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Perspective

## The Burdens, impediments and Challenges of Gynaecologic Cancer Care in Africa: Perspective

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### ABSTRACT

The global burden of cancer reports suggests that cancers in general and female reproductive cancers such as cervical, ovarian, and endometrial cancers are a growing burden and a major cause of suffering, premature mortality, disability adjusted life-years, and a huge economic loss to individuals, families, and society. Challenges in effective management of these cancers ranges from underdeveloped strategies for upstream prevention, screening and early detection, late diagnosis, and limited capacity for pathologic support services with paucity of trained human resource for management of these cancers in the African continent.

### INTRODUCTION

Cancers in general including those that are female-specific such as cervical, ovarian and endometrial cancers remain a leading cause of suffering and premature mortality globally. According to the 2020 GLOBOCAN estimates, 19.3 million new cases of cancer occurred responsible for almost 10.0 million deaths.<sup>1</sup> Africa contributes 5.7% and 7.2% of the global burden of these cancers.<sup>1</sup> These global statistics are similar to the reports by the global burden of disease cancer collaboration 2019.<sup>2</sup> Also, a recent report based on GLOBOCAN, estimates that 1.1 million new cases of cancer and 711,429 deaths occurred in Africa in 2020, and females accounted for 633,456 new cases and 387,546 deaths in comparison to males with 475,753 new cases and 323,883 deaths.<sup>3</sup> It is worthy of note that these cancers do not only cause premature mortality but contributes to enormous burden in disability-adjusted life years (DALYs) particularly in countries with low socio-

demographic index and limited infrastructures for adequate management.<sup>2,3</sup>

The global burden of cancers calls for global efforts at prevention and control. In this regard, significant progress has been made in high-income countries, but this is yet to be realized in most countries in Africa leading to increased cancer incidence and mortality in Africa.<sup>1,4</sup> It is well-known that cancer prognosis and outcomes are generally better in the setting of early diagnosis, however, majority of cancer diagnosis in Africa occurs at late stages where metastasis have occurred with poor prognosis.<sup>5-8</sup> This expert review discusses some of the author's perspectives backed with relevant literature on the factors impeding the expected progress in cancer control and the challenges of management of female reproductive cancers in Africa.

#### 1. Impediments In Upstream Prevention

One of the key elements in achieving quality cancer control and outcomes is to invest in halting the early processes leading to development of cancer. In this respect, the Institute of Medicine in their report on delivering high-quality cancer care recommends prevention and risk reduction as the starting point in the continuum of cancer care.<sup>9</sup> These include public and

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individual level interventions such as tobacco cessation, physical activity, life-style modification, diet, alcohol, chemoprevention and immunization. A health system that incorporates these prevention strategies including public health awareness, reduction in environmental exposures, infectious carcinogens and cancer education are likely to reduce population level burden of cancer. Because of the weak health system, illiteracy, increase in infectious burden and poor immunization coverage for primary vaccines preventable cancers such as human papillomavirus vaccination, Africa continues to bear a disproportionate burden for cancer and will need to invest in upstream prevention for the continent to make appreciable progress in cancer prevention, control, care and outcomes.<sup>10-12</sup> Furthermore, targeted prevention through identification of high-risk individuals and genetic testing have been advocated with sound rationale for incorporation into cancer prevention as well as early detection.<sup>13</sup> These effective interventions are largely not available in African settings, including, lack of effective policies that could promote population level reduction in environmental carcinogens such as tobacco taxes, and taxes on alcohol consumption.<sup>13</sup>

## 2. Impediments In Early Detection

One of the proven evidence-based intervention for preventing premature mortality from cancer is early detection through access to screening in an organized program.<sup>14</sup> Availability of screening programs also provide opportunities for cancer to be detected early making treatment more feasible with better outcomes. Most settings in Africa have a weak health system amidst endemic poverty, out-of-pocket health care cost, with no organized screening services for early detection of precancer, and poor infrastructure for treatment of invasive cancer.<sup>15</sup>

## 3. Health Insurance and Cost of Screening and Treatment

Globally, cancer care and treatment are associated with huge economic loss to individuals and society. Health insurance covering screening for cancers such as cervical cancer, breast, prostate, and colonic cancers have shown proven benefits in cost and effectiveness of such programs. One of such screening programmes, the National Breast and Cervical Cancer Early Detection Program (NBCCEDP), a Center for Disease Control and Prevention (CDC) initiative targeting low-income, under-insured and medically underserved women in US, and has led to significant decrease in premature mortality and disability adjusted-life-years from cervical cancer.<sup>14</sup> Unlike in western countries with efficient health insurance policies and coverage, survey data in Nigeria have shown that health insurance did not provide

coverage for cancer screening or cancer treatment and women who go for screening or cancer treatment incur heavy out-of-pocket cost.<sup>16-17</sup>

## 4. Impediments in Quality Pathologic Diagnosis

One of the cardinal factors in effective cancer care is access to pathologic diagnosis. The range of diagnostic services from biopsy, sample preparation, pathologic reporting, and other advanced techniques such as gene profiling for personalized care have been advocated to improve quality of cancer care.<sup>9</sup> In Africa, these specialized services are often in short supply and not available in some settings, limiting timely diagnosis to guide care and treatment decisions for gynaecologic cancers in the continent. In the short term, telepathology and digital imaging has been shown to contribute to improving quality of diagnosis and management of cancers in resource-limited settings<sup>18</sup>, however, pathologic diagnostic support services have remained under developed and is a huge challenge for improving and advancing quality care for cancer patients in Africa.

## 5. Late Diagnosis

One of the greatest challenges in gynaecologic cancer care and treatment in Africa is delayed presentation and diagnostic work up for suspected cases of gynaecologic cancers. These challenges are related to individual-patient factors such as poor health seeking behaviour, socio-economic factors such as financial barriers, environmental factors such as geographic location, lack of societal support system and a weak health care system that impedes access and utilization of health services, couple with an inefficient referral system across levels of health care delivery. In addition, cultural beliefs, stigma and myths about cancer diagnosis and the range of care have been reported as factors affecting cancer care and management in low-and middle-income countries.<sup>10</sup> As earlier discussed, poor diagnostic support services leading to delayed or wrong diagnosis often contributes to the late diagnosis of women with gynaecologic cancers at advanced stages with very dismal survival probability.<sup>6,20-22</sup>

## 6. Insufficient Human Resource and Treatment Facilities

Africa is one of the continents with fewer number of trained gynaecologic oncologic surgeons with limited manpower for offering a comprehensive range of services for cancer. A recent report on the status of radiotherapy machine showed that compared to North America with over 5,016 radiotherapy machines, the whole of continent of Africa has only 524 radiotherapy machines<sup>23</sup>, many of which could be malfunctioning or broken down. The

paucity of manpower and poor treatment facilities amidst a growing burden of gynaecological cancer often diagnosed at clinically advanced stages presents a gloomy picture and represents a huge impediment for quality improvement in female cancer care and management in the continent. There have also been concerns with migration of the few trained oncologic specialist out of the continent<sup>21</sup>, some in search of better work conditions and pay. Recommendations have been made to use appropriate technology and development of resource-specific guidelines to improve man power development, care and treatment of cancers in low and middle-income countries.<sup>19</sup>

### 7. Limited Capacity for Personalized Care, Modern Chemotherapy Agents Including Biologics and Immunotherapy.

In western world, advances in genomics epidemiology have led to development of modern chemotherapeutic targets for effective cancer treatment. Africa is however, underrepresented in genomics profiling of these cancers limiting the potential for discovery of novel biomarkers for drug targets and personalized chemotherapy and immunologic approaches for cancer therapy. Efforts are underway to bring Africa into the map of genomics and personalized medicine and precision cancer care.<sup>24</sup>

In conclusion, current evidence suggests that contrary to previous assumptions that cancer is a disease of Western and developed countries, the global burden of cancer suggest that cancers including female-specific cancers are growing burden in Africa and such burden are fast overtaking the burden of infectious diseases.<sup>3</sup> Efforts to tackle individual level, societal, policy and systems-level impediments are urgently required in Africa for upstream prevention, early diagnosis, and a wholistic approach for care, including surgery, chemotherapy, radiotherapy, multi-modality approaches, palliative care, and survivorship.

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