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Pain Management in Prostate Cancer Patients in Africa

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Abstract

Prostate cancer is the second most common malignancy and the leading cause of cancer death in men across Sub-Saharan Africa (SSA). Despite lower reported incidence rates compared to African American men, actual prostate cancer prevalence in SSA is under-reported and likely underestimated due to inadequate screening and limited access to healthcare. This study analyzed registry data from 13,170 prostate cancer cases across 11 SSA countries to evaluate trends in incidence rates over time. Findings revealed a significant increase in cumulative risks (CR) and age-standardized incidence rates (ASR) over time. Despite this increasing incidence, opioid consumption for pain management in cancer care remains low and stagnant across the continent, reflecting an important gap in palliative care services. As cancer incidence in SSA is projected to rise dramatically by 2050, there is an urgent need for policy interventions to improve access to diagnostic services, cancer care, and adequate pain management.

Introduction

Amongst males, prostate cancer is the second-most common malignancy and the sixth leading cause of cancer mortality, with a relatively higher death rate in men of African descent. Data from several African countries including Nigeria, Senegal, Gambia, Sierra Leone, Ivory Coast, Ghana, Cameroon, and Angola- shows that the incidence rate of prostate cancer in these countries is lower than that of African American men [1]. However, the actual incidence rate of prostate cancer is likely underreported due to insufficient screening and lack of access to healthcare services. For example, a hospital-based study in Nigeria, the most populous country in Africa, reported a prostate cancer incidence of 127 people per 100,000 population [2]. Such a high incidence of prostate cancer makes Nigerian men closely comparable to African American men, whose incidence rate is 234.1 per 100,000 population [3].

The United Nations has projected a 218% increase in older people in Sub-Saharan Africa (SSA) between 2019 and 2050. Although the global population is aging, Sub-Saharan Africa (SSA) has a lower proportion of older adults, with 31.9 million. By 2050, the number of older adults above 65 in SSA will be more than the current number of older adults in the regions sporting the greatest population of older adults [4].

Studies show that, generally, the risk of prostate cancer increases as men age. Particularly, this risk skyrockets after men are 50 years old. That is, only 1 in 456 men under the age of 50 get diagnosed with prostate cancer, while 1 in 54 men between the ages of 50 and 59 get diagnosed with prostate cancer [5]. The following table shows the rate of prostate cancer diagnosis by age group (Table 1).

Currently, prostate cancer is the leading cause of cancer death in SSA men. The total number of cancer deaths in SSA is estimated to be around 506,000. The leading cancer deaths are cervical cancer, breast cancer, prostate cancer, liver cancer, colorectal cancer, esophageal cancer, non-Hodgkin lymphoma, and other types of cancers, accounting for 15%, 11%, 7%, 7%, 6%, 5%, 4% and 45% cancer deaths, respectively (Figure 1) [6].

An analysis of registry data from 13,170 newly diagnosed prostate cancer cases in men aged 40 years or older, collected from 12 population-based cancer registries across 11 sub-Saharan African (SSA) countries with at least 10 years of comparable data, revealed significant trends in

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Table 1: Age-adjusted rate of global prostate cancer diagnosis.

Age Group	Rate of Diagnosis
Below the age of 50	About 1 in 456 men
Between the ages of 50 and 59	1 in 54
Between the ages of 60 and 69	1 in 19
65 years old and above	6 in 10
70 years old and above	1 in 11

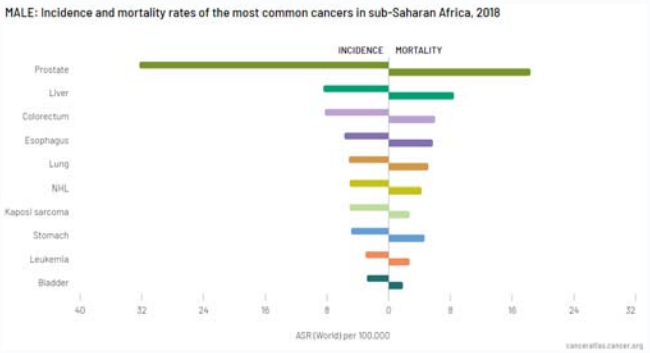


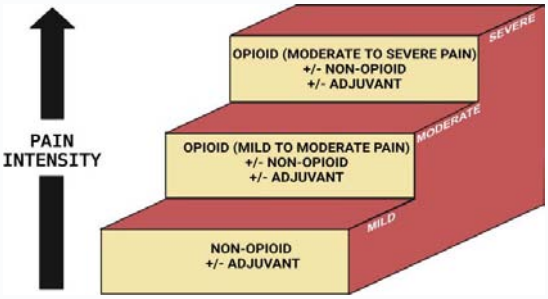
Figure 1: Figure used by permission from Sub-Saharan Africa [6].

prostate cancer cases. Cumulative risks (CR) and age-standardized incidence rates (ASR) showed an increase over time in all registries, with statistical significance in all but one registry. The highest CR values were observed in Seychelles and Zimbabwe, while Seychelles and South Africa showed the greatest annual increase in ASRs. Conversely, Mauritius exhibited the lowest increase [7]. Overall, the data indicated a steady rise in prostate cancer incidence with increasing age and across successive time periods. This finding contrasts with global trends, where prostate cancer incidence rates have been stabilizing or declining in most regions.

Most prostate cancers tend to grow slowly and are low-grade with relatively low risk and limited aggressiveness. There are no initial or early symptoms in most cases, but late symptoms may include fatigue due to anemia, bone pain, paralysis from spinal metastases, and renal failure from bilateral ureteral obstruction [8]. Cancer-related pain affects approximately about 30 to 80 % of all patients, according to primary and metastatic sides and stage of disease. The mainstay of pain management in prostate cancer involves a collaboration between experts from a number of disciplines to be able to achieve a complete pain evaluation and to offer the full range of treatment options [9]. Personalized pain management plans are crucial for effectively addressing the complex needs of prostate cancer patients. Each patient's experience with pain is unique, shaped by various factors such as cancer stage, medical history, and individual pain tolerance. A personalized approach ensures that treatment strategies are tailored specifically to the characteristics of each patient's pain [10].

The benefits of personalized pain management include better pain control, improved quality of life, and increased patient satisfaction. When treatment is tailored to individual needs, patients may respond more favorably to interventions than they would to a one-size-fits-all approach. Considerations in developing these plans should include not only the physical symptoms but also the emotional and social context in which the patient is living.

Prostate cancer often leads to significant pain, requiring comprehensive management strategies. Pharmacological approaches



Picture 1: The World Health Organization TWH [12].

play a vital role in alleviating this distress. These methods can significantly improve quality of life, functioning, and overall well-being for patients. Current pain treatment is still based on the World Health organization (WHO-"ladder") - guidelines, opioid therapy being the cornerstone [11] (Picture 1).

Despite the rising incidence and mortality from cancer, opioid consumption in Africa has remained stagnant for the past two decades, indicating an insufficient availability of opioid analgesics to meet the needs of cancer patients. Due to this shortage, untreated moderate-to-severe pain in many cancer patients would be left unmanaged during both treatment and end-of-life care. With cancer incidence in SSA expected to double between 2020 and 2040, reaching an estimated 2.1 million cases, the lack of growth in opioid consumption is an urgent issue. Failure to address this problem could exacerbate the unmet need for adequate cancer care, particularly in pain management [13]. Between 1999 and 2021, opioid consumption in African countries remained low and static despite the substantial increase in cancer incidence and mortality. This suggests a worsening situation where access to opioids for pain treatment has diminished [13]. The inability to assess pain correctly, failure to determine the correct dose, fear of addiction, overly tight regulation, all contribute to the failure to implement rational use of opioids for cancer patients.

Opioid consumption in African countries correlates with income levels. For example, Mauritius, Seychelles, and South Africa, which have relatively higher income levels, show higher opioid consumption rates compared to other countries on the continent. Tunisia, despite being a lower-middle-income country, has a higher opioid consumption rate than all upper-middle-income countries except Mauritius and South Africa. This discrepancy can be attributed to Tunisia's strong political commitment to establishing a palliative care system, supported by organizations such as the Tunisian Association for the Fight Against Cancer and the Tunisian Association of Palliative Care (Association Tunisienne de Soins Palliatifs) [14].

To address the opioid shortage, several strategies are recommended. These include implementing regional or state-wide programs to improve access to morphine for medical use, in conjunction with essential services and products for palliative care, as outlined in the WHO Model List of Essential Medicines and the WHO Essential Package of Palliative Care. Additional measures involve improving governance, streamlining procurement and supply processes, securing stable funding, enhancing the health workforce's skills, and raising awareness about both the benefits and risks of opioid use. Success in these areas will require collaboration among stakeholders at national, regional, and global levels [15] (Figure 2).

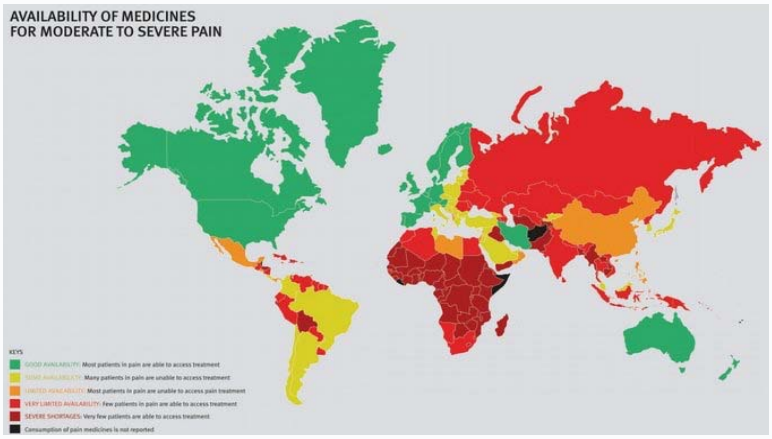


Figure 2: Global state of pain treatment: Access to medicines and palliative care [16].

Conclusion

Prostate cancer is rapidly becoming a significant public health challenge in Sub-Saharan Africa, with incidence rates increasing sharply across many countries in the region. This upward trend, coupled with an aging population and a projected rise in the number of older adults, highlights the urgent need for improved cancer surveillance, early detection, and treatment strategies. Moreover, the glaring deficiency in palliative care services, particularly the limited access to opioid analgesics for pain management, represents a critical area requiring immediate attention. To address these challenges, collaboration among policymakers, healthcare providers, and international organizations is essential. Implementing region-specific strategies that enhance access to cancer care, strengthen healthcare infrastructure, and reduce disparities in pain management is paramount. Taking these actions is vital to lowering prostate cancer-related morbidity and mortality, thereby improving the quality of life for men affected by this disease in Sub-Saharan Africa.

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