percent of the cases occur in low-resource countries. According to the 2009 World Health Organization report, the age-adjusted incidence rate of cervical cancer in Ethiopia was 35.9 per 100,000 patients with 7619 annual number of new cases and 60-81 deaths every year. The study is aimed at assessing the level of knowledge, attitude, and practice concerning cervical cancer among female students¹ at Adama Science and Technology University. The annual global incidence of cervical cancer is approximately 604,000 cases/342,000 deaths, making it the fourth

most common cancer in women. Cervical cancer is a major health problem in low- and middle-income countries where 85% of new cases and deaths occur. Secondary prevention measures have reduced incidence and mortality in developed countries² over the last 30 years. In Ethiopia, cervical cancer ranked as the second leading cause of female cancer and also stands as the most common cancer among women aged from 15 to 44 years old (Chelva, Kaushal, West, Erwin, Yuma, Sleeth, Yahya-Malima, Shelley, Risso-Gill, & Yeates, 2024; Mantula, Toefy, & Sewram, 2024).

A preventable disease, cervical cancer continues to pose a substantial public health problem globally,

especially in low- and middle-income countries (LMICs). Based on projections by the World Health Organization (WHO), more than 600,000 women are diagnosed with cervical cancer annually, resulting in over 300,000 fatalities. Despite its high preventability, cervical cancer ranks as the fourth most prevalent cancer among women worldwide, with a disproportionate impact on women in low- and middle-income countries (LMICs) where screening and early detection initiatives are restricted (Bonful, Addo-Lartey, Sefenu, Nwameme, Abagre, Awua, Adu-Aryee, Dedey, Asanu, & Okuyemi, 2022). Chronic infection with high-risk strains of the human papillomavirus (HPV), a sexually transmitted virus, is the main factor responsible for cervical cancer. Timely screening can identify cervical cancer at an early stage and effectively manage it, often eliminating precancerous tumors prior to their progression into invasive malignancy. Systematic screening, including the Pap test (Pap smear), HPV DNA testing, and visual examination with acetic acid (VIA), is essential for detecting these pathological alterations, thereby halting the advancement to cervical cancer. Nevertheless, the effectiveness of cervical cancer screening programs is significantly dependent on the availability, knowledge, and involvement, which differ significantly among different countries and areas (Mengesha, Chekole, & Hidru, 2023).

Research has demonstrated that the early detection of cervical cancer greatly decreases both the occurrence and death rate of the illness. Widespread adoption of structured screening programs, such as Pap smears and HPV testing, in high-income nations has resulted in a significant reduction in cervical cancer incidence. For instance, in nations with comprehensive screening initiatives, the occurrence of cervical cancer has decreased by as much as 80%. By contrast, in certain low- and middle-income countries (LMICs), the absence of well-structured and easily available screening programs nevertheless leads to elevated rates of cervical cancer-related deaths (Agaba, Namuli, Ainomugisha, Tibajuka, Ninsiima, Ngonzi, Akatukwasa, & Owaraganise, 2024). Due to the gradual progression of cervical cancer over many years, screening is especially beneficial. The considerable time delay between the first HPV infection and the emergence of invasive cancer creates a crucial opportunity for timely identification

and therapy. Early detection of cervical abnormalities by routine screening can effectively prevent the development of cancer by identifying them at an early and manageable stage. By 2030, the World Health Organization (WHO) aims to achieve a 70% screening coverage rate among eligible women, therefore promoting the global eradication of cervical cancer (Elfström, Eklund, Lamin, Öhman, Hortlund, Elfgrén, Sundström, & Dillner, 2021).

Notwithstanding the established advantages of cervical cancer screening, there are notable differences in screening rates between high-income nations and low- and middle-income countries (LMICs). In numerous low- and middle-income countries (LMICs), screening programs are either non-existent or inadequately executed, leading to low rates of participation and restricted availability of preventive healthcare services. The discrepancy is caused by several elements, such as inadequate healthcare infrastructure, a shortage of skilled healthcare practitioners, budgetary limitations, cultural obstacles, and insufficient public knowledge on the need of routine screening (Zhetpisbayeva, Rommel, Kassymbekova, Semenova, Sarmuldayeva, Giniyat, Tanatarova, Dyussupova, Faizova, Rakhmetova, & Glushkova, 2024). In the case, in sub-Saharan Africa and South Asia, the percentage of individuals who have undergone screening is still less than 20%, in contrast to the above 70% coverage observed in most high-income nations. The diagnosis of cervical cancer in women in low- and middle-income countries (LMICs) generally occurs at advanced stages, leading to less efficient treatment and much reduced survival rates. In high-income countries, structured screening programs have enabled earlier detection and improved results, resulting in a consistent decrease in both incidence and mortality rates (Ninsiima, Nyabigambo, & Kagayi, 2023).

Cervical cancer is said to be a preventable disease. One reason is because of the availability of effective screening options such as the Pap smear, HPV-DNA test and visual inspection with acetic acid and iodine applications. The leading cause of death from cancer in developing countries. Almost always associated with human papillomavirus (HPV) infection. In addition to these infections, factors including multiparity, smoking, long-term use of oral contraceptives, low socioeconomic status, sexually

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transmitted infections, first sexual intercourse at a young age, low immune status and poverty-related factors are associated with cervical cancer (Miller, Xu, Qin, Hahn, Ngo-Metzger, Mittman, Tewari, Hod²), Wride, Saraiya, & Chao, 2021). Cervical cancer can be avoided through primary prevention, namely the Human Papillomavirus (HPV) vaccination and carrying out secondary prevention by screening the cervix for cervical cancer. There is disproportionate variation in the incidence and survival rates of cervical cancer, with women of low socioeconomic status (SES), those from ethnic minority groups and those living in developing countries more affected than others. Providing education and awareness about CC risk factors, symptoms and availability of prevention services, reduces these gaps because CC can be detected earlier.

The increasing disparities in cervical cancer screening worldwide and the crucial role it plays in early detection and prevention have led to a substantial body of literature on the determinants of screening uptake, the efficacy of various screening methods, and the obstacles encountered in implementing screening programs. Nevertheless, the current analyses differ in terms of their extent, approach, and geographical concentration, resulting in a fragmented comprehension of the worldwide situation of cervical cancer screening (Chao, Chubak, Beaver, Kamineni, Mao, Silverberg, Tiro, Skinner, Garcia, Corley, Winer, Raine-Bennett, Feldman, & Wheeler, 2023).

RESEARCH METHOD

The present work undertook a systematic review, employing the suggested reporting items for systematic literature reviews and according to the PRISMA standards for article selection. This investigation discovered scholarly papers pertaining to the screening of cervical cancer in women. Our study involved a comprehensive literature search utilising the specific terms "cervical cancer screening", "adult women", and/or "pap smear", and/or "HPV vaccination", and/or "behaviour", and/or "health belief".

In establishing the criteria, this study employed the PICOS framework. P represents the population, specifically cervical cancer screening in women; I represent an intervention in the form of screening; C represents a comparison or comparison group that does not use comparison; O represents the outcome, namely cervical cancer screening; and S represents the study design, which may be longitudinal, cross-sectional, case-control, or cohort.

Our analysis involved the independent extraction of data from the papers, with a specific focus on the author, study design, purpose, and sample. The article search yielded a total of 79 items, distributed among 25 PubMed journals, 42 Google Scholar journals, and 12 Science Direct collections. Next, we retrieved 7 pertinent and valuable articles. This review elucidates the current status of cervical cancer screening among women.

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RESEARCH RESULTS

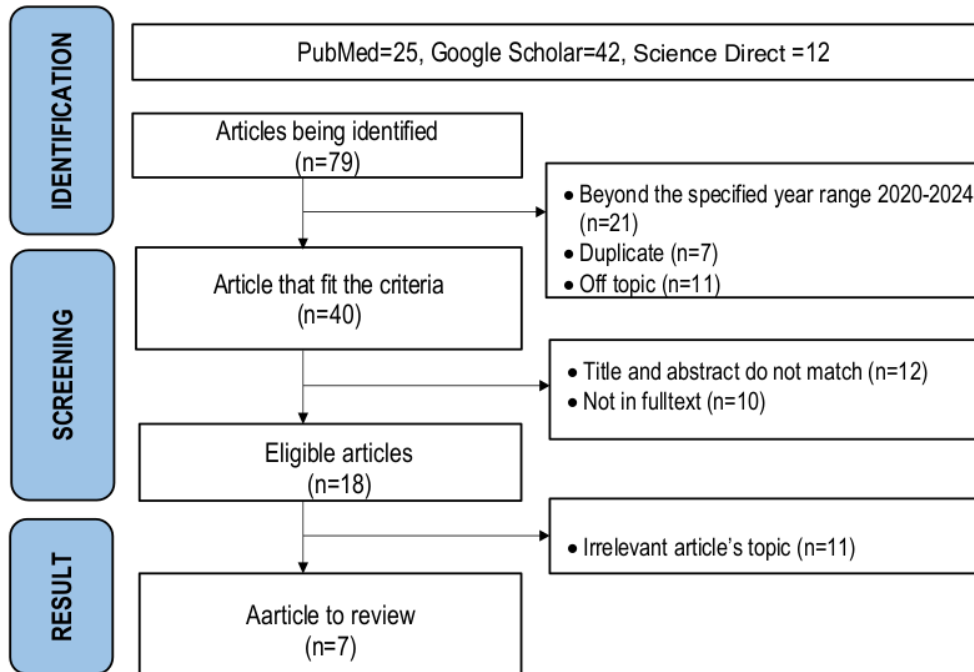


Figure 1: PRISMA Flow Diagram

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Table 1. The Main Characteristics of Included Studies

Author, Year (Country)	Purpose	Method	Results
(Caly's-Tagoe, et al., 2020) (Ghana)	1 This study assesses the screening practices for cervical cancer among women in Ghana.	The researcher utilised data from the World Health Organization's (WHO) multi-country study on ageing and adult health (SAGE) wave 2 conducted in Ghana from 2014 to 2015. Using binary logistic regression models, we analysed data from 2711 women to investigate the factors linked to undergoing a pelvic examination among women aged 18 years and older. We utilised binary logistic regression models to examine the variables related to obtaining a Pap smear test as a subgroup study among individuals who underwent pelvic examinations.	1 Out of the 2711 women aged 18 years or older that were polled, 225 (8.3% of the total) had previously undergone a pelvic examination. Among them, only 66 (2.4%) reported having ever undergone a Pap smear test. Among those who underwent a pelvic examination, a mere 26.94% underwent a Pap smear test. The ethnic group, marital position, father's educational level, and trouble with self-care were each separately linked to the decision to carry out a pelvic examination. The study found that only age and healthcare participation were linked with pelvic examination within the prior 5 years, independently. Marital status, healthcare satisfaction, and healthcare involvement were found to be independently linked with the pap smear test.
(Sarvestani, et al., 2021) (Iran)	Examine the impact of educational intervention on the execution of Pap smear tests under the framework of the Theory of Planned Behaviour among women residing in Fasa, Iran.	The researcher carried out a cross-sectional study including 700 participants. A workshop-based educational intervention was subsequently implemented for 50 women in the intervention group and 50 women in the control group, based on the findings of the cross-sectional study. Subsequently, the data were inputted into the SPSS statistical software and subjected to analysis using 3 logistic regression analysis, both paired and independent t tests, chi-square test, and McNemar test.	The findings indicate that 45.7% of the patients had previously undergone a Pap smear test, and out of them, 20.7% conducted this test on a regular basis. The variables of knowledge, attitude, subjective norms, and 3 perceived behavioural control were found to be significant predictors of intention and behaviour in the Pap smear test among women ($P < 0.05$). The aforementioned components explained 57.4% and 31.6% of the variations in intention and behaviour, respectively. The intervention resulted in a notable rise in the average values of attitude, subjective norms, and perceived behavioural control in the intervention

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(Author, Year) (Country)	Purpose	Method	Results
(Nakisige, et al., 2024) (Uganda)	This study aims to evaluate the initial knowledge and planned behaviour of both women and men in order to develop tailored messages that can enhance the acceptance of cervical cancer screening and facilitate the early identification of women experiencing symptoms.	Utilising the modified African Women Awareness of Cancer (AWACAN) questionnaire, this cross-sectional study was carried out in two areas in Western Uganda. Interviews were conducted with women between the ages of 30 and 49 and their husbands/decision makers. The study evaluated the level of knowledge of risk factors and symptoms, planned behaviour, and obstacles to engaging in cervical cancer screening and disease treatment. Quantitative and logistic regression studies were conducted to determine the correlation between knowledge levels and other variables in comparison to men.	group as compared to the control group. The findings indicate that there is no statistically significant distinction between the two groups in terms of their behavioural intention ($p = 0.41$) and performance of the Pap smear test ($p = 0.583$). Within the intervention group, the number of participants who had the Pap smear test has risen from 10 to 26. The McNemar test results showed that this difference presented statistical significance.
			Enrolment consists of 724 females and 692 males. Among the respondents, 71.0% of women and 67.2% of men were aware of cervical cancer, and 8.8% of women had pursued screening. High and comparable levels of awareness of risk factors and symptoms of cervical cancer were seen in both women and men. There was a significant correlation between women's limited decision-making abilities and their low knowledge of risk factors ($X^2 = 14.542$; $p = 0.01$), low level of education ($X^2 = 36.05$, $p < 0.01$), and advanced age ($X^2 = 17.33$, $p < 0.01$). Males exhibit superior help seeking behaviour compared to females ($X^2 = 64.96$, $p < 0.01$, OR = 0.39, 95% CI: 0.31–0.50) and had more confidence and proficiency in identifying signs or symptoms of cervical cancer ($X^2 = 27.28$, $p < 0.01$, OR = 0.52, CI (0.40–0.67).

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(Author, Year) (Country)	Purpose	Method	Results
(Aasbø et al., 2022) (Norway)	The present study aimed to assess the efficacy of human papillomavirus (HPV) self-sampling in enhancing screening participation among long-term absentees in Norway.	The nationwide cervical screening programme commenced a pragmatic randomised controlled trial in May 2019, with participation as the main outcome. A random sample of 6000 women aged 35–69, who had not undergone screening for a minimum of 10 years, were randomly assigned in a 1:1:1 ratio to receive either (i) a reminder to attend regular screening (control), (ii) an offer to purchase a self-sampling kit (opt-in) for HPV testing, or (iii) an unsolicited self-sampling kit (send-to-all) for HPV testing.	The overall participation rates were 4.8%, 17.0%, and 27.7% for the control group, opt-in group, and send-to-all group respectively ($P < 0.0001$). The difference in participation rates between the two groups was 22.9 percent (95% CI: 20.7, 25.2) for send-to-all vs. control, 12.3 percent (95% CI: 10.3, 14.2) for opt-in, and 10.7 percent (95% CI: 8.0, 13.3) for send-to-all compared to opt-in. Our analysis revealed the presence of high-risk HPV in 11.5% of self-samples and 9.2% of samples obtained by clinicians ($P = 0.40$). A majority of women (92.5%) who obtained a positive self-sample sought triage testing at the clinic. Out of the 933 women who were screened, 33 (3.5%) had CIN2 positive results (1.1%, 3.7%, and 3.8% among the control, opt-in, and send-to-all groups, respectively), and 11 (1.2%) exhibited cervical cancer (0%, 1.2%, and 1.3% among the control, opt-in, and send-to-all groups, respectively).
(Srivastava et al., 2022) (India)	Assess the determinants of cervical cancer screening among women in the reproductive age range in Delhi and Rohtak, India, and calculate the actual occurrence of the disease.	The survey was done by the MAMTA-Health Institute for Mother and Child, in partnership with the Health Departments of Palam, New Delhi, and Rohtak, Haryana, as a component of a broader research initiative aimed at enhancing the availability of cervical cancer screening and treatment from 2015 to 2017. The current investigation employed data pertaining to socioeconomic and demographic characteristics, together with information on cervical cancer	Of the respondents, over 35.2% (44.9% in Delhi and 23.8% in Rohtak) were aware of cervical cancer screening. The survey revealed that 3.9% of the participants in Delhi and 5.1% in Haryana had received cervical cancer screening. Women with knowledge of cervical cancer were five times more inclined to undergo screening [adjusted odds ratio: 5.27; confidence interval: 2.53, 10.96]. The study revealed that women aged 30 and above had a considerably greater likelihood of undergoing cervical cancer screening compared to those aged 30 and below [adjusted odds ratio

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(Author, Year) (Country)	Purpose	Method	Results
(Kabanda et al., 2024) (Uganda)	Empirically evaluated factors associated with the inclination of women in the Kyotera district of Central Uganda to undergo cervical cancer screening.	The study had a sample size of 1020 women in the reproductive age group. Descriptive statistics (percentage and frequency distribution), bivariate analysis, and multivariable analysis were employed to interpret the data. We employed the Fisher exact test to assess the degree of statistical significance in bivariate analysis.	[aOR]: 12.04; confidence interval [CI]: 3.01, 53.20]. Women belonging to households earning over 15000 USD per month had 2.98 times greater likelihood of undergoing cervical cancer screening compared to women from households earning 5000 USD or less [adjusted odds ratio: 2.98; confidence interval: 1.12, 9.09].
		Our study involved the analysis of cross-sectional data to assess the efficacy of community audio towers (CATs) as a means of health communication in promoting cervical cancer prevention. A total of 430 women, aged between 21 and 60 years, who had not had cervical cancer screening before, were surveyed regarding their demographics, sources of health information, and their plans to participate in cervical cancer screening in 2020. To determine the factors associated with the desire to undergo cervical cancer screening, we employed generalised linear modelling with modified Poisson regression and backwards variable elimination to obtain adjusted prevalence ratios and 95% confidence intervals (CI).	Fifty percent (50.2%) of the participants expressed plans to have cervical cancer screening within a twelve-month timeframe, while 26.5% showed a moderate level of understanding on cervical cancer. Almost half (46.0%) of the population identified themselves as being at risk of developing cervical cancer. Respondents who obtained their health information mainly from computer-assisted testing (CATs) (adjusted prevalence ratio [aPR]: 0.64, 95% confidence interval [CI]: 0.52–0.80, $p < 0.001$) and television (aPR: 0.52, 95% CI: 0.34–0.82, $p = 0.005$) had a lower intention to screen for cervical cancer compared to residents who primarily received their health information from social media and radio. Populations residing in town councils had a higher prevalence of intentions to screen for cervical cancer in twelve months (adjusted percentage rate [aPR]: 1.44, 95% confidence interval [CI]: 1.12–1.86, $p=0.004$) compared to rural areas. Additionally, those who perceived themselves to be at risk of cervical cancer had a higher aPR of 1.74, 95% CI: 1.28–2.36, $p < 0.001$) compared to those who did not.

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(Author, Year) (Country)	Purpose	Method	Results
(Ampofo et al., 2020) (Ghana)	Analysis of the obstacles impacting cervical cancer screening among women in Ghana's Ashanti Region using the health belief model.	An analytical cross-sectional study design was used by researchers in Kenyase, the Ashanti Region of Ghana, over the period of January to March 2019. The study utilised self-administered questionnaires to gather data from a sample of 200 women. We employed descriptive statistics to analyse the disparities in interest and lack of interest in engaging in carcinomatous cell screening, together with the obstacles that impact it. Multivariable logistic regression was employed to identify the variables influencing CC screening at a significance level of $p < 0.05$.	Unemployment among women was associated with a lower interest in cervical cancer screening compared to those who were employed (adjusted odds ratio (aOR) = 0.005, 95% confidence interval: 0.001–0.041, $p = 0.005$). Highly educated women were 122 times more likely to be interested in colorectal cancer screening compared to those with no or low formal education (adjusted odds ratio [aOR] = 121.915, 95% confidence interval [CI]: 14.096–1054.469, $p < 0.001$). Unmarried women were less likely to be interested in CC screening than married women (aOR = 0.124, 95% CI: 0.024–0.647, $p = 0.013$). Significant disparities were observed in the interest in engaging in screening and the perceptions of threat, benefits, barriers, and cues for action, as indicated by a P-value of less than 0.003. No statistically significant relationship was found between extended waiting times and the desire for early morning and late evening screening (P-value > 0.003).

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DISCUSSION

This comprehensive literature review synthesizes data from several studies that specifically examine cervical cancer screening in different populations, geographical areas, and healthcare environments. Key findings include the efficacy of screening methods, inequalities in screening availability and participation, obstacles to screening, and the influence of HPV vaccination on screening rates. The evaluation appraises the relative efficacy of the three primary screening techniques: Pap smears, HPV DNA testing, and visual examination with acetic acid (VIA). When conducted in situations with ample resources, HPV DNA testing and Pap smears have demonstrated exceptional sensitivity and specificity (Brisson, Kim, Canfell, Drolet, Gingras, Burger, Martin, Simms, Bénard, Boily, Sy, Regan, Keane, Caruana, Nguyen, Smith, Laprise, Jit, Alary, & Hutubessy, 2020). Among these methods, HPV testing has shown superior long-term advantages in detecting women who are at a high risk of developing cervical cancer. Nevertheless, in resource-constrained environments, skilled healthcare professionals extensively utilize Visual Analog of Images (VIA) because of its cost-efficiency, user-friendly nature, and capacity to operate without extensive laboratory facilities. While VIA is less sensitive than HPV testing or Pap smears, it provides a practical option in situations when access to more advanced screening methodologies is restricted (Sackey, Pemmaraju, Griffin, & Castilho, 2022).

One of the key discoveries of this analysis is the ongoing worldwide inequality in the availability of cervical cancer screening. Compared to low- and middle-income countries (LMICs), where screening programs are typically fragmented, inadequately funded, or entirely absent, women in high-income nations benefit from well-organized, government-supported screening programs. This discrepancy is reflected in lower screening participation rates in low- and middle-income countries (LMICs), leading to increased rates of late-stage cervical cancer diagnosis and mortality. The poor screening uptake in these regions can be attributed to several factors, including inadequate healthcare infrastructure, financial limitations, cultural obstacles, and little knowledge (Akokuwebe, Idemudia, Lekulo, & Motlogeloa, 2021).

Each of the analysed research consistently highlighted shared obstacles to cervical cancer screening. One primary obstacle is the influence of cultural and social standards. Two main factors that hinder women from seeking screening in many low- and middle-income countries (LMICs) are cultural stigmas related to reproductive health and sexually transmitted infections (STIs) and a lack of understanding (Olubodun, Balogun, Odeyemi, Odukoya, Ogunyemi, Kanma-Okafor, Okafor, Olubodun, Ogundele, Ogunnowo, & Osibogun, 2022). A considerable proportion of women lack awareness of the need of routine cervical cancer screening, particularly in rural or underserved regions with limited healthcare outreach. A considerable number of women lack knowledge regarding the fact that HPV is the main factor responsible for cervical cancer and that screening can detect precancerous lesions. Additionally, financial limitations continue to be a major obstacle, particularly in low- and middle-income countries (LMICs) where the cost of screening, follow-up care, and treatment remains a substantial barrier. Lastly, healthcare accessibility: Additional barriers to accessing cervical cancer screening services include the considerable geographical distance to healthcare institutions, inadequate transportation options, and the scarcity of qualified healthcare professionals (Petersen, Jaca, Ginindza, Maseko, Takatshana, Ndlovu, Zondi, Zungu, Varghese, Hunting, Parham, Simelela, & Moyo, 2022).

The implementation of the HPV vaccine has been a significant achievement in the prevention of cervical cancer. Nevertheless, this review emphasizes a varied effect on screening rates. The efficacy of HPV vaccination in lowering the incidence of cervical cancer has prompted inquiries over the future significance of screening in vaccinated communities. In certain instances, women and healthcare professionals may erroneously hold the belief that vaccination eliminates the necessity for further screening. Thus, the provision of health education is essential to guarantee the ongoing involvement of immunised women in screening programs (Khumalo, Carey, Mackenzie, & Sanson-Fisher, 2023).

The findings of this systematic review align with other research that has highlighted the crucial importance of well-structured and easily accessible screening programs in decreasing the occurrence and

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death rates of cervical cancer. Developed nations with robust screening programs have witnessed substantial reductions in cervical cancer incidence, but low- and middle-income countries (LMICs) still experience the majority of the disease burden. Consistently, research conducted in high-income nations, like Europe and North America, have demonstrated the effectiveness of routine Pap smear screening in promptly detecting and preventing diseases. Within these geographical areas, HPV DNA testing is increasingly being recognized as a more sensitive and reliable option. Conversely, low- and middle-income countries (LMICs) encounter challenges in conducting extensive screening because of limited resources, making visual inspection and assessment (VIA) the most practical choice in many regions (Nguyen, Simms, Keane, Mola, Bolnga, Kuk, Toliman, Badman, Saville, Kaldor, Vallely, & Canfell, 2022).

CONCLUSION

Cervical cancer screening is an essential instrument in the worldwide battle against cervical cancer, nevertheless, certain obstacles persist in guaranteeing universal availability of life-saving preventative treatments for all women. The objective of this systematic literature review is to conduct a thorough examination of cervical cancer screening programs. The specific focus will be on identifying the most efficient screening methods, identifying the obstacles to participation, and proposing measures to enhance the adoption of screening in various groups. The study will synthesize the available research to provide suggestions for enhancing screening programmes, especially in low- and middle-income countries (LMICs) where cervical cancer continues to be a significant cause of death.

This analysis will give crucial insights for governments, healthcare professionals, and global health organizations aiming to establish or expand cervical cancer screening initiatives. In conclusion, through enhancing the availability and engagement in screening, we can make progress towards the objective of eradicating cervical cancer as a worldwide public health issue.

REFERENCES

- Aasbø, G., Tropè, A., Nygård, M., Christiansen, I. K., Baasland, I., Iversen, G. A., Munk, A. C., Christiansen, M. H., Presthus, G. K., Undem, K., Bjørge, T., Castle, P. E., & Hansen, B. T. (2022). HPV self-sampling among long-term non-attenders to cervical cancer screening in Norway: a pragmatic randomised controlled trial. *British Journal of Cancer*, 127(10), 1816–1826.
- Agaba, C. D., Namuli, A., Ainomugisha, B., Tibajuka, L., Ninsiima, M., Ngonzi, J., Akatukwasa, C., & Owaraganise, A. (2024). Providers and women's perspectives on opportunities, challenges and recommendations to improve cervical cancer screening in women living with HIV at Mbarara Regional Referral Hospital: a qualitative study. *BMC Women's Health*, 24(1).
- Akokuwebe, M. E., Idemudia, E. S., Lekulo, A. M., & Motlogeloa, O. W. (2021). Determinants and levels of cervical Cancer screening uptake among women of reproductive age in South Africa: evidence from South Africa Demographic and health survey data, 2016. *BMC Public Health*, 21(1).
- Ampofo, A. G., Adumatta, A. D., Owusu, E., & Awuviry-Newton, K. (2020). A cross-sectional study of barriers to cervical cancer screening uptake in Ghana: An application of the health belief model. *PLoS ONE*, 15(4).
- Bonful, H. A., Addo-Lartey, A. A., Sefenu, R. S., Nwameme, A., Abagre, T. A., Awua, A. K., Adu-Aryee, N. A., Dedey, F., Adanu, R. M. K., & Okuyemi, K. S. (2022). Developing a culturally tailored short message service (SMS) intervention for improving the uptake of cervical cancer screening among Ghanaian women in urban communities. *BMC Women's Health*, 22(1).

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- Brisson, M., Kim, J. J., Canfell, K., Drolet, M., Gingras, G., Burger, E. A., Martin, D., Simms, K. T., Bénard, É., Boily, M. C., Sy, S., Regan, C., Keane, A., Caruana, M., Nguyen, D. T. N., Smith, M. A., Laprise, J. F., Jit, M., Alary, M., & Hutubessy, R. (2020). Impact of HPV vaccination and cervical screening on cervical cancer elimination: a comparative modelling analysis in 78 low-income and lower-middle-income countries. *The Lancet*, *395*(10224), 575–590.
- Calys-Tagoe, B. N. L., Aheto, J. M. K., Mensah, G., Biritwum, R. B., & Yawson, A. E. (2020). Cervical cancer screening practices among women in Ghana: Evidence from wave 2 of the WHO study on global AGEing and adult health. *BMC Women's Health*, *20*(1).
- Chao, C. R., Chubak, J., Beaver, E. F., Kamineni, A., Mao, C., Silverberg, M. J., Tiro, J. A., Skinner, C., Garcia, M., Corley, D. A., Winer, R. L., Raine-Bennett, T., Feldman, S., & Wheeler, C. M. (2023). Gaps in the screening process for women diagnosed with cervical cancer in four diverse US health care settings. *Cancer Medicine*, *12*(3), 3705–3717.
- Chelva, M., Kaushal, S., West, N., Erwin, E., Yuma, S., Sleeth, J., Yahya-Malima, K. I., Shelley, D., Risso-Gill, I., & Yeates, K. (2024). "In the Village That She Comes from, Most of the People Don't Know Anything about Cervical Cancer": A Health Systems Appraisal of Cervical Cancer Prevention Services in Tanzania. *International Journal of Environmental Research and Public Health*, *21*(8), 1059.
- Elfström, K. M., Eklund, C., Lamin, H., Öhman, D., Hortlund, M., Elfgrén, K., Sundström, K., & Dillner, J. (2021). Organized primary human papillomavirus- based cervical screening: A randomized healthcare policy trial. *PLoS Medicine*, *18*(8).
- Kabanda, R., Kiconco, A., Ronald, A., Beyer, K. M. M., & John, S. A. (2024). Correlates of intention to screen for cervical cancer among adult women in Kyotera District, Central Uganda: a community based cross-sectional study. *BMC Women's Health*, *24*(1). <https://doi.org/10.1186/s12905-024-03129-5>
- Khumalo, P. G., Carey, M., Mackenzie, L., & Sanson-Fisher, R. (2023). Non-adherence to cervical cancer screening recommendations among women in Eswatini: a cross-sectional study. *BMC Public Health*, *23*(1).
- Mantula, F., Toefy, Y., & Sewram, V. (2024). Barriers to cervical cancer screening in Africa: a systematic review. *BMC Public Health*, *24*(1).
- Mengesha, M. B., Chekole, T. T., & Hidru, H. D. (2023). Uptake and barriers to cervical cancer screening among human immunodeficiency virus-positive women in Sub Saharan Africa: a systematic review and meta-analysis. *BMC Women's Health*, *23*(1).
- Miller, M. J., Xu, L., Qin, J., Hahn, E. E., Ngo-Metzger, Q., Mittman, B., Tewari, D., Hodeib, M., Wride, P., Saraiya, M., & Chao, C. R. (2021). Impact of COVID-19 on Cervical Cancer Screening Rates Among Women Aged 21–65 Years in a Large Integrated Health Care System — Southern California, January 1–September 30, 2019 and January 1–September 30, 2020. *MMWR*, *70*(4).
- Nakisige, C., de Fouw, M., Nakalembe, M., Orem, J., Atukonyera, D., Musheshe, M., Koot, J., de Zeeuw, J., Beltman, J., & Stekelenburg, J. (2024). Baseline knowledge on risk factors, symptoms and intended behavior of women and men towards screening and treatment of cervical cancer in rural Uganda: a cross-sectional study. *BMC Cancer*, *24*(1).

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- Nguyen, D. T. N., Simms, K. T., Keane, A., Mola, G., Bolnga, J. W., Kuk, J., Toliman, P. J., Badman, S. G., Saville, M., Kaldor, J., Vallely, A., & Canfell, K. (2022). Towards the elimination of cervical cancer in low-income and lower-middle-income countries: modelled evaluation of the effectiveness and cost-effectiveness of point-of-care HPV self-collected screening and treatment in Papua New Guinea. *BMJ Global Health*, 7(3), e007380.
- Ninsiima, M., Nyabigambo, A., & Kagaayi, J. (2023). Acceptability of integration of cervical cancer screening into routine HIV care, associated factors and perceptions among HIV-infected women: a mixed methods study at Mbarara Regional Referral Hospital, Uganda. *BMC Health Services Research*, 23(1).
- Olubodun, T., Balogun, M. R., Odeyemi, A. K., Odukoya, O. O., Ogunyemi, A. O., Kanma-Okafor, O. J., Okafor, I. P., Olubodun, A. B., Ogundele, O. O. P., Ogunnowo, B., & Osibogun, A. (2022). Barriers and recommendations for a cervical cancer screening program among women in low-resource settings in Lagos Nigeria: a qualitative study. *BMC Public Health*, 22(1).
- Petersen, Z., Jaca, A., Ginindza, T. G., Maseko, G., Takatshana, S., Ndlovu, P., Zondi, N., Zungu, N., Varghese, C., Hunting, G., Parham, G., Simelela, P., & Moyo, S. (2022). Barriers to uptake of cervical cancer screening services in low-and-middle-income countries: a systematic review. *BMC Women's Health*, 22(1).
- Sackey, E. N. S., Pemmaraju, M., Griffin, M. R., & Castilho, J. L. (2022). Impact of prior underinsurance on cervical cancer screening among Davidson County, Tennessee, women diagnosed with invasive cervical cancer, 2008–2018. *BMC Women's Health*, 22(1).
- Sarvestani, M. H., Jeihooni, A. K., Moradi, Z., & Dehghan, A. (2021). Evaluating the effect of an educational program on increasing cervical cancer screening behavior among women in Fasa, Iran. *BMC Women's Health*, 21(1).
- Srivastava, S., Kurian, K., Garg, P. R., Rehman, A., Garg, R., Rathi, S. K., & Mehra, S. (2022). Prevalence and Predictors of Cervical Cancer Screening among Reproductive Age Group Women: Evidence from Cross-Sectional Study in Rohtak and Delhi. *Asian Pacific Journal of Cancer Prevention*, 23(8), 2771–2777.
- Zhetpisbayeva, I., Rommel, A., Kassymbekova, F., Semenova, Y., Sarmuldayeva, S., Giniyat, A., Tanatarova, G., Dyussupova, A., Faizova, R., Rakhmetova, V., & Glushkova, N. (2024). Cervical cancer trend in the Republic of Kazakhstan and attitudes towards cervical cancer screening in urban and rural areas. *Scientific Reports*, 14(1).

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