Journal of Social Issues in Non-Communicable Conditions & Disability ISSN: 2958-5872 (SINCCD)

Volume 3, Number 2, 2024 www.sinccd.africasocialwork.net

Reducing inequalities in cervical cancer services utilization among vulnerable rural and urban women and girls in Zimbabwe: A social justice analysis

Dzikati Lovemore, MPH-Global Health, Faculty of Public Health, Thammasat University; lovemore.d@fph.tu.ac.th

How to cite using ASWNet style

Dzikati, L. (2025). Reducing inequalities in cervical cancer services utilization among vulnerable rural and urban women and girls in Zimbabwe: A social justice analysis. *Journal of Social Issues in Non-Communicable Conditions & Disability, 3(2),* 63-76.

Abstract

Cervical cancer (CxCa) remains a global health challenge, it disproportionately affects low and middle-income countries, particularly in Sub-Saharan Africa, which accounts for the bulk of the disease in incidence and mortality. In Zimbabwe, CxCa is the leading cancer among all cancers. Co-infections such as Human papillomavirus (HPV) and Human Immunodeficiency Virus (HIV) compound the disease burden, resulting in increased disease burden and mortality. Persistent inequalities in access to prevention, detection, and treatment services between rural and urban women reflect broader social justice issues, with the social determinants of health impacting. This study is a systematic literature review done in accordance with the PRISMA guidelines. It examined how social justice principles, including equity, participation, non-discrimination, and empowerment, could help reduce disparities in the CxCa care continuum in Zimbabwe. The Medical Subject Heading (MeSH) were used, and 35 publications from 2013 to 2024 were identified from PubMed, Google Scholar, Science-Direct, and Scopus Journals. Key barriers included distance from health facilities, high treatment costs, and limited access to services, particularly in rural areas. Social Determinants of Health (SDHs), including income, education, and place of residence, impacted service utilization. On the other hand, enablers such as HPV vaccination, self-sampling, and decentralized services offer promises of improved service utilization among marginalized populations. These findings highlight the urgent need for rights-based approaches in policy reforms that prioritize social justice and health equity in CxCa prevention and treatment in Zimbabwe.

Key words: cervical cancer, equity, human papillomavirus, social determinants of health, social justice, Zimbabwe

Introduction

Zimbabwe is home to 15.2 million people, 52% female and 48 % male. Greater population resides in rural areas with 61.4% and 38.6% in urban areas. As of 2020, 38% of the population lived under the national poverty line and 25% was estimated to be in multidimensional poverty (ZimStats, 2019, Verité, 2022). Approximately 75% of the adolescent girls between 10-14 years and about 68% of the 15-19 age group stay in rural areas. Income inequalities between the wealthy and the poor exist, with the Gini coefficient index for 2019 at 50.3. The human development index was at 0.571 compared to the world average of 0.723 in 2020 (Verité, 2022, UNFPA, 2023). Over 4.5 million CxCa-susceptible women and girls and is ranked 15th in terms of incidence rates and fourth in terms of mortality 61.7 and 43/100000 population respectively. In 2020, CxCa accounted for 29.4% of all new cancer cases diagnosed (Tapera et al., 2019). Over 1.3 million people living with HIV, and HIV prevalence in Zimbabwe HIV prevalence among women and adolescent girls is at 15.4% HIV prevalence among girls is 13% against 11% of boys. Zimbabwe has an HPV prevalence among women living with HIV of about 33% of hrHPV infection which is higher than of those who live without HIV (UNCEF 2023).

The study integrates social justice principles of equity, participation, empowerment, and non-discrimination to analyze cervical cancer service utilization gaps in Zimbabwe.

It identifies context-specific targeted enablers and opportunities that effectively enhance equitable access to services in rural areas.

The paper maps rural-urban disparities influencing cervical cancer prevention, detection, and treatment, and how social determinants influence them

It proposes a rights-based and evidence-based policy roadmap to strengthen cervical cancer services utilization among marginalized communities.

Methods

This systematic review employed PRISMA Flow guidelines. It included peer-reviewed qualitative, quantitative, and mixed-methods studies published between 2013 and 2024, focusing on rural and urban women and girls in Zimbabwe, addressing CxCa service utilization for example, vaccination, diagnosis, or treatment. Studies that reported on barriers or enablers to service utilization and engaged with equity or social justice themes. A structured search was conducted across PubMed, Scopus, ScienceDirect, and Google Scholar. Search terms included MeSH headings and keywords such as *"cervical cancer," "HPV," "inequalities," "rural," "urban,"* and *"Zimbabwe,"* combined using Boolean operators. The search strategy was refined iteratively. References were managed using EndNote. Screening was done by title and abstract screening followed by full-text review. Although no formal risk-of-bias tool was used, studies were included if they were peer-reviewed and presented clear objectives, methods, and findings, grey literature from government and international organizations such as the World Health Organization. A narrative synthesis approach was used due to the diversity of study designs, extracted data included study characteristics, populations, and reported factors influencing cervical cancer service uptake. Barriers and enablers were grouped into themes such as individual knowledge, health system capacity, financial access, and socio-cultural influences. Findings were interpreted through social justice and equity lens, and themes were refined iteratively to capture patterns across studies. Results were presented thematically in the subsequent section.

Findings

Barriers to CxCa services utilization

Rural women and girls faced a complex set of barriers. To start with, the geographical isolation of many rural areas, long distances to and from health facilities, deterred cervical cancer screening and treatment among the marginalized groups (Dzobo et al., 2023; Fitzpatrick et al., 2019; Tapera et al., 2019; Tapera et al., 2021). Service unavailability both for screening and treatment was higher in many rural areas, while services were concentrated in towns and cities, mainly Harare and Bulawayo (Dzobo et al., 2023; MoHCC, 2014; Murewanhema et al., 2023; Nyamambi et al., 2020). Information gaps persisted across all settings, with rural women lacking awareness of where the services are offered. Urban information gaps have been documented as well. (Gutusa & Roets, 2023; Mpata & Nkosi, 2021).

Centralized colposcopy and treatment services compounded the challenges of utilization among rural women, thus reinforcing the rural-urban CxCa prevention and treatment disparities (Dzinamarira & Musuka, 2021; Dzobo et al., 2023; Murewanhema, 2021). Health system weaknesses were highlighted as barriers; these include a shortage of skilled staff, essential equipment, and medicines impact both rural and urban women, however, they were more severe in remote rural areas (Dzinamarira & Musuka, 2021; MoHCC, 2014; Tapera et al., 2021). Financial barriers were also significant among rural women that resulting in out-of-pocket expenditure. Lack of insurance cover further marginalized rural women (Dzinamarira & Musuka, 2021; Tapera et al., 2021).

Socio-cultural barriers also impeded service utilization, fear of stigmatization and shame, especially in settings where male providers offer services, were also cited across several studies in rural settings (Dzobo et al., 2023; Gutusa & Roets, 2023; Nyamambi et al., 2020), to a lesser extent in urban settings (Murewanhema et al., 2023). Lack of spousal support and negative attitudes among healthcare workers (Dzobo et al., 2023; Gutusa & Roets, 2023; Murewanhema et al., 2023) further discouraged service utilization.

Social determinants of health

The level of education was a predictor of the likelihood of CxCa service utilization, and women with higher levels of education were more likely to utilize cervical cancer services more than those with lower educational levels who were domiciled predominantly in rural areas (Chipanta et al., 2023; Musuka et al., 2022; Fitzpatrick et al., 2020). Age was another important predictor of service utilization in many studies. Older women in their late 30s and 40s tended to seek services than younger women (Chipanta et al., 2023; Isabirye et al., 2022).

Wealth and income status also shaped service utilization, women in higher socioeconomic quintiles reported greater utilization (Chipanta et al., 2023; Gutusa & Roets, 2023). This was in sharp contrast with poorer women, largely in rural areas, whose situations were compounded by high transport costs and fees for accessing services (Isabirye et al., 2022; Musuka et al., 2022). Place of residence was another significant determinant rural women were largely excluded due to the distances they reported had to travel to facilities that provided services. This could be contrasted with urban women who were located near the services (Isabirye et al., 2022; Tapera et al., 2019).

Other determinants included marital status and parity; married women and those with higher parity had greater uptake of services (Mpata & Nkosi, 2021; Tapera et al., 2019). Spousal and community support played a significant role in service uptake (Isabirye et al., 2022; Mpata & Nkosi, 2021). Religious affiliation was also noted as an important predictor of service uptake. In Zimbabwe, women from traditional and apostolic sectors were less likely to use services due to their beliefs (Gutusa & Roets, 2023; Isabirye et al.,

2022). Lastly, HIV status was also a predictor of service utilization women living with HIV utilized services (Musuka et al., 2022).

Enablers of cervical cancer services utilization

Women have noted that access to accurate information through health education, outreach programs, television, and radio programs could enhance service utilization in both urban and rural areas (Dzobo et al., 2023; Murewanhema et al., 2023; Tapera et al., 2021). Outreach program, the use of mobile clinics, and engagement of community health workers were noted as important initiatives that could enhance access among remote rural communities and reduce the cost and travel time (Fitzpatrick, Dube Mandishora, et al., 2019; Mpata & Nkosi, 2021).

Integrating cervical cancer services into services into existing services into antenatal care and other health services, especially for women living with HIV (Joseph et al., 2021; Mpata & Nkosi, 2021). Other innovative ways include self-sampling which enables autonomy and privacy for women. These have been piloted in rural studies and have proven feasible studies (Dzobo et al., 2023; Fitzpatrick, et al., 2019). Partner support financial and emotional correlates with higher uptake (Dzobo et al., 2023; Murewanhema et al., 2023).

Current practices in prevention, detection, and treatment

Primary prevention in Zimbabwe was based on a bivalent HPV vaccine, administered through a school-based program targeting girls between 10-14 years of age. Outreach programs were also in place to account for out-of-school girls, achieving an estimated 86% coverage by 2022 (Garon et al., 2022; Marembo, Fitzpatrick, & Dube Mandishora, 2024). Global guidelines, however, recommend quadrivalent and nonavalent vaccines for broader coverage (WHO 2020). Secondary prevention, VIAC was the national guideline with an average of 200 facilities representing 20% of national coverage (Ameyan, et al., 2022). HPV-DNA testing was found in about 60 facilities, which were partner-supported and in private facilities (Munjoma et al., 2024). Pap smear was found at tertiary hospitals and private facilities (MoHCC, 2014). Treatment of precancerous lesions was done using cryotherapy and thermal ablation at district and provincial levels, while LEEP and hysterectomy were referred to tertiary hospitals in Harare and Bulawayo cities. (Fallala & Mash, 2015; Gunguwo et al., 2021; Tapera et al., 2021).

Discussion

Cervical cancer services utilization in Zimbabwe was influenced by complex factors, from individual, community, and health system barriers, that disproportionately affected rural women and girls. Among the barriers was services unavailability, several studies including (Murewanhema et al., 2023; Tapera et al., 2021) Women could not access services at facilities within reasonable distances, which led to other obstacles, such as transportation costs. This impacted rural women more than their urban counterparts due to poor road infrastructure. In a study in Rwanda, women who attended rural clinics cited distance as a barrier compared to those attending urban clinics (Dau et al., 2023). Thus, distance and transport costs presented a significant barrier that led to inequalities between rural and urban women in both countries, resulting in differentiated equity of access and participation among rural women.

Lack of information about CxCa services emerged as a barrier affecting women, especially those from rural areas, did not know where to get the services. Poor health education also contributed to poor utilization of CxCa services (Dzobo et al., 2023; Mpata & Nkosi, 2021; Murewanhema et al., 2023). The information

gaps could be due to lower literacy rates, a lack of health education campaigns, and poor access to media in rural areas. Women with no education and women with lower education showed less knowledge of risk factors, risk perception, and agency for CxCa. Although this was common among all women, it had a greater impact on rural women due to the compounding effects of other SDHs, such as education levels and place of residence. In contrast, Rwandan women in both rural and urban areas did not identify a lack of information and service awareness as barriers to CxCa services utilization. This signified a strong health education and information dissemination that enabled women to access and utilize the services (Dau et al., 2023). The differences between these reports indicated that women's empowerment and participation improved where investment was made in health education and information dissemination.

Lack of medical insurance which led to out-of-pocket expenditure which many women cannot afford due to poverty and unemployment. This was compounded by the high costs of treatment of precancerous lesions. Most women especially the rural areas and urban poor could not afford the treatments which led to inequalities in service utilization between rural and urban women in Zimbabwe. In a comparative study of sociodemographic factors in Kenya, Cameroon, Namibia, and Zimbabwe, Alie et al., (2023) found an association between having health insurance and screening for CxCa, women with health insurance were twice more likely to be screened than those who did not have. In Zimbabwe where less than 10% of the population has health insurance, this brought about significant inequalities in CxCa services utilization among rural and urban women. Interestingly, women who did not have medical insurance were less likely to utilize the CxCa services.

Several studies reported shame or embarrassment of being seen by male healthcare workers, fear of the screening procedure, positive test results, lack of spousal support, and stigmatization from society about CxCa are other barriers affecting CxCa service utilization among both rural and urban women. This could be related to gender and cultural norms that define power relations and what was considered appropriate and acceptable in some communities. Although this has been reported in rural and urban women, similar results were found in a study in Rwanda which found that stigma associated with CxCa was a significant barrier among women in CxCa screening uptake (Niyonsenga et al., 2021). Similarly, other studies in Malawi and Rwanda among rural and urban women found that women who never gave birth were embarrassed to be seen by male healthcare especially those from rural areas (Gafaranga et al., 2022; Moucheraud et al., 2020). These were significant barriers leading to discrimination and non-participation among women in LMICs.

Social determinants of health

Education was a critical CxCa service utilization determinant, women who had higher education were found to utilize services more than those who had no education or have lower education levels, studies that focused on rural women found some association between lower or no education and poor CxCa services utilization (Fitzpatrick et al.,2023). Thus for health interventions to work there, there was need to address SDHs. Compared to other LMICs, a study focusing on Ethiopia, Tanzania, Zambia, and Zimbabwe found that women who had higher education levels were more likely to get screened for CxCa (Chipanta et al., 2023). Similarly, a study on the determinants of CxCa screening in Rwanda found that women with higher education were more likely to get screened than those without education or lower education (Ndateba, Kabatsinda, & Ndabarora, 2021). This implied that the government of Zimbabwe needed to invest in the education and empowerment of women and girls to ensure they can fully participate in decision-making and have the autonomy to control their health and health outcomes.

Several studies in Zimbabwe have found a correlation between age and CxCa service utilization, women utilized services as they grow older more than young women, and for both rural and urban women the trend is similar (Musuka et al., 2022). These findings were like those for Kenya, Cameroon, Namibia, and Zimbabwe which showed that the odds of screening were higher in women greater than 40 years of age than those in the 30-40 years age group with an odds ratio of 1.47 (Alie et al., 2023).

Place of residence was an important determinant, women who lived in urban areas had higher odds of service utilization than rural women, this could be attributed to service availability, proximity to facilities, and access to economic means which enabled them to utilize services more easily than rural folks, rural women must walk long distances to access services or incur transport costs which demotivate them from using the services. In another study in Rwanda, place of residence influenced CxCa screening among women with urban women attending more than rural women (Ndateba et al., 2021), signifying inequalities between rural and urban women, thus reinforcing the need for targeted interventions in rural areas such as mobile health units to improve access.

Income status was another important determinant, women with higher wealth index had higher odds of utilizing the CxCa services than poor women, and income status was linked with place of residence (Chipanta et al., 2023; Isabirye et al., 2022; Tapera et al., 2019). This could be attributed to their better access to employment and financial resources in contrast to their rural counterparts who have fewer economic opportunities thus exacerbating the inequalities. Comparatively, A study in Rwanda also found that women with higher income were 11 times more likely to be screened for CxCa than poor women (Ndateba et al., 2021) making income an important determinant of service utilization.

Religious and cultural practices also influenced utilization. Women in traditional and apostolic churches had lower screening odds compared to those in Protestant and Catholic churches (Mapuranga, 2023; Tapera et al., 2021). Religious beliefs can either facilitate or deter participation; thus, religious organizations must be considered key stakeholders in service delivery. Community and spousal support were important as well. Women in communities supporting intimate partner violence were less likely to use services (Isabirye et al., 2022; Mpata & Nkosi, 2021). Comparatively, a study in Zambia found a correlation between partner support and screening uptake among women. This indicated the need for increased partner involvement in CxCa programs (Nyambe et al., 2019).

Health system factors remained significant barriers. There was a shortage of facilities offering CxCa services, especially in rural areas. Most primary facilities didn't offer these services, and were mainly found at district or provincial levels, making them inaccessible (Dzinamarira & Musuka, 2021; Gutusa & Roets, 2023). The shortage of skilled healthcare workers further limits delivery capacity. Centralized colposcopy and treatment services are another barrier (Murewanhema, 2021). Few colposcopy centers were overwhelmed and often could serve all patients in a single visit. In Malawi, similar barriers included distance, waiting times, and supply shortages (Moucheraud et al., 2020), reflecting shared challenges across LMICs.

Enablers to CxCa services utilization

Enablers of CxCa service utilization included access to information and improved health education. Women with access to information were more likely to use services, though rural women still experienced greater inequalities. A study in Rwanda found that knowledge about cervical cancer was closely linked with the uptake of CxCa screening services with an odds ratio of 1.26 highlighting the significance of knowledge in the uptake (Ndateba et al., 2021). Another study in Rwanda on See, Screen, and Treat where information about CxCa was broadcast on TV, radio, and public campaigns witnessed a high uptake of screening and treatment (Muhimpundu et al., 2021). Community Health Workers, self-sampling, and early results communication have also been cited as enablers of CxCa services utilization among women, especially rural women. Studies have found that the use of CHWs creates demand for CxCa services, and self-sampling has been proven to empower women to control their health and improve participation. Similar results were in Rwanda, studies showed that women were motivated by healthcare workers' support (Gafaranga et al., 2022).

Integration of CxCa services with HIV and antenatal care services further enhanced access, enabling women to receive multiple services in one visit (Dzobo et al., 2023; Joseph et al., 2021). Women from rural areas may be committed to agricultural activities during the rainy season, resulting in them not utilizing CxCa services. In Rwanda comparatively, feasibility studies found that CxCa services could successfully be integrated into women's healthcare programs (Binagwaho et al., 2013). Women have cited the expansion, and decentralization of services, especially to rural and underserved areas, and outreach programs. Women from rural areas must be content with issues such as distance and transport costs for them to access services (MoHCC, 2014; Mpata & Nkosi, 2021). Proximity and availability reduce transport costs and encourage participation.

Current practices in CxCa prevention, detection and treatment

In Zimbabwe, primary CxCa prevention was done using bivalent-HPV vaccination, targeting 10-14-year-old girls, and was school-based with outreach programs aimed at reaching out to out-of-school girls (Carlton et al., 2022). The introduction of HPV vaccination was a critical step in strengthening primary prevention and ensuring vaccine equity. Zimbabwe has fared well in deploying the vaccine targeting all girls in the age range and achieving 86% coverage. The program aligns with WHO recommendations underscoring the government's commitment to global standards.

Although the bivalent vaccine is within the WHO guidelines, the protocols are leaning towards more broad-spectrum vaccines such as quadrivalent used in other LMICs which Zimbabwe can benefit from. Compared with other countries, a synopsis study carried out in Rwanda and Bhutan also found that these LIMCs introduced HPV in 2011 and 2010 respectively, both countries introduced school-based 2-dose quadrivalent vaccines targeting 12-year-old girls in 2015 and 2016. Rwanda has achieved 93% coverage and Bhutan has 89% (Baussano et al., 2021). The outreach program was a positive step in ensuring equity and non-discrimination among all girls since school-based vaccination eliminated some systemic barriers among poor girls from rural and urban areas in Zimbabwe.

In Zimbabwe VIAC was the national screening modality, targeting women of 25 years of age living with HIV, and 30 years for the rest. Screening was done once annually for those living with HIV and 3 to 5 years for those living without HIV. VIAC as the national screening modality was a pragmatic approach

considering resource constraints faced by Zimbabwe, A review of African countries' policies showed that most countries tested women between the age range of 25-35, the routine schedule for most African countries was 3 years in 7 countries, 3-5 years in 6 countries, 5 years in 2, and 10 years in 1 respectively, by (Akanda, Kawale, & Moucheraud, 2022). Multiple visit approaches currently in place could be aligned to WHO recommendations of a single visit, see, screen, and treat thereby increasing participation, especially among rural women who are more marginalized.

HPV-DNA testing was another screening modality, targeting high-risk patients, available in a few selected public and private facilities where it's available at a cost. Another cytology-based test is the Pap smear; found in tertiary institutions and private facilities at a cost. (Akanda et al., 2022) also found that 33 countries in Africa did not use VIA at all as the primary screening method, while 12 used VIA only, 5 used VIA + cytology + HPV-DNA testing, 2 used cytology only, and 1 used cytology + HPV-DNA testing. Limited HPV-DNA testing and Pap smear as high-performance CxCa detection modalities demonstrate the critical gaps in equitable access and distribution among rural and urban women.

The precancerous lesions were treated using LEEP, thermal ablation, cryotherapy, and hysterectomy. Treatments were centralized at district, provincial, and tertiary-level facilities. In terms of equity of access, women in rural areas were disadvantaged in that services were not readily available. Treatment services were more easily accessible to urban women although they also faced some challenges. Comparatively in Africa, treatment modalities used for precancer lesions included LEEP in 13 countries, thermocoagulation 4, cryotherapy 17, and cold knife cone 4 (Akanda et al., 2022). Most countries used at least 1 of the treatment modalities. Similar treatment modalities identified for Rwanda were thermal ablation, cryotherapy, LEEP, and cold knife cone among all positive women depending on lesions and the extent they suit WHO guidelines (Muhimpundu et al., 2021; Murenzi et al., 2018). The financial burden for women seeking treatment could not be underestimated since treatment were not free, thus further exacerbating the already existing inequalities.

Conclusion

The study found that, while Zimbabwe has made positive strides in prevention, particularly HPV vaccination and screening through VIAC, HPV-DNA testing, and other methods. There still existed significant rural and urban disparities, structural inequalities, including centralized services, poor infrastructure, health system shortcomings, and sociocultural factors that intersected to deprive rural women and girls of equity in access and utilization of cervical cancer services. Therefore, addressing these inequalities required Zimbabwe to focus on HRBA approaches to ensure social justice in service utilization. Several recommendations were proposed based on the results. Firstly, the decentralization of services to primary and district-level facilities aiming to reduce the gaps in accessibility, and availability in rural areas. In areas where infrastructure is not readily available, there is a need to expand outreach services and community health workers' activities. Among other things, workforce capacity building is essential to enhance early detection and referral to places where services are available. The government could also expand the self-testing services in hard-to-reach areas to improve access to screening services among marginalized communities. By adopting these more rights-based approaches, Zimbabwe could accelerate towards achieving the WHO's 90-70-90 cervical cancer elimination by the year 2030.

References

Akanda, K., Kawale, P., & Moucheraud, C. (2022). Cervical cancer prevention in Africa: A policy analysis. *J Cancer Policy*, 32, 100321.

Alie, M. S., Negesse, Y., & Ayenew, M. (2023). Determinants of Cervical Cancer Screening Among Women Aged 30-49 Years Old in Four African Countries: A Cross-Sectional Secondary Data Analysis. *Cancer Control*, 30, 10732748231195681.

Ameyan, L., Birhanu, F., Carmone, A., et al. (2022). Deploying thermal ablation devices to expand access to treatment for cervical precancer: Experience from a multi-country Unitaid-supported project.

Baussano, I., Sayinzoga, F., Tshomo, U., et al. (2021). Impact of Human Papillomavirus Vaccination, Rwanda and Bhutan. *Emerg Infect Dis*, 27(1), 1-9. Binagwaho, A., Ngabo, F., Wagner, C. M., et al. (2013). Integration of comprehensive women's health programmes into health systems: cervical cancer prevention, care and control in Rwanda. *Bull World Health Organ*, 91(9), 697-703.

Carlton, J. G., Marembo, J., Manangazira, P., et al. (2022). Nationwide introduction of HPV vaccine in Zimbabwe 2018–2019: Experiences with multiple cohort vaccination delivery. *PLOS Glob Public Health*, 2(4),

Chipanta, D., Kapambwe, S., Nyondo-Mipando, A. L., et al. (2023). Socioeconomic inequalities in cervical precancer screening among women in Ethiopia, Malawi, Rwanda, Tanzania, Zambia and Zimbabwe: analysis of Population-Based HIV Impact Assessment surveys. *BMJ Open*, 13(6).

Dau, H., Vidler, M., AboMoslim, M., et al. (2023). The barriers to cervical cancer screening for urban and rural populations in Rwanda. *BMC Global and Public Health*, 1(1).

Dzinamarira, T., & Musuka, G. (2021). Brain drain: An ever-present; significant challenge to the Zimbabwean public health sector. *Public Health Pract (Oxf)*, 2, 100086.

Dzobo, M., Dzinamarira, T., Murewanhema, G., et al. (2023). Co-creation of human papillomavirus self-sampling delivery strategies for cervical cancer screening in rural Zimbabwe: nominal group technique. *Front Public Health*, 11, 1275311.

Fallala, M. S., & Mash, R. (2015). Cervical cancer screening: Safety, acceptability, and feasibility of a single-visit approach in Bulawayo, Zimbabwe. *Afr J Prim Health Care Fam Med*, 7(1).

Fitzpatrick, M. B., Dube Mandishora, R. S., Katzenstein, D. A., et al. (2019). hrHPV prevalence and type distribution in rural Zimbabwe: A community-based self-collection study using near-point-of-care GeneXpert HPV testing. *Int J Infect Dis*, 82, 21–29.

Fitzpatrick, M. B., El-Khatib, Z., Katzenstein, D., et al. (2019). Community-based self-collected human papillomavirus screening in rural Zimbabwe. *BMC Public Health*, 19(Suppl 1), 603.

Fitzpatrick, M., Pathipati, M. P., McCarty, K., et al. (2020). Knowledge, attitudes, and practices of cervical cancer screening among HIV-positive and HIV-negative women participating in human papillomavirus screening in rural Zimbabwe. *BMC Womens Health*, 20(1), 153.

Gafaranga, J. P., Manirakiza, F., Ndagijimana, E., et al. (2022). Knowledge, Barriers and Motivators to Cervical Cancer Screening in Rwanda: A Qualitative Study. *Int J Womens Health*, 14, 1191–1200.

Garon, J. R., Mukavhi, A., Rupfutse, M., et al. (2022). Multiple cohort HPV vaccination in Zimbabwe: 2018–2019 program feasibility, awareness, and acceptability among health, education, and community stakeholders. *Vaccine*, 40 Suppl 1, A30–A37.

Gunguwo, T., Chandiposha, M., Lupepe, A. N., et al. (2021). Outcomes and Utilization of Cervical Cancer Screening Services Amongst Women Attending United Bulawayo Hospitals Cancer Screening Clinic: A Secondary Data Analysis from 2018 to 2020.

Gutusa, F., & Roets, L. (2023). Early cervical cancer screening: The influence of culture and religion. *Afr J Prim Health Care Fam Med*, 15(1), e1–e6. /

Isabirye, A., Elwange, B. C., Singh, K., & De Allegri, M. (2022). Individual and community-level determinants of cervical cancer screening in Zimbabwe: a multi-level analyses of a nationwide survey. *BMC Womens Health*, 22(1), 309.

Joseph, J., Mangwendeza, P., Maparo, T., et al. (2021). Comparative analysis between self-collected and clinician-collected samples for HPV testing in public health facilities in Zimbabwe. *J Clin Virol*, 145, 105017.

Mapuranga, D. (2023). Factors Contributing to Low Uptake of Cervical Cancer Screening Services at Gokwe South District Hospital. *IAR Journal of Health Care and Prevention*, 3(3), 1–10.

Marembo, T., Fitzpatrick, M. B., & Dube Mandishora, R. S. (2024). Human papillomavirus genotype distribution patterns in Zimbabwe; is the bivalent vaccine sufficient? *Intervirology*, 67(1), 55–63.

Ministry of Health & Child Care. (2014). National Cancer Prevention and Control Strategy for Zimbabwe 2014–2018. Harare.

Moucheraud, C., Kawale, P., Kafwafwa, S., et al. (2020). Health care workers' experiences with implementation of "screen and treat" for cervical cancer prevention in Malawi: A qualitative study. *Implement Sci Commun*, 1(1), 112.

Mpata, P. C., & Nkosi, Z. Z. (2021). Experiences of cervical cancer screening in HIV-positive women in Zimbabwe. *Curationis*, 44(1), e1–e7.

Muhimpundu, M. A., Ngabo, F., Sayinzoga, F., et al. (2021). Screen, Notify, See, and Treat: Initial Results of Cervical Cancer Screening and Treatment in Rwanda. *JCO Glob Oncol*, 7, 632–638.

Munjoma, M., Gudukeya, S., Mavudze, J., et al. (2024). Acceptability and feasibility of implementing thermal ablation as a preventive cervical cancer treatment and the comparison of treatment outcome with cryotherapy in Zimbabwe. *ecancermedicalscience*, 18.

Murewanhema, G. (2021). Reduced cervical cancer screening in Zimbabwe as an indirect impact of the COVID-19 pandemic: implications for prevention. *Pan Afr Med J*, 38(131).

Murewanhema, G., Dzobo, M., Moyo, E., et al. (2023). Implementing HPV-DNA screening as primary cervical cancer screening modality in Zimbabwe: Challenges and recommendations. *Scientific African*, 21.

Ndateba, I., Kabatsinda, A., & Ndabarora, E. (2021). Uptake of Cervical Cancer Screening and Associated Factors Among Women Attending Outpatient Services in Rwamagana Hospital, Rwanda. *Rwanda Journal of Medicine and Health Sciences*, 4(3), 387–397.

Niyonsenga, G., Gishoma, D., Sego, R., et al. (2021). Knowledge, utilization and barriers of cervical cancer screening among women attending selected district hospitals in Kigali - Rwanda. *Can Oncol Nurs J*, 31(3), 266–274.

Nyambe, A., Kampen, J. K., Baboo, S. K., & Van Hal, G. (2019). Knowledge, attitudes and practices of cervical cancer prevention among Zambian women and men. *BMC Public Health*, 19(1), 508.

Nyamambi, E., Murendo, C., Sibanda, N., et al. (2020). Knowledge, attitudes and barriers of cervical cancer screening among women in Chegutu rural district of Zimbabwe. *Cogent Social Sciences*, 6(1).

Tapera, O., Kadzatsa, W., Nyakabau, A. M., et al. (2019). Sociodemographic inequities in cervical cancer screening, treatment and care amongst women aged at least 25 years: evidence from surveys in Harare, Zimbabwe. *BMC Public Health*, 19(1), 428.

Tapera, O., Nyakabau, A. M., Simango, N., et al. (2021). Gaps and opportunities for cervical cancer prevention, diagnosis, treatment and care: evidence from midterm review of the Zimbabwe cervical Cancer prevention and control strategy (2016–2020). *BMC Public Health*, 21(1), 1478.

United Nations Children's Fund (2023). Ending HIV/AIDS with Children, Adolescents and Young Women. UNICEF Zimbabwe.

United Nations Population Fund . (2023). *Adolescent and youth dashboard Zimbabwe*. Retrieved 17 March 2024 from https://www.unfpa.org/data/adolescent-youth/ZW

Verite. (2022). Verite Trafficking Risk in Sub-Saharan Africa Zimbabwe 2022 [Technical report].

World Health Organization (2020). Global strategy to accelerate the elimination of cervical cancer as a public health problem. https://iris.who.int/bitstream/handle/10665/336583/9789240014107-eng.pdf

ZimStats. (2019). *Understanding gender equality in Zimbabwe: Women and men in Zimbabwe Report 2019*. https://africa.unwomen.org/sites/default/files/2022-06/Brandded%20Women%20and%20Men%20in%20Zimbabwe%20Report%20FINAL%201%20Oct.pdf