



Review Article

Uptake of Cervical Cancer Prevention and Control Services in Africa (A review)

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ABSTRACT

Cervical cancer remains a major public health problem in Africa despite major leaps in its prevention and control in developed countries. Cervical cancer prevention and control options are available across the lifetime of the woman. It is a preventable disease where appropriate prevention and control services are employed, unfortunately, there is gross underutilization of cervical cancer screening services in low and middle-income countries. Three categories of barriers in accessing and utilizing the prevention services namely individual, community and health system related. Understanding these barriers is very crucial in designing effective cervical cancer control programs in low- and middle-income countries.

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INTRODUCTION

Cervical cancer remains a major public health problem in Africa despite major leaps in prevention and control in developed countries¹. In the 2020 Globacon report, cervical cancer accounted for 6.5% of female cancers, 604,127 new cases and 341,831 deaths worldwide^{2, 3} with about 341,831 ending up as deaths^{1, 2, 3}. In sub-Saharan Africa, 34.8 new cases per 100,000 women are diagnosed annually, and 22.5 per 100,000 women die from the disease². Nigeria is reported to contribute the highest number of cervical cancer cases in Africa with 73,417 new cases and 44,699 deaths³. There is a disproportionate incidence and prevalence of cervical cancer in Africa. Eighty-five per cent of cervical cancer cases are detected among women living in low-resource countries and usually in advanced stages despite the preventable status of the

disease^{1, 2}. In the last few years, there have been a lot of moves by the World Health Organization and non-profit organisations, government, and stakeholders to work towards the elimination of cervical cancer².

In this article, we attempted to examine the uptake of cervical cancer prevention options in Africa despite the acclaimed utility of these options in developed countries. We sought the literature to find the recently documented burden of the disease and study the available options and the extent of use in African countries and determine the predicting or influencing factors.

Prevention options: Cervical cancer prevention and control options are available across the woman's lifetime. This is based on the natural history of the disease and identifying the targeted age

groups in which the interventions will be most beneficial. These interventions include HPV vaccination, screening for premalignant lesions, diagnosis and treatment of invasive cancer and palliative care management. These prevention strategies fall into the three levels of prevention such as of primary, secondary, and tertiary. Primary prevention is to prevent enabling environment/predisposing factors; secondary prevention is to detect and eliminate early disease, whereas tertiary prevention is to prevent complications and progression of the disease.

Primary prevention will include sexuality education, condom promotion and provision, male circumcision, vaccination of the HPV naive girls (9-14 years) with the Human Papilloma Virus (HPV) vaccine, as well as education on lifestyle measures to avoid risky behaviors⁴.

Vaccination has been based on the finding that HPV is a necessary cause of cervical cancer and based on this, three types of vaccines have been developed, namely Cervarix (against types 16 and 18 only), Gardasil (against 6, 11, 16 and 18) and the new entrant GARDASIL9 (against 16, 18, 31, 33, 45, 52, 58 as well as 6 and 11). These vaccines are also protective against cancers of the cervix, anus, vulva, vagina, throat, tongue, and tonsils +/- warts and are therefore recommended for both boys and girls. Some countries have recommended its use for boys and girls 9–26 years who were not sexually active^{4,5}. Two doses are usually given six months apart, especially when the vaccination is done before the 15th birthday, otherwise, three doses at 0, 2nd and 6th months are given. Screening is expected to continue despite vaccination in eligible women. At the same time, appropriate health information and warning about the risk behaviours associated with cervical cancer must be given to the women⁶.

Secondary prevention, on the other hand, had been mostly cytology-based following the introduction of the Papanicolaou test in the 1940s. There are also non-cytology-based tests such as visual inspection with acetic acid/ Lugol's iodine with or without magnification and HPV DNA testing⁷. In developed world, sexually active HIV-positive women are expected to screen every year using HPV testing. The HPV test can be useful if added to the primary screening program. It is even more acceptable when a self-collection method is

adopted to overcome some of the existing barriers such as the barriers to specimen collection by healthcare providers and in a clinical setting. The screening tests are expected to be repeated from time to time in all women over 30 years of age⁶. These screening tests are usually followed up with cryotherapy or ablative measures to treat positive cases.

Trusted screening methods have been in use in the developed world for 60 years, and countries, where routine screening is done, have a marked reduction in the incidence of cervical cancer⁸. Where invasive cancer has been detected, tertiary prevention is needed and will involve exploratory surgery, radiotherapy, or chemotherapy. When premalignant lesions are detected early, a complete cure is quite possible^{1,9}.

Challenges:

Despite these screening options, challenges abound, especially in developing countries of Africa. Cytology-based screening, require expensive equipment and advanced training. Secondly, the results are not immediately available, and multiple rounds of tests increase the cost of tests. This makes screening not sustainable in the developing world⁸. Visual inspection tests have demonstrated greater accuracy than Pap smear¹⁰. They have low cost, minimal equipment, and training requirements, provide instant results and women get immediate treatment at the time of the test. For these reasons, Visual inspections with acetic acid or Lugol's iodine (VIA/ VILI) are the predominant screening method in developing countries¹¹. Also, diagnosis through colposcopy is a required step after screening¹² and can take several weeks, is expensive, requires expensive specialized equipment, and many providers are not trained in the procedure. Colposcopy may only be available at certain facilities and is therefore inconvenient and costly for patients to travel to another location. This delay from when women receive their results to when they are referred to treatment leads to a loss to follow-up⁹.

Secondly, the sensitivity of colposcopy may be as low as 70%¹³ and therefore lead to loss of treatment for 30% of women who would have needed treatment. When cryotherapy, the prevailing treatment method, is done, it causes relatively little

harm to healthy women; therefore, the benefit of treating all suspected cases outweighs the risks. The see-and-treat approach is only appropriate for suspected pre-cancer and not confirmed invasive cancer⁹.

Considering the cost of managing invasive cervical cancer, the need for surgical skills and expertise, the benefits of early screening and treatment cannot be overemphasized. In a 'see and treat' approach, DNA testing can be performed on self-collected swabs, potentially reducing women's need to travel to a health centre and the need to train health facility staff to collect samples^{14,15}. Self-sampling allows women to swab the vagina using a tampon or small brush to collect a cellular specimen to be tested. Self-sampled specimens permit sensitivity and specificity equal to that of clinician-collected samples. It is acceptable to women and more appealing, gives privacy and convenience and could make the woman forego a pelvic examination¹⁵.

Uptake:

Cervical cancer is preventable where comprehensive prevention using screening and treatment trials is adopted. Where appropriate prevention and control services are routinely employed. Unfortunately, there is gross underutilisation of cervical cancer screening services in low- and middle-income countries. In Kenya, only 3.2% of women get screened every three years. Individual, community and health system-related barriers affect uptake of cervical cancer screening¹⁶. In Nairobi Kenya, being of high income, knowing persons affected with cancers, previous use of condoms and family planning services positively affect the use of cervical cancer prevention measures. Most women seek screening services when it is recommended by a doctor for symptoms they have or strictly on an opportunistic basis¹⁷.

There is a lack of awareness of these services in most African countries alongside the stigma attached to discussing reproductive health issues, inconvenience of accessing services, and perceived high cost of services, long waiting times and perceived poor quality of services. The women have fears or embarrassment about seeking services and being examined by male doctors, and they also have misperceptions about the need for and value of

screening^{14,17}. Concerning the uptake of vaccination as a prevention method, different studies in rural communities in Nigeria have shown mostly poor awareness of the HPV vaccine by women irrespective of their educational status. The study was done at Federal Capital Territory, Abuja, showed poor awareness despite a high literacy level¹⁸. In Gwagwalada rural community the awareness was low compared to the rural communities at Ibadan, where awareness was high. Most of the women studied showed a willingness to have their daughters vaccinated, but the affordability of the vaccine was a problem¹⁸. There is a need to make the vaccine available at affordable/subsidized prices. In Cameroun, among adolescent girls, there was a high awareness of HPV (86.8%) as a cause of cervical cancer, (82.3%) prevention of HPV infections through vaccination (75.9%), sexual activity as a risk factor and a high interest in receiving the vaccine¹⁹. In a study done in western Nigeria, only 4.1% of the girls had received HPV vaccination¹⁷. In Enugu, Nigeria, awareness of the HPV vaccine and the risks of cervical cancer was low despite high literacy. Uptake of vaccination has been poor mostly due to lack of awareness, supply, and cost, non-availability of vaccines, poor cold chain facilities, poor health-seeking-behavior and access to health care and the absence of prioritisation of the girl child's health²⁰. In countries like South Africa, vaccine hesitancy (delays in acceptance or refusal of vaccination despite the availability of vaccination services) is more²¹.

In Malawi, a resource-poor country, with a paucity of epidemiological data, hospital-based data showed that cervical cancer accounts for about 33% of all female cancers and 21% of all cancers. There, the mortality due to cervical cancer was estimated at 80%. Initial nationwide screening failed in the 80s, but a 'see and treat' approach in 1999, targeting women 30 -50 years and using VIA with cryotherapy, has yielded huge success²². As of 2011, 81 health facilities were providing cervical cancer screening and early treatment services, and since the program started, 59,217 women had been screened, and 9.7% were found VIA positive⁶. In rural Uganda, screening is very low. A cross-sectional study of 900 women in Uganda showed that only 4.8% had ever been screened for cervical cancer. Close to half of them, were at the request of

a health care worker because of symptoms suggestive of cervical cancer. Nearly half the women were unaware of cervical cancer screening. Independent predictors of cervical cancer screening included a recommendation by a health care worker, knowing where screening services were done and knowing someone who has been screened²³. A community-based cross-sectional survey in Northeast Ethiopia showed that only 11% of women had undergone cervical cancer screening despite adequate knowledge by 57.7% of respondents²⁴. The baseline in a prospective population-based intervention study in four randomly selected communities in southeast Nigeria showed that only 3.2% of women had undergone screening²⁰. In Imo state, Nigeria, a project provided free cervical cancer screening to 936 women, (51)5.4% had abnormal results, but only twelve out of 51 women (23.5%) of those having abnormal results presented to the tertiary facility for a follow-up colposcopy/possible biopsy¹⁸. Attrition was noticed among the health workers (74%), the consenting women (31%) themselves and even the health facilities (4.3%) in sustaining the program²⁵. A one-stop /see-and-treat approach will suffice in low-resource settings despite all the arguments on the choice of methods.

Way forward

Facilitating factors for screening will include convenient, low- cost, and quality services to increase women's uptake of cervical cancer screening. There is need to develop complementary interventions that create awareness and social support for screening,

increase in health education, increase provider knowledge and skills, referral by health care provider and reach women through local women's or community groups; It is very important to ensure privacy and by the offering of services by female providers. It is also important for husbands to be involved and supportive. Other suggested options include linking screening to an important event in an older woman's life, such as becoming a grandmother or linking screening to other mid-life health needs²². According to the UNITAID¹, the known barriers to access will include the affordability of new technologies in cervical cancer prevention especially the point of care methods (POC) meant for use in low- and middle-income countries. Therefore, these innovations must be affordable, and safe to use in point-of-care settings, and evidence of effective and appropriate clinical algorithms must be provided. There is also the issue of adopting the new method bearing in mind pending issues of quality, demand, supply, and delivery. Cost reductions of preventive measures in LMIC will be a positive move.

CONCLUSION

Cervical cancer remains a major issue on the African continent due to the poor uptake of available and proven prevention methods. There is a need to create awareness and make the methods available, accessible, affordable, or cost-effective as well as patient friendly. A one-stop approach may be the answer using both primary and secondary prevention

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