



Research Article

Knowledge and Awareness of Cervical Cancer Among HIV Positive Women Attending Comprehensive Care Centres in Igoji, Meru County, Kenya

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Abstract

Cervical cancer is a cancer that arises in the cervix of the uterus that happens when the cells change in a woman's cervix which connects their uterus with the vagina. It's the most common cancer among women living with HIV. The overall risk of HIV acquisition among women is doubled when they have an HPV infection. Worldwide, an estimated 5% of all cervical cancer are attributable to HIV. The study was hence conducted to access the level of knowledge and awareness of cervical cancer among HIV positive women attending comprehensive care clinic at Igoji. The study was guided by three research objectives including; sociodemographic factors affecting the uptake of cervical cancer and cervical cancer screening, knowledge level of cervical cancer and cervical cancer screening among HIV positive women and attitude towards cervical cancer screening among HIV positive women. The study employed a cross-sectional design with quantitative data. The research was conducted in Igoji in Meru County at St. Anne Hospital and Kieni Kia Ndege health center among HIV positive women attending their CCC services at those health facilities. The study used a sample size of 78 participants with stratified and simple random sampling. The study findings showed that women lacked knowledge on various aspects of cervical cancer and the uptake to cervical cancer screening services remained low with the women's education, attitude and knowledge contributing significantly. The study then recommended that Women also need to be equipped with knowledge on the significance of early and regular screening which can be attained by using multiple strategies that will reach women groups and churches. As well media like televisions and radio stations should be motivated to facilitate more and create more awareness towards cervical cancer. This is because most of the women especially in the communities have an access to either of the media among other recommendations.

Keywords

Cervical Cancer, HIV, Human Papillomavirus, Knowledge, Awareness, Screening, Kenya, Women

1. Introduction

Cervical cancer is the fourth most common cancer among women globally and remains a leading cause of cancer-related mortality in low- and middle-income countries [2]. Women

living with HIV are particularly vulnerable due to immunosuppression and persistent HPV infection. According to Cohen et al., cervical cancer remains a significant public health

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challenge despite advances in screening and prevention strategies [1].

Sub-Saharan Africa bears a disproportionate burden of cervical cancer due to limited access to screening services, inadequate awareness, and poor healthcare infrastructure [2]. Studies conducted in Ethiopia, Zimbabwe, Morocco, Ghana, and Kenya have consistently demonstrated inadequate knowledge and low uptake of screening services among HIV-positive women [3-7].

In Kenya, cervical cancer is among the leading causes of cancer deaths among women. Despite national efforts to improve screening services, many women continue to present with advanced disease [8]. Understanding the level of awareness and knowledge among women attending HIV care services is critical in developing effective interventions.

This study assessed the knowledge and awareness of cervical cancer among HIV-positive women attending Comprehensive Care Centers in Igoji, Meru County, Kenya.

2. Materials and Methods

A descriptive cross-sectional study utilizing quantitative methods was conducted among HIV-positive women attending CCC services at St. Anne Hospital and Kieni Kia Ndege Health Centre in Igoji. A total of 78 participants were selected using stratified and simple random sampling techniques. Data were collected using structured questionnaires and analyzed using descriptive statistics.

2.1. Study Design

A descriptive cross-sectional study design employing quantitative methods was used.

2.2. Study Area

The study was conducted at St. Anne Hospital and Kieni Kia Ndege Health Centre located in Igoji, Meru County, Kenya.

2.3. Study Population

The study population comprised HIV-positive women aged 18–65 years attending CCC services.

2.4. Sample Size and Sampling Procedure

A sample of 78 participants was selected using stratified and simple random sampling techniques.

2.5. Data Collection

Data were collected using structured questionnaires covering demographic characteristics, awareness, knowledge, screening practices, and attitudes toward cervical cancer

screening.

2.6. Data Analysis

Data were coded, entered, and analyzed using SPSS Version 20. Results were summarized using frequencies, percentages, tables, and figures.

2.7. Ethical Considerations

Ethical approval and informed consent procedures were observed prior to data collection.

3. Results

3.1. Demographic Characteristics

Among the 78 participants, 69.2% were aged between 29 and 48 years. Most respondents had primary education (52.6%), were married (62.8%), and were housewives (41%).

3.2. Awareness of Cervical Cancer

Most respondents (87.2%) had heard of cervical cancer. Health facilities were the main source of information (75%), followed by family and friends (36.8%) and community health workers (30.9%).

3.3. Knowledge of Cervical Cancer Screening

More than half of the participants (64.1%) identified VIA/VILI as a cervical cancer screening procedure, while 34.6% could not identify any screening method.

3.4. Knowledge of Symptoms and Risk Factors

Participants identified vaginal bleeding between periods (56.4%), persistent lower abdominal pain (46.2%), and heavy menstrual bleeding (39.7%) as symptoms. Multiple sexual partners (61.5%), HIV/AIDS (53.8%), and cigarette smoking (41%) were identified as risk factors.

3.5. Screening Practices

Forty-six participants (59%) reported having undergone cervical cancer screening, while 32 (41%) had never been screened. Among those screened, 71.7% had undergone screening within the previous year.

3.6. Barriers to Screening

Among women who had never been screened, 96.8% cited lack of information regarding screening services and screening locations as the primary barrier.

3.7. Attitudes Toward Screening

Most participants (84.6%) expressed willingness to undergo cervical cancer screening. In addition, 85.9% believed available cervical cancer services were adequate.

4. Discussion

The findings indicate that awareness of cervical cancer among HIV-positive women in Igoji was relatively high. Similar findings have been reported among HIV-positive women in Ethiopia, Zimbabwe, and Morocco [8]. Health facilities emerged as the primary source of information, highlighting the critical role healthcare workers play in health education [13].

Although awareness was high, substantial knowledge gaps regarding symptoms, risk factors, and preventive measures persisted. These findings are consistent with studies conducted in Ethiopia and Nigeria that demonstrated limited comprehensive knowledge among women despite awareness of the disease [11].

Screening uptake was moderate at 59%; however, a considerable proportion of women had never undergone screening. Lack of information regarding screening services represented the major barrier [9]. This finding is similar to previous studies conducted in sub-Saharan Africa where inadequate information and limited access were major obstacles to screening utilization [12].

The high willingness to undergo screening suggests that improving awareness and access may significantly increase uptake among HIV-positive women [10].

5. Conclusions

Knowledge and awareness of cervical cancer among HIV-positive women attending Comprehensive Care Centers in Igoji were insufficient in several important areas despite general awareness of the disease. Screening uptake remained low among participants. Enhanced health education, routine counseling, community awareness campaigns, and integration of cervical cancer screening into HIV care services are recommended to improve early detection and prevention [14, 15].

Abbreviations

CCC	Comprehensive Care Clinic
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
VIA/VILI	Visual Inspection with Acetic Acid/Visual Inspection with Lugol's Solution

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Author Contributions

Gift Mwenda: Data curation, Formal Analysis, Investigation, Methodology, Software, Supervision, Visualization, Writing – original draft, Writing – review & editing

Susan Nkuene: Conceptualization, Funding acquisition, Project administration, Resources, Validation

Data Availability Statement

The data supporting the outcome of this research work has been reported in this manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Cohen, P. A., Jhingran, A., Oaknin, A., & Denny, L. Cervical cancer. *The Lancet*. 2019, 393(10167), 169-182. [https://doi.org/10.1016/s0140-6736\(18\)32470-x](https://doi.org/10.1016/s0140-6736(18)32470-x)
- [2] Bruni, L., Albero, G., Serrano, B., Mena, M., Gómez, D., Muñoz, J., et al. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human papillomavirus and related diseases in the world. Summary Report. 2019. <https://hpvcentre.net/statistics/reports/KEN.pdf>
- [3] Shiferaw, N., Brooks, M. I., Salvador-Davila, G., Lonsako, S., Kassahun, K., Ansel, J., et al. Knowledge and awareness of cervical cancer among HIV-infected women in Ethiopia. *Obstetrics and Gynecology International*. 2016. <https://doi.org/10.1155/2016/1274734>
- [4] Fitzpatrick, M., Pathipati, M. P., McCarty, K., Rosenthal, A., Katzenstein, D., Chirenje, Z. M., & Pinsky, B. Knowledge, attitudes, and practices of cervical cancer screening among HIV-positive and HIV-negative women participating in human papillomavirus screening in rural Zimbabwe. *BMC Women's Health*. 2020, 20(1), 1-10. <https://doi.org/10.1186/s12905-020-01017-2>
- [5] Belgliaia, E., Souho, T., Badaoui, L., Segondy, M., Prétet, J. L., Guenat, D., & Mougin, C. Awareness of cervical cancer among women attending an HIV treatment centre: a cross-sectional study from Morocco. *BMJ Open*. 2018, 8(8), e020343. <https://doi.org/10.1136/bmjopen-2017-020343>
- [6] Stuart, A., Obiri-Yeboah, D., Adu-Sarkodie, Y., Hayfron-Benjamin, A., Akorsu, A. D., & Mayaud, P. Knowledge and experience of a cohort of HIV-positive and HIV-negative Ghanaian women after undergoing human papillomavirus and cervical cancer screening. *BMC Women's Health*. 2019, 19(1), 1-11. <https://doi.org/10.1186/s12905-019-0818-y>

- [7] Sudenga, S. L., Rositch, A. F., Otieno, W. A., & Smith, J. S. Knowledge, attitudes, practices, and perceived risk of cervical cancer among Kenyan women. *International Journal of Gynecologic Cancer*. 2013, 23(5). <https://doi.org/10.1097/igc.0b013e31828e425c>
- [8] Getahun, F., Mazengia, F., Abuhay, M., & Birhanu, Z. Comprehensive knowledge about cervical cancer is low among women in Northwest Ethiopia. *BMC Cancer*. 2013, 13(1), 1-7. <https://doi.org/10.1186/1471-2407-13-2>
- [9] Eze, J. N., Umeora, O. U., Obuna, J. A., Egwuatu, V. E., & Ejikeme, B. N. Cervical cancer awareness and cervical screening uptake at the Mater Misericordiae Hospital, Afikpo, South-east Nigeria. *Annals of African Medicine*. 2012, 11(4), 238. <https://doi.org/10.4103/1596-3519.102856>
- [10] Huchko, M. J., Ibrahim, S., Blat, C., Cohen, C. R., Smith, J. S., Hiatt, R. A., & Bukusi, E. Cervical cancer screening through human papillomavirus testing in community health campaigns versus health facilities in rural western Kenya. *International Journal of Gynecology & Obstetrics*. 2018, 141(1), 63-69. <https://doi.org/10.1002/ijgo.12415>
- [11] Ghebrey, R. G., Grover, S., Xu, M. J., Chuang, L. T., & Simonds, H. Cervical cancer control in HIV-infected women: past, present and future. *Gynecologic Oncology Reports*. 2017, 21, 101-108. <https://doi.org/10.1016/j.gore.2017.07.009>
- [12] McFarland, D. M., Gueldner, S. M., & Mogobe, K. D. Integrated review of barriers to cervical cancer screening in sub-Saharan Africa. *Journal of Nursing Scholarship*. 2016, 48(5), 490-498. <https://doi.org/10.1111/jnu.12232>
- [13] Mutyaba, T., Mmiro, F. A., & Weiderpass, E. Knowledge, attitudes and practices on cervical cancer screening among the medical workers of Mulago Hospital, Uganda. *BMC Medical Education*. 2006, 6(1), 1-4. <https://doi.org/10.1186/1472-6920-6-13>
- [14] Dim, C. C., Nwagha, U. I., Ezegwui, H. U., & Dim, N. R. The need to incorporate routine cervical cancer counselling and screening in the management of women at the outpatient clinics in Nigeria. *Journal of Obstetrics and Gynaecology*. 2009, 29(8), 754-756. <https://doi.org/10.3109/01443610903225323>
- [15] Muasa, M., & Nzioka, C. A Study of Knowledge, Attitude and Practices Regarding Cervical Cancer among Women Visiting Primary Health Care Facilities in Kibra Informal Settlement in Nairobi, Kenya. <https://erepository.uonbi.ac.ke/bitstreams/46457235-a4a2-4b7e-a695-6fd182e1767d/download>

Biography



Gift Mwenda is a Registered Nurse, Nurse Educator, and Researcher with experience in clinical nursing practice, nursing education, health research, and healthcare quality improvement. He is currently pursuing a Master of Science in Medical-Surgical Nursing at Chuka University, Kenya. He holds a Bachelor of Science in Nursing and has served in both clinical and academic settings, contributing to nursing education, evidence-based practice, and healthcare research. His research interests include oncology nursing, cervical cancer prevention and screening, HIV care, digital health, artificial intelligence in healthcare, nursing education, and public health. He is actively involved in healthcare research and academic scholarship aimed at improving patient outcomes and strengthening health systems. He is passionate about advancing nursing practice through innovation, research, and continuous professional development.



Susan Nkuene is a Senior Registered Nurse with more than 20 years of experience in nursing practice, healthcare management, and patient care. She is a Nurse Manager and an experienced Palliative Care and Oncology Practitioner with extensive involvement in cancer care, symptom management, and supportive care services. Throughout her professional career, she has played a key role in nursing leadership, clinical mentorship, and healthcare service improvement. Susan is also an active researcher with a strong interest in oncology and palliative care research, particularly in improving cancer prevention, early detection, patient-centered care, and quality of life among individuals living with chronic illnesses. She continues to support evidence-based practice initiatives and professional development activities aimed at strengthening nursing practice and healthcare outcomes.

Research Field

Gift Mwenda: Cervical Cancer Screening, HIV Care, Women's Health, Public Health, Epidemiology, Nursing Research, Health Education, Reproductive Health

Susan Nkuene: Oncology Nursing, Women's Health, Public Health, Nursing Education, Epidemiology, Cancer Prevention, Health Promotion, Clinical Research