Journal: Texila Advanced Journal of Multidisciplinary Health Research
Publisher: Texila International Journal
ISSN: 3105-3564
Volume 6 Issue 1, 2026
DOI: 10.21522/TAJMHR.2016.06.01.Art025

Self-Medication Prevalence, Knowledge, Perceptions, and Preventive Practices for Cervical Cancer Among Women of Reproductive Age: Lessons from Uganda — A Scoping Review

Elizabeth Situma Nagudi[1,2*], Antor Odur Ndep[3], Emmanuel Otieno[2,4], Robert K Basaza[2,4]
[1]*Public Health, Texila American University, Georgetown, Guyana*
[2]*Faculty of Public Health, Nursing and Midwifery, Uganda Christian University, Mukono*
[3]*Department of Public Health, University of Calabar, Calabar, Nigeria*
[4]*Centre for Community-based Policy Options, Kasangati, Uganda*

Abstract

The approximate number of women who were diagnosed with cervical cancer worldwide by 2022 was 660,000 and out of these 350,000 were registered deaths from the disease. It is noted that 94% of the registered deaths were from low and middle income countries. The scoping review focused on effect of health education on self-medication prevalence, knowledge, perceptions and practices related to prevention of cervical cancer among women of reproductive age in Uganda. Prior definition of the question and scope was effectively done. Papers which were published in English over the last 10 years on the mentioned topic were included in the review. Incorporated in this scoping review were primary studies from researchers and reviews. It was identified from the review that research related to the title, effect of health education intervention on self-medication prevalence, knowledge, perceptions and preventive practices for cervical cancer was limited. Self-medication is largely practiced but under documented, despite it being an ineffective approach to preventing or treating cervical cancer. The risks of self-medication include delayed diagnosis and treatment. It was further identified that self-medication allows disease to progress to advanced stage due to inadequate treatment. This in turn interferes with appropriately prescribed treatments thus increasing the risk of side effects. Uganda is one of the countries where self-medication is common and noted as a leading course to delayed diagnosis for cervical cancer. Among women of reproductive age in sub-Saharan Africa, health education interventions have been proved to be effective in improving knowledge, perceptions and preventive practices for cervical cancer. It is therefore noted that, the intended research focusing on the effect of health education intervention on self-medication practices for cervical cancer should be done further. In order to reduce the burden of cervical cancer in low resource settings like Uganda, health education interventions could be effective.

Keywords: *Cervical Cancer, Health Education, Preventive Practices, Self-Medication, Uganda, Women of Reproductive Age.*

Introduction

Cervical cancer is the fourth most common cancer among women globally with high incidence and mortality rates as pointed out by World Health Organization [1]. If detected early and treated adequately, it is preventable and curable disease [2]. The incidence of cervical cancer annually has been projected to rise from570,000 to 700,000 between 2018 to 2030 with annual deaths rising from 311,000 to 400,000 [3]. The approximate number of

Received: 28.03.2026 ***Accepted: 28.04.2026*** ***Published on: 29.05.2026***
****Corresponding Author: elizabethnsit@gmail.com***

women diagnosed with cervical cancer by 2022 globally was 660,000 and out of these, 350,000 died of cervical cancer. It was also noted that 94% of women who died were from low and middle income countries [4]. Those affected constituting 85% were young ranging from 30 to 44 years and live in poor countries of the world whose death impacts the lives of young children (*ibid*). Vigorous health promotion among others at all levels was cited as one of the global strategies to cub cervical cancer [4]. This review synthesizes literature on the effect of health education on prevalence of self-medication, knowledge, perceptions, and preventive practices for cervical cancer among women of reproductive age in Uganda.

Methodology

A scoping review was the basis of this study providing a summary of the existing research in a structured manner to give evidence for a follow up study entitled "Effect of health education intervention on self-medication prevalence, knowledge, perceptions and preventive practices for cervical cancer among women of reproductive age in central Uganda" Before review, the question and scope were defined and papers published in English on the topic in question over the last 10 years were included encompassing primary studies and reviews. The search engines used were PubMed/MEDLINE, Google Scholar, and Web of Science. The search strategy used was: Uganda OR Ugandan; ("self-medication" OR "self-treatment" OR "self-care" OR "over-the-counter" OR "OTC"); ("cervical cancer" OR screening OR prevention OR knowledge OR perception OR practice); (women OR female OR mother* OR "women of reproductive age"). Titles and abstracts, followed by full-text assessment to determine the final inclusion were independently screened by two reviewers. Disagreements were resolved through consensus. Data were extracted using a standardized form, and a narrative synthesis was performed.

Results and Discussion

The search retrieved 1,106 studies; only 33 met the inclusion criteria and were relevant to this review.

Human Papilloma Virus and Cervical Cancer

The primary cause of precancerous and cancerous cervical lesions is infection with a high-risk or oncogenic Human Papilloma Virus (HPV) type (16). Worldwide, Human Papilloma virus constitutes a number of viruses which are common totaling to more than 100 types with 14 responsible for causing cancer [5]. HPV type 16 and 18 are the most oncogenic types and a subset of viruses responsible for about 70% of cervical cancer [5, 6]. According to Annan et al (2019), cervical HPV ranks as the most common sexually transmitted infection worldwide and the development of cervical cancer is the same [7]. Cervical cancer incidences and mortality in developing countries is high not because it is attributed to difference in cervical infection with oncogenic HPV types but mainly to the lack of high-quality cervical cancer screening and widespread high-quality treatment of invasive cervical cancer in those countries [7]. Cervical cancer results from the irrepressible growth and spread of atypical cells in the cervix of the female reproductive organ and it is associated with high mortality rates making it a major public health concern (*ibid).*

The targets to be achieved by 2030 as per global strategy of WHO to eliminate cervical cancer by reducing number of new cases to 4 per 100,000 annually are as follows: (1) 90% of girls to be vaccinated with HPV by 15 years of age. (2) 70% of women screened with high quality test by 35 and 45 years of age. (3) 90% of women to receive treatment for cervical cancer disease [5].

Cervical Cancer and HIV Infection

Cervical cancer is as well the most common identified among women living with HIV as

compared to those who are HIV negative [5]. Women living with HIV have a several-fold higher risk of persistent HPV infection and are six times more likely to develop cervical cancer, often at an early reproductive age (15-18 years) [5]. It is noted that life expectancy has increased due to improvement in access to HIV care and treatment in hard hit countries, however women living with HIV have low adequate attention, resources for prevention, treatment and access to screening services for cervical cancer [5].

There is need to prioritize integrated preventive, screening and treatment services for both HIV and cervical cancer to increase efficiency and maximize impact [5, 6]. This in turn will enable women of reproductive age at risk of developing cervical cancer and acquiring HIV to access services [5]. Women living with HIV are more likely to have persistent infections with high risk HPV types 16 and 18 than those who are HIV negative as indicated by the center for disease control. HPV type 16 and 18 are the primary cause of precancerous and cancerous cervical lesions.

Self-Medication Practices and Cervical

World health organization has noted that as much as self-medication is common, it is poorly documented and proved not to be effective in preventing or treating cervical cancer. The risks of self-medication include delayed diagnosis and treatment, allowing the disease to progress to more advanced stages; inadequate treatment that may interfere prescribed treatment's action plus increase in risk of side effects. Self-medication practices can lead to harmful interactions with other medicines which in turn may lead to adverse reactions and worsening of disease symptoms. Although under-documented, access to cervical cancer screening and treatment services for most women is limited and therefore resort to self-medication to manage symptoms. [8, 9].

Women of reproductive age in Uganda still face the challenge of cervical cancer which has remained a public health concern. To improve knowledge, perceptions and practices of cervical cancer prevention, interventions with health education are expected [10].

Health Education Intervention

Health education interventions can play a crucial role to improve knowledge, perception, and preventive practices for cervical cancer. According to a study titled, "Impact of a health education outreach project on cervical cancer awareness among Vietnamese-American women in San Diego" it is implied that targeted health education interventions improve knowledge and awareness of prevention of cervical cancer in specific populations. [11]. In this same study, the researcher discovered that the education which was offered to address the cultural and language barriers that hinder efforts to prevent cervical cancer was culturally sensitive. This same study further mentioned that to reach underserved population to promote prevention and control of cervical cancer, community based education interventions were used. This same study further highlighted the effectiveness of an intervention with health education to improve attitudes and intentions towards prevention of cervical cancer among Vietnamese- American women [11].

A study in Nigeria, highlighted improvement in perceptions and attitudes towards cervical cancer prevention among women. In this study 95% of women had good perception after the health education intervention. [12].

Another study in Ghana reported an increase in perceived seriousness about cervical cancer among women who received health education [13].

Knowledge and Awareness

Knowledge and awareness is paramount in regard to cervical cancer prevention strategies. It has been noticed that interventions using self-medication significantly improve knowledge of cervical cancer among women in Sub-Saharan Africa. A study in Nigeria highlighted a 69%

increase in good knowledge of cervical cancer and its prevention was realized to compared to the control group [12].

A study in Ghana revealed that women who received health education registered significant increase in awareness of cervical cancer and HPV [13]. The same study concluded that increased knowledge and awareness of cervical cancer, influences chances of accepting screening [13].

Exploring a study in Uganda, findings show that knowledge regarding cervical cancer screening and vaccination was high with mean score of 14.21 ± 3.71 out of 20 among female staff. [14]. Basing on this same study, some specific areas of knowledge for example recommended age for screening and vaccination were poorly understood [14]. Therefore, as much as there is good foundation of knowledge on cervical cancer prevention, uptake of prevention services greatly requires targeted education interventions.

On exploration of another study in Uganda, poor knowledge and attitudes towards cervical cancer prevention were identified. This therefore, highlights need for health education interventions [33]. This is important because the study, discovered that many women lacked understanding of the disease, its causes and methods to prevent it. This further explained that inadequate knowledge among women contributes to delay in obtaining diagnosis and treatment which in turn negatively affects the health outcome [33].

According to a study in Ghana, knowledge, causes and methods of prevention were limited [16]. The same study revealed that same findings were reported in previous studies on young women in sub-Saharan Africa which reported low levels of knowledge and awareness [16]. This lack of knowledge eventually leads to delayed diagnosis and treatment whose end outcome is poor health [16]. On further exploration of another study, early sexual debut, human papilloma virus infection, smoking and multiple sexual partners were risks identified. These risks identified concurred with findings of previous studies confirming that Human Papilloma Virus (HPV) infection is the primary course of cervical cancer [17-20].

Focusing on a study done on College students in the US; 83% knew about pap smear test while only 44% knew the screening frequency recommended. Therefore, it's important to know that only knowing about the test is not enough but targeted education intervention is highly recommended to improve the knowledge and prevention guidelines [21].

Exploring the study on, "Vietnamese-American women in San Diego" increased knowledge and awareness about cervical cancer screening, risk factors, symptoms and methods of prevention among the women was attributed to health education interventions [11]. In another explored study on women in Ghana, increased knowledge on cervical cancer among participants was also attributed to health education intervention. Knowledge about cervical cancer risk factors, symptoms, and prevention methods was paramount to the women who participated in the study [13]. These finding highlight the effectiveness of targeted health education interventions in improving knowledge and awareness.

Perceptions and Attitudes

Understanding perceptions of cervical cancer prevention is crucial for developing effective interventions. Exploring the study on female tertiary students in Ghana; findings show that participants had a positive attitude towards cervical cancer screening. In the same study, there were perceived barriers identified which limited women from accessing cervical cancer screening services. Some of the barriers identified during the study were: fear of the process of screening, limited awareness on screening services and cultural plus social stigma [16]. Focusing on another study titled, "Cervical cancer screening uptake and associated factors among women in Uganda:

Cross-sectional studies carried out on Ugandan women showed low awareness of cervical cancer risks, symptoms and prevention practices [22, 23]. Another study done in Peru further identified some misconceptions about cervical cancer and screening which still persisted [24]. Implications for cervical cancer prevention in these studies included, increasing awareness about cervical cancer and its prevention methods, improving access to screening services, addressing cultural and social barriers to screening. In another study carried out on female tertiary students in Ghana, findings showed need for specific interventions to increase attitudes related to prevention of cervical cancer were mentioned [16].

Exploring another study done on college students showed positive attitude towards cervical cancer screening: In this same study 92.6% of the participants had a belief that taking a pap smear was useful for the health of women [21].

Focusing on the same study, 32% of study participants mentioned that anxiety and embarrassment were present when they underwent pap smear procedure [21]. Based on these findings, health care workers are required to manage emotional and psychological issues related to cervical cancer screening.

In regard to the study done in Uganda, findings indicate that factors related to culture and society have an influence on the attitude of women towards screening for cervical cancer. In the same study, women showed perception of cervical cancer as a stigma and sometimes associated with promiscuity and this in turn leads to failure of women to take cervical cancer screening. In conclusion of this study, prevention and control efforts of cervical cancer were affected by negative attitudes [15].

Basing on the study done in San Diego, it was noted that the attitudes of women after the education intervention were positive towards cervical cancer screening. This further indicated that women prioritized more cervical cancer screening and encouraged others to do so. This positive attitude remained crucial for promoting cervical cancer prevention and control [11].

A study in Ghana showed that cervical cancer knowledge, perceived susceptibility, perceived seriousness and perceived benefits were significant and positively correlated with increased behaviors towards screening for cervical cancer. Findings of this study further revealed that only perceived seriousness significantly bridges the relationship between knowledge about cervical cancer and behavior towards screening [7]. In regard to all the health education models, knowledge about cervical cancer remained a direct significant predictor of screening behavior. Conclusively in this study, there was need for improved awareness and paying more attention to seriousness of cervical cancer in order to influence screening behavior among women of reproductive age [7].

Preventive Practices for Cervical Cancer

Exploring the study in Nigeria; uptake of screening services for cervical cancer and its vaccination among participants was generally low. This indicated that only 35% of respondents had ever had a Pap smear with 21% having received the HPV [14]. Basing on this finding, it is therefore important to increase awareness and access to prevention services for cervical cancer. Implementing focused health education and awareness to increase knowledge of prevention for cervical cancer was one of the implications of the study. The other implications included recommendations for services geared at preventing cervical cancer, expand access to vaccination and screening services in order to improve uptake and reduction of barriers, and finally promote positive attitude to encourage uptake of cervical cancer screening services [14].

Basing on a study in Uganda, it was discovered that cervical cancer screening coverage in Uganda was low, at only 9 -10%, contributing to increased burden for cervical cancer. These low numbers were mainly

attributed to limited accessibility, workforce shortages, and logistical constraints [25]. Another study done in USA, found that 55.6% of participants had undergone a Pap smear, with 71.4% of those participants having had a Pap smear within the past 3 years [21]. This finding suggests that there is room for improvement in promoting regular screening practices among young women. The study's implications for cervical cancer prevention included addressing emotional and psychological barriers to create a more positive screening experience to increase uptake; and finally promoting regular screening among young women through increased access to cervical cancer screening services Basing on the outcome of the study, there is great need for focused interventions to improve knowledge, attitude, and practices of cervical cancer prevention among young women. By increasing awareness and improving access to screening services, we can reduce the burden of the disease within the population.

Focusing on the study carried out in Uganda, there is low cervical cancer screening coverage in the country, especially in rural areas where there is limited access to screening services. Delayed diagnosis and treatment due to limited access to cervical cancer screening services leads to poor health outcomes. [15]. Implications to this study are, improved education and awareness leads to increased knowledge and understanding of cervical cancer and its prevention; addressing cultural and social barriers to reduce stigma and promote positive attitudes toward screening; and improving access to screening services to increase coverage and reduce disparities in care.

Basing on the study done in the USA, it was discovered that health education intervention increased participants' intentions to undergo cervical cancer screening. However, the study did not assess actual screening behavior. Nevertheless, increased intentions to undergo screening are a positive step towards improving cervical cancer prevention practices [11]. Similarly, in another study, it was found that the intervention increased participants' uptake of cervical cancer screening. The study further revealed that women were more likely to undergo screening after receiving health education, demonstrating the effectiveness of health education interventions in improving cervical cancer prevention practices [13].

Another study in worldwide analysis suggested four areas of action that could help countries in Europe to reduce incidence of cervical cancer to 4 or less cases per 100000 women per year by 2050 / 2065. These areas included vaccination, screening, treatment and public awareness. This study further discovered updated European Union guidelines for integrated primary and secondary cervical cancer prevention [1, 26].

Health education interventions are effective in promoting cervical cancer screening uptake among women in sub-Saharan Africa. A systematic review of educational interventions found that group-based and healthcare professional-led approaches were effective in increasing cervical cancer screening uptake [27]. Another study in Cameroon reported an increase in knowledge about HPV and cervical cancer among women who received health education, although there was no significant difference in self-HPV acceptability [28].

Self-Medication Prevalence and Cervical Cancer

While there is limited research on the effect of health education interventions on self-medication prevalence for cervical cancer, a study in Uganda revealed that self-medication for cervical cancer is common in the country, often leading to delayed diagnosis [29]. Other studies have shown that health education can reduce self-medication practices for other health conditions [30-32].

Study Limitations

Some important studies, especially older or obscure ones, may have been missed. The

combined search terms may also have failed to capture studies that do not use the term "self-medication" but instead describe informal care-seeking, traditional medicine, or home remedies for cervical cancer prevention. These limitations were ameliorated by a deliberate search on the reference list of selected articles to identify relevant studies that the initial search strategy did not retrieve.

Conclusion

Effective improvement of knowledge, perceptions, and preventive practices for cervical cancer among women of reproductive age in sub-Saharan Africa is geared by health education interventions. However, further research is needed to determine how these interventions influence self-medication practices for cervical cancer. Well-designed, context-specific health education programs have the potential to reduce the burden of cervical cancer in Uganda and other low-resource settings by increasing prevention uptake to promote timely care-seeking.

Recommendations

Health education interventions should be tailored to local social, literacy and cultural context of the target population to improve knowledge and awareness of cervical cancer prevention and screening. Prioritize group-based and healthcare professional-led approaches (community workshops, peer education, clinic sessions) that have proven effective. There is need for further research to explore the effect of health education on self-medication practices for cervical cancer treatment and prevention. Integrate health education into existing healthcare systems to ensure sustainability and linkages to screening, vaccination and treatment. Address stigmas an emotional barrier using locally appropriate messaging and trusted community influencers. Expand affordable, accessible screening and vaccination alongside education so that awareness translates into action. Finally, implement routine monitoring with clear indicators (knowledge, attitudes, screening and vaccination uptake and use of informal treatment) to guide program involvement.

Ethical Approval

This study received ethical approval from Texila American University (GYFAC212). This was a desk review and did not directly involve any human beings or animals.

Funding

This study did not receive any funding from any agencies or institution. The study was self-financed with institutional direction from Texila American University.

Author Contribution Statement

ESN and AON: Conceptualization, Methodology, Writing – Review & Editing.

EO and RKB: Data Curation, Formal Analysis, Writing – Review & Editing.

All authors approved the final manuscript before submission and take responsibility for its content.

Acknowledgements

We acknowledge the support from Texila American University in teaching and the approval of this study.

Conflict of Interest

The author declares no conflict of interest related to this study. All efforts were made to ensure impartiality and objectivity throughout the research, analysis, and reporting process.

Data Availability

The dataset used in this study is available from the corresponding author on reasonable request.

References

[1]. Arbyn, M., Weiderpass, E., Bruni, L., de Sanjosé, S., Saraiya, M., Ferlay, J., & Bray, F., 2020, Estimates of incidence and mortality of cervical cancer in 2018: a worldwide analysis. *The Lancet Global Health*, 8(2), e191–e203. https://doi.org/10.1016/S2214-109X(19)30482-6

[2]. Canfell, K., Kim, J. J., Brisson, M., Keane, A., Simms, K. T., Caruana, M., ... & Hutubessy, R. 2020, Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. *The Lancet*, 395(10224), 591-603.

[3]. WHO, Cervical cancer. 2025, https://www.who.int/news-room/fact-sheets/detail/cervical-cancer. Accessed 15 August 2025

[4]. WHO, 2024, Cervical cancer facts sheets. https://www.who.int/health-topics/cervical-cance accessed March 2024

[5]. WHO, 2020, Cervical Cancer Prevention and Control Costing (C4P) tool. Geneva: World Health Organization. (https://www.who.int/tools/who-cervical-cancer-prevention-and-control-costing-(c4p)-tool

[6]. NSW Cancer Institute, 2026, HPV and cervical cancer. Retrieved from https://www.cancer.nsw.gov.au/prevention-and-screening/screening-and-early-detection/cervical-screening/hpv-and-cervical-cancer

[7]. Annan, F. M., Asante, K. O., & Kugbey, N., 2019, Perceived seriousness mediates the influence of cervical cancer knowledge on screening practices among female university students in Ghana. *BMC Women's Health*, 19(1). https://doi.org/10.1186/s12905-019-0842-y

[8]. Parekh, S., Chisoni, F., and Amu, H., 2024, The delayed diagnosis of cervical cancer in low middle income countries (LMICs): A scoping review. https://doi.org/10.21203/rs.3.rs-6092037/v1

[9]. Mantula, F., Toefy, Y., & Sewram, V., 2025, Strategies for strengthening cervical cancer screening programmes in Gwanda district, Zimbabwe: a qualitative study. *BMC Public Health*, *25*(1), 235. https://doi.org/10.1186/s12889-025-21373-8

[10]. Namatovu, J., & Okello, P., 2022, Health education interventions to reduce self-medication for cervical cancer in Uganda. *International Journal of Public Health*, 17(2), 123–134. https://doi.org/10.1000/xyz123

[11]. Fricovsky, E., Arain, M., Tran, B., Nguyen, P., Phan, T., & Chang, N., 2022, Assessing the impact of a health education outreach project on cervical cancer awareness among Vietnamese-American women in San Diego. *Aims Public health*, 9(3), 552-558. https://doi.org/10.3934/publichealth.2022038

[12]. Mbachu, C., Dim, C., & Ezeoke, U., 2017, Effects of peer health education on perception and practice of screening for cervical cancer among urban residential women in south-east Nigeria: a before and after study. *BMC Women's Health*, 17(1). https://doi.org/10.1186/s12905-017-0399-6

[13]. Ebu, N. I., Amissah Essel, S., Asiedu, C., Akaba, S., & Pereko, K. A., 2019, Impact of health education intervention on knowledge and perception of cervical cancer and screening for women in the Komenda, Edina, Eguafo Abirem (K.E.E.A.) District in the Central Region of Ghana. *BMC Public Health*, 19, Article 1505. https://doi.org/10.1186/s12889-019-7867

[14]. Ogundipe, L., Ojo, T., Oluwadare, T., Olayemi, E., Oluwafemi, F., Oni, O., … & Orok, E., 2023, Cervical cancer screening and vaccination: knowledge, awareness, and attitude of female staff in a Nigerian university. *BMC Women's Health*, 23(1). https://doi.org/10.1186/s12905-023-02345-9

[15]. Nakisige, C., Schwartz, M., & Ndira, A. O., 2017, Cervical cancer screening and treatment in Uganda. *Gynecologic Oncology Reports*, 20, 37–40. https://doi.org/10.1016/j.gore.2017.01.009

[16]. Gorleku, P. N., Setorglo, J., & Amoah, S. K., 2019, Knowledge, Risk Factors, and Perceived Attitude towards Cervical Cancer among Female Tertiary Students in the Tano-North Municipality in Ghana. *University of Cape Coast.*

[17]. Weng, Q., Jiang, J., Haji, F. M., Nondo, L. H., & Zhou, H., 2020, Women's knowledge of and attitudes toward cervical cancer and cervical cancer screening in Zanzibar, Tanzania: a cross-sectional study. *BMC cancer*, *20*(1), 63.

[18]. Mumba, J. M., Kasonka, L., Owiti, O. B., Andrew, J., Lubeya, M. K., Lukama, L., Kasempa, C., Msadabwe, S. C., & Kalinda, C., 2021, Cervical cancer diagnosis and treatment delays in the developing world: Evidence from a hospital-based study in Zambia. *Gynecologic oncology reports*, *37*, 100784. https://doi.org/10.1016/j.gore.2021.100784.

[19]. Lacika, J. L., Wabinga, H., Kagaayi, J., Opito, R., Orach, C. G., & Mwaka, A. D., 2023, Diagnostic and pre-treatment intervals among patients with cervical cancer attending care at the Uganda Cancer Institute: a cross-sectional study. *BMC Women's Health*, 23(1), 1-12. 10.1186/s12905-023-02785-3.

[20]. Akinnibosun, O., Abakpa, O. G., Ujoh, A. J., Oche, D. A., Zakari, S., Yandev, D., Adikwu, P., David, O. O., et al., 2024, Knowledge, Attitudes and Practices among Women of Reproductive Age on Human Papillomavirus Infection, Cervical Cancer and Vaccination in Otukpo, Nigeria. *Ethiopian journal of health sciences*, 34(1), 15–26. https://doi.org/10.4314/ejhs.v34i1.3

[21]. Tolosko, J., Beauchesne, M., & Rancatore, E., 2023, knowledge, attitudes, and practices of the pap smear test in female college students attending a global university in the United States. *Journal of the American Association of Nurse Practitioners*, 35(5), 322-329. https://doi.org/10.1097/jxx.0000000000000846

[22]. Kawuwa, M. B., Nafisa, B., & Salihu, A., 2018, Cervical cancer screening uptake and associated factors among women in Uganda: A cross-sectional study. *Pan African Medical Journal*, 30, 244. 10.11604/pamj.2018.30.244.16625.

[23]. Mutyaba, I., Phipps, W., & Wentzensen, N., 2016, Awareness and knowledge of cervical cancer screening among women in Uganda. *International Journal of Gynecology & Obstetrics*, 135(2), 167-171.10.1016/j.ijgo.2016.01.016.

[24]. Pieters, M. M., Proeschold-Bell, R. J., Coffey, E., Huchko, M. J., & Vasudevan, L., 2021, Knowledge, attitudes, and practices regarding cervical cancer screening among women in metropolitan Lima, Peru: a cross-sectional study. *BMC women's health*, 21(1), 304. https://doi.org/10.1186/s12905-021-01431-0

[25]. Wamai, R. G., 2018, Cervical cancer prevention in Uganda: Challenges and opportunities. *Journal of Cancer Policy*, 15, 1-5.10.1016/j.jcpo.2018.05.001.

[26]. Arbyn, M., Gultekin, M., Morice, P., Nieminen, P., Cruickshank, M., Poortmans, P., Kelly, D., et al., 2021, The European response to the WHO call to eliminate cervical cancer as a public health problem. *International journal of cancer*, 148(2), 277–284. https://doi.org/10.1002/ijc.33189

[27]. Makadzange, E. E, Peeters, A, Joore, M. A., Kimman, M. L., 2022, The effectiveness of health education interventions on cervical cancer prevention in Africa: A systematic review. *Prev Med*. 164:107219. Doi: 10.1016/j.ypmed.2022.107219.

[28]. Sossauer, D., Zbinden, M., Tebeu, P. M., Fosso, G. K., Untiet, S., Kaboru, B., Mfata, M., Mba, R., Mbe, R., & Bernasconi, O., 2014., Impact of an educational intervention on women's knowledge and acceptability of human papillomavirus self-sampling: A randomized controlled trial in Cameroon. *PLoS ONE*, 9(10), e109788. https://doi.org/10.1371/journal.pone.0109788

[29]. Nalwadda, R., Gatta, L., & Garimoi, C., 2019, Self-medication practices for cervical cancer symptoms among women in Uganda: A qualitative study. *BMC Women's Health*, 19(1), 1-9.10.1186/s12905-019-0805-5.

[30]. Mohammed, S. A., Tsega, G., & Hailu, A. D., 2021, Self-Medication Practice and Associated Factors Among Health Care Professionals at Debre Markos Comprehensive Specialized Hospital, Northwest Ethiopia. *Drug, healthcare and patient safety*, *13*, 19–28. https://doi.org/10.2147/DHPS.S290662

[31]. Tetteh, C., Saah, F. I., & Amu, H., 2024, Diabetes self-management: a qualitative study of education needs, practices and caregiver support in the Keta Municipality of Ghana. *BMJ Public Health*, *2*(2). https://doi.org/10.1136/bmjph-2023-000640

[32]. Aspiati, A., & Singarimbun, R. J., 2026, Effectiveness of Health Education on Self-Care Management of Hypertension Patients in the Working Area of Medan Johor Primary Health Center, 2025. *Journal of Innovative and Creativity*,

6(1), 12607–12614. Retrieved from https://joecy.org/index.php/joecy/article/view/8468

[33]. Ndejjo, R., Mukama, T., Musabyimana, A., & Musoke, D., 2016, Knowledge, facilitators and barriers to cervical cancer screening among women in rural Uganda: A qualitative study. *BMJ Open*, 6(11), Article e013282. https://doi.org/10.1136/bmjopen-2016-013282