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Epidemiology of Cancer in Tanzania Based on GLOBOCAN 2022 Estimates of Burden and Trends

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Research Article

Keywords: Cancer burden, GLOBOCAN 2022, Cancer incidence, Cancer mortality, Tanzania.

Posted Date: October 16th, 2025

DOI: https://doi.org/10.21203/rs.3.rs-7703205/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

Cancer is an increasingly important public health challenge in Tanzania, where both infection-related and lifestyle-associated malignancies are on the rise. In the absence of a comprehensive national cancer registry, GLOBOCAN provides modelled estimates that are essential for guiding cancer control planning.

Objective

To describe the burden and distribution of cancer in Tanzania using the GLOBOCAN 2022 estimates, with focus on incidence, mortality, and five-year prevalence disaggregated by sex and cancer type.

Methods

This was a descriptive secondary data analysis using publicly available estimates from GLOBOCAN 2022, developed by the International Agency for Research on Cancer (IARC/WHO). The study examined all cancer types in Tanzania, using summary statistics and rankings based on number of cases, deaths, and prevalence. Indicators included number of new cases, age-standardized incidence and mortality rates, cumulative lifetime risk, and five-year prevalence.

Results

In 2022, Tanzania recorded 44,931 new cancer cases and 29,743 deaths, with an ASR of 140.1 per 100,000 and mortality rate of 97.1 per 100,000. Prostate cancer led incidence among men (33.4%), followed by oesophageal and stomach cancers, while cervical cancer predominated in women (52.0%), followed by breast and oesophageal cancers. Mortality mirrored incidence trends. Tanzania's ASR was slightly above the Eastern Africa average (130.3 per 100,000) but below the global ASR (197.9 per 100,000), whereas the mortality-to-incidence ratio (0.66) indicates a high proportion of fatal outcomes relative to incidence.

Conclusion

Cancer burden in Tanzania is rising and dominated by preventable and treatable cancers such as cervical and prostate cancer. The findings call for urgent investment in prevention, early detection, and equitable treatment access, as well as the development of a national cancer registry to enhance surveillance and planning.

Background

Cancer remains one of the leading causes of morbidity and mortality worldwide, with approximately 19.3 million new cases and nearly 10 million cancer deaths reported in 2020 alone [1]. The burden of cancer is rapidly increasing in low- and middle-income countries (LMICs), including those in sub-Saharan Africa, where health systems often face the dual challenge of communicable and non-communicable diseases [2]. This shift in disease burden is driven by population ageing, urbanization, lifestyle changes, and limited access to early detection, treatment, and palliative care services.

In Tanzania, cancer poses a growing public health threat. Estimates from national and subnational studies highlight increasing incidence of cancers such as cervical, breast, and oesophageal cancer [3]. Hospital-based data from referral centres, including the Ocean Road Cancer Institute (ORCI), consistently report high case volumes and late-stage presentations, particularly among women with cervical cancer [4]. Similarly, registry-based analyses from Kilimanjaro and Mwanza have revealed rising cancer trends and underscored the urgent need for robust surveillance systems [5]. Despite these findings, comprehensive national data on cancer incidence, mortality, and survival remain limited due to the absence of a nationwide cancer registry and the fragmented nature of cancer reporting in health facilities.

Reliable cancer surveillance and burden estimates are essential for informed policy-making, priority setting, and evaluation of cancer control strategies. In the absence of complete national registries, modelled cancer estimates offer an important interim tool for guiding national planning.

The Global Cancer Observatory (GCO), hosted by the International Agency for Research on Cancer (IARC), provides harmonized, model-based estimates through its GLOBOCAN platform. These estimates are based on the best available cancer registry data and robust statistical modelling methods, making them a critical resource for countries with limited surveillance infrastructure [1].

This study aims to describe the current burden and distribution of cancer in Tanzania using data from GLOBOCAN 2022. The analysis focuses on incidence, mortality, and five-year prevalence, disaggregated by sex and cancer site, to provide a comprehensive snapshot of the national cancer profile and inform ongoing efforts in cancer prevention and control.

Methods

Study Design

This study is a descriptive, cross-sectional analysis of the national burden of cancer in Tanzania using secondary data from GLOBOCAN 2022 [1]. The analysis focused on estimating cancer incidence, mortality, and the distribution of specific cancer types within the Tanzanian population in 2022.

Data Source

Cancer incidence, mortality, and prevalence data were obtained from the Global Cancer Observatory (https://gco.iarc.who.int/). GLOBOCAN provides national-level estimates for 36 types of cancer in 185 countries, including Tanzania. The data used for Tanzania in GLOBOCAN 2022 were derived through modeling approaches based on available subnational cancer registry data and survival estimates, adjusted to the national population.

Specifically, the Tanzanian estimates were generated using a weighted average of the most recent cancer incidence rates from the following subnational population-based cancer registries: Kilimanjaro (4 districts), Mwanza (2 districts), Dodoma (1 district), and Mbeya City. Mortality estimates were modelled from incidence data using mortality-to-incidence ratios informed by available survival estimates. Five-year prevalence was computed using sex-, age-, and cancer site-specific incidence data combined with prevalence-to-incidence ratios derived from Nordic countries (2011–2020), adjusted by Tanzania's Human Development Index (HDI).

Variables and Indicators

The main variables extracted from GLOBOCAN included:

- Number of new cancer cases (incidence)
- Number of cancer-related deaths (mortality)
- Five-year prevalence of cancer cases
- Age-standardized incidence and mortality rates (ASIR and ASMR) per 100,000 population
- Cumulative risk (%) of developing or dying from cancer before the age of 75 years
- Sex-specific and site-specific cancer classified according to GLOBOCAN/ICD-10 codes

Data Analysis

The data were extracted from the publicly available GLOBOCAN 2022 Tanzania Fact Sheet (Population ID: 834). Summary statistics were compiled to highlight the most frequent cancer types by sex, number of cases and deaths, and proportional contribution to the total burden. Rankings were used to identify the top ten cancers in males, females, and the general population. Graphical representations and comparative tables were used to present incidence and mortality trends. All data analyses were descriptive in nature. No inferential statistical tests were applied, as the objective was to provide a population-level overview of the cancer burden in Tanzania using modeled estimates.

Ethical Considerations

This study was based on secondary, publicly accessible data from the Global Cancer Observatory. No individual-level data were used, and ethical approval was therefore not required.

Limitations of the Data

GLOBOCAN estimates rely on available national cancer registry data and modeling methods where data are incomplete. Consequently, some cancer types may be underreported or misclassified. Individual-level risk factors and clinical details were not available, limiting the scope of epidemiological inferences.

Results

Overall Cancer Burden in Tanzania

In 2022, Tanzania recorded an estimated 44,931 new cancer cases and 29,743 cancer-related deaths, according to GLOBOCAN 2022. The burden was slightly higher among females, who accounted for 26,716 new cases and 16,947 deaths, compared to 18,215 new cases and 12,796 deaths among males. The age-standardized incidence rate (ASR) was 140.1 per 100,000 population, while the age-standardized mortality rate stood at 97.1 per 100,000. The cumulative risk of developing cancer before age 75 was estimated at 14.6%, with a corresponding risk of dying from cancer before 75 of 10.2%. The 5-year prevalence was 89,693 cases, underscoring the growing need for long-term cancer care and survivorship services in the country (Table 1).

Table 1
Overall Cancer Burden in Tanzania, GLOBOCAN 2022

Indicator	Males	Females	Both sexes (Total)
Population	31,643,708	31,654,834	63,298,542
New cancer cases (all sites)	18,215	26,716	44,931
5-year prevalence (all sites)	33,303	56,390	89,693
Age-standardized incidence rate (per 100,000)	132.8	151.1	140.1
Cumulative risk of developing cancer before age 75 (%)	13.7%	15.5%	14.6%
Cancer deaths (all sites)	12,796	16,947	29,743
Age-standardized mortality rate (per 100,000)	97.2	100.1	97.1
Cumulative risk of dying from cancer before age 75 (%)	9.9%	10.6%	10.2%

Source: GLOBOCAN 2022 country fact sheet for Tanzania, United Republic of — Global Cancer Observatory.

Distribution of cancer types

The distribution of cancer types in Tanzania shows distinct patterns by sex. Among males, prostate cancer was the leading malignancy, accounting for one-third of all new male cancers (33.4%; ASR 45.4 per 100,000). This was followed by oesophageal cancer (12.2%) and stomach cancer (5.6%), both representing important gastrointestinal contributors to the cancer burden. In contrast, among females, cervical cancer overwhelmingly dominated, representing more than half of all new female cancer cases (52.0%; ASR 64.8 per 100,000). This was followed by breast cancer (16.0%) and oesophageal cancer (7.2%) (Table 2). Taken together, these findings highlight the predominance of prostate and cervical cancers as the major drivers of incidence in men and women respectively, while gastrointestinal malignancies (oesophagus, stomach, colorectum, liver) remain significant contributors across both sexes.

Table 2
Leading Cancer Types by Sex in Tanzania — GLOBOCAN 2022

Cancer site	New cases (n)	% of all cancers	ASR (per 100,000)	Cancer site	New cases (n)	% of all cancers	ASR (per 100,000)
Males				**Females**			
Prostate	**6,084**	**33.4%**	**45.4**	**Cervix uteri**	**13,896**	**52.0%**	**64.8**
Oesophagus	**2,230**	**12.2%**	**16.6**	**Breast**	**4,275**	**16.0%**	**18.4**
Stomach	**1,013**	**5.6%**	**7.6**	**Oesophagus**	**1,911**	**7.2%**	**8.9**
Colorectum	987	5.4%	7.2	Stomach	830	3.1%	3.9
Non-HL	804	4.4%	5.8	Colorectum	810	3.0%	3.6
Kaposi sarcoma	722	4.0%	5.5	Kaposi sarcoma	742	2.8%	3.6
Liver	570	3.1%	4.2	Corpus uteri	522	2.0%	2.3
Lung	441	2.4%	3.1	Non-HL	520	1.9%	2.3
Bladder	403	2.2%	2.9	Liver	478	1.8%	2.2
Leukemia	373	2.0%	2.7	Leukemia	368	1.4%	1.7

Note: Non-HL - Non-Hodgkins Lymphoma; The top three cancers for each sex are highlighted in bold.

Source: GLOBOCAN 2022, Global Cancer Observatory, IARC.

Leading causes of cancer death

Cancer mortality patterns in Tanzania largely mirror incidence trends, with marked sex-specific differences. Among males, prostate cancer was the leading cause of death, responsible for nearly one-third of all male cancer deaths (29.3%; ASR 28.1 per 100,000). This was followed by oesophageal cancer (16.2%) and stomach cancer (7.5%), both of which contribute substantially to gastrointestinal cancer

mortality. In females, cervical cancer remained the dominant cause of cancer death, accounting for more than half of all female cancer deaths (53.2%; ASR 42.2 per 100,000). Breast cancer (14.8%) and oesophageal cancer (10.1%) ranked second and third, respectively (Table 3). These findings emphasize the disproportionate burden of cervical and prostate cancers, while also highlighting the persistent role of gastrointestinal cancers as significant contributors to mortality in both sexes.

Table 3
Leading Causes of Cancer Death by Sex in Tanzania — GLOBOCAN 2022

Cancer site	Deaths (n)	% of all cancer deaths	ASR mortality (per 100,000)	Cancer site	Deaths (n)	% of all cancer deaths	ASR mortality (per 100,000)
Males				**Females**			
Prostate	**3,751**	**29.3%**	**28.1**	**Cervix uteri**	**9,021**	**53.2%**	**42.2**
Oesophagus	**2,080**	**16.2%**	**15.5**	**Breast**	**2,505**	**14.8%**	**10.9**
Stomach	**958**	**7.5%**	**7.0**	**Oesophagus**	**1,713**	**10.1%**	**7.7**
Colorectum	793	6.2%	5.7	Stomach	737	4.3%	3.3
Liver	572	4.5%	4.2	Colorectum	626	3.7%	2.8
Kaposi sarcoma	559	4.4%	4.1	Liver	437	2.6%	2.0
Non-HL	500	3.9%	3.6	Kaposi sarcoma	392	2.3%	1.9
Lung	386	3.0%	2.9	Non-HL	364	2.1%	1.6
Bladder	324	2.5%	2.4	Leukemia	312	1.8%	1.5
Leukemia	318	2.5%	2.3	Corpus uteri	310	1.8%	1.5

Note: Non-HL - Non-Hodgkins Lymphoma; The top three cancers for each sex are highlighted in bold.

Source: GLOBOCAN 2022, Global Cancer Observatory, IARC

Comparison of Cancer Burden: Tanzania, Eastern Africa, and World

When compared to regional and global benchmarks, Tanzania exhibits a substantial cancer burden. The country's age-standardized incidence rate (ASR) of 140.1 per 100,000 is slightly higher than the Eastern Africa average (130.3 per 100,000) but remains below the global ASR of 197.9 per 100,000. The mortality-to-incidence ratio (0.66) is high, reflecting a significant proportion of patients who die following a cancer diagnosis, similar to the Eastern Africa regional pattern (0.70) and notably higher than the global average (0.52). Although crude rates are lower than global averages due to Tanzania's relatively

young population, the cumulative risk of developing cancer before age 75 (14.6%) and of dying from cancer (10.2%) indicate a major public health challenge (Table 4). These findings underscore the urgent need for enhanced cancer prevention, early detection, and treatment strategies in Tanzania.

Table 4
Comparison of Cancer Burden: Tanzania, Eastern Africa, and World — GLOBOCAN 2022

Indicator	Tanzania	Eastern Africa	World
New cancer cases (all sites)	44,931	368,085	19,292,789
Crude incidence rate (per 100,000)	71.0	102.6	233.0
Age-standardized incidence rate (ASR per 100,000)	140.1	130.3	197.9
Cancer deaths (all sites)	29,743	258,268	9,958,133
Crude mortality rate (per 100,000)	46.9	72.0	120.7
Age-standardized mortality rate (ASR per 100,000)	97.1	96.4	99.3
Mortality-to-incidence ratio (M:I)	0.66	0.70	0.52
5-year prevalence (all sites)	89,693	735,421	45,073,980
Cumulative risk of developing cancer before age 75 (%)	14.6%	13.8%	22.3%
Cumulative risk of dying from cancer before age 75 (%)	10.2%	10.5%	11.4%

Source: GLOBOCAN 2022, Global Cancer Observatory, IARC.

Discussion

Overview of Cancer Burden in Tanzania

This study provides a comprehensive overview of the current cancer burden in Tanzania based on GLOBOCAN 2022 estimates. In 2022, the country reported an estimated an estimated 44,931 new cancer cases and 29,743 cancer-related deaths, yielding an age-standardized incidence rate (ASR) of 140.1 per 100,000 and a mortality rate of 97.1 per 100,000, with a cumulative risk of developing cancer before age 75 of 14.6% and a corresponding risk of dying from cancer of 10.2%. The 5-year prevalence of 89,693 cases highlights the growing number of individuals living with cancer who require long-term follow-up and supportive care. This substantial burden reflects ongoing demographic and epidemiologic transitions in Tanzania including population growth, increased life expectancy, urbanization, dietary shifts, reduced physical activity, and rising prevalence of infectious and non-communicable disease risk factors while also suggesting, on a positive note, modest improvements in diagnostic efforts, treatment, and survivorship care [6–8].

When compared to neighboring Eastern African countries, Tanzania's ASR is slightly higher than the regional average of 130.3 per 100,000, suggesting a relatively elevated national cancer risk, though it remains below the global ASR of 197.9 per 100,000, largely due to the younger age structure of the population and differences in lifestyle exposures such as tobacco use, alcohol consumption, and high-fat diets [8–10]. Despite lower crude incidence rates than global averages, the mortality-to-incidence ratio of 0.66, which is similar to the Eastern African regional pattern (0.70) but higher than the global ratio (0.52), reflects challenges in early detection, limited diagnostic capacity, and restricted access to effective treatment services [11–14]. Overall, while Tanzania's cancer incidence is lower than global averages, the impact of cancer on population health is disproportionately high, emphasizing the urgent need for strengthened preventive strategies, early diagnosis, and improved access to cancer care to reduce both morbidity and mortality [14, 15].

Sex-Specific Cancer Incidence Patterns

The distribution of cancer types in Tanzania demonstrates distinct sex-specific patterns, reflecting biological, environmental, and lifestyle factors. Among males, prostate cancer was the leading malignancy, accounting for 33.4% of new cases (ASR 45.4 per 100,000), followed by oesophageal (12.2%) and stomach cancers (5.6%). The high incidence of prostate cancer aligns with regional and global trends and may be influenced by genetic predisposition, hormonal factors, and the aging male population [16–18]. The prominence of oesophageal and stomach cancers is likely driven by dietary habits such as consumption of hot beverages, smoked or salted foods, exposure to nitrosamines, tobacco and alcohol use, and Helicobacter pylori infections [19, 20].

Among females, cervical cancer overwhelmingly dominated, representing 52.0% of new cases (ASR 64.8 per 100,000), followed by breast cancer (16.0%) and oesophageal cancer (7.2%). Cervical cancer incidence is strongly linked to persistent HPV infection, compounded by low vaccination coverage, limited screening programs, and delayed care-seeking due to socioeconomic and cultural barriers [21, 22]. Breast cancer incidence is increasing due to lifestyle and reproductive factors, including urbanization, delayed childbearing, fewer pregnancies, reduced breastfeeding, obesity, and Westernized diets [23]. These patterns underscore the need for targeted prevention strategies, such as HPV vaccination and cervical screening for women, prostate cancer awareness and early detection for men, and broader interventions addressing lifestyle-related gastrointestinal cancer risks for both sexes [8, 23].

Cancer Mortality Trends

Cancer mortality patterns in Tanzania largely mirrored incidence trends, with marked sex-specific differences. In males, prostate cancer accounted for 29.3% of all male cancer deaths (ASR 28.1 per 100,000), followed by oesophageal (16.2%) and stomach cancers (7.5%). High mortality is largely attributable to late-stage presentation, limited access to early detection, including PSA testing, and restricted availability of effective treatments such as surgery, radiotherapy, and chemotherapy [18, 24]. The mortality burden of oesophageal and stomach cancers reflects their aggressive nature, late detection, and ongoing exposure to dietary and lifestyle carcinogens [19, 20, 25].

Among females, cervical cancer remained the leading cause of death (53.2%), followed by breast cancer (14.8%) and oesophageal cancer (10.1%). High cervical cancer mortality underscores gaps in preventive measures, including low HPV vaccination coverage, limited screening, and delays in treatment initiation [21, 22]. Breast cancer mortality, while lower than cervical cancer, continues to rise due to late diagnosis, restricted access to surgical and systemic therapies, and growing incidence linked to lifestyle changes [23]. Overall, these mortality patterns highlight the urgent need for enhanced early detection, timely treatment, and improved healthcare infrastructure to reduce cancer-related deaths in both sexes.

Age Distribution and Cancer Risk

Most cancers in Tanzania occur in older adults, reflecting the cumulative effect of carcinogenic exposures over time, age-related genetic mutations, and declining immune surveillance. The median age of cancer diagnosis in the country is consistent with regional patterns in sub-Saharan Africa, where cancer incidence rises sharply after 50 years of age [8, 23]. The higher cancer burden in older adults is partly due to increased life expectancy, which allows more individuals to reach ages at which cancers such as prostate, breast, and colorectal malignancies typically manifest. Additionally, prolonged exposure to modifiable risk factors, including tobacco, alcohol, unhealthy diets, obesity, and chronic infections, contributes to the development of malignancies later in life. Age also influences mortality outcomes, as older patients often present with comorbidities, delayed diagnoses, and limited access to aggressive treatment, which increase the risk of poor survival. These findings underscore the importance of age-targeted cancer prevention and early detection strategies, such as routine screening for cervical, breast, and prostate cancers in middle-aged and older populations, alongside public health campaigns to reduce exposure to modifiable risk factors throughout life [14, 15, 26].

Comparison with Regional and Global Averages

When compared to regional and global benchmarks, Tanzania exhibits a substantial cancer burden, highlighting both progress and persistent challenges in cancer control. The country's age-standardized incidence rate (ASR) of 140.1 per 100,000 is slightly higher than the Eastern Africa regional average of 130.3 per 100,000, suggesting a relatively elevated national risk, but remains below the global ASR of 197.9 per 100,000, largely due to Tanzania's younger population and differences in exposure to lifestyle-related risk factors such as tobacco use, alcohol consumption, and high-fat diets more common in high-income countries [9, 27]. Despite the lower crude incidence, the mortality-to-incidence ratio of 0.66 is high, similar to the Eastern African regional pattern (0.70) and substantially above the global ratio of 0.52, reflecting challenges in early diagnosis, limited healthcare access, and restricted availability of effective treatment modalities [27]. These comparisons indicate that although Tanzania's overall incidence is lower than the global average, the impact of cancer on population health is disproportionately high, emphasizing the need for targeted interventions, strengthened national cancer control programs, and investments in infrastructure to improve screening, diagnosis, treatment, and palliative care services [8, 23].

Prostate Cancer: A Major Concern for Men

Prostate cancer emerged as the most commonly diagnosed malignancy among men in Tanzania, accounting for 33.4% of new male cancer cases and 29.3% of male cancer deaths. Its prominence reflects a combination of biological, genetic, and healthcare system factors. Men of African ancestry are at higher risk of aggressive prostate cancer, likely due to genetic susceptibility and hormonal influences [18]. The disease predominantly affects older men, and with increasing life expectancy in Tanzania, more men are reaching ages at which prostate cancer commonly develops. To improve early detection and reduce mortality, PSA testing and digital rectal examination (DRE) should be integrated into routine examination for men aged 45 years and above, particularly at primary healthcare facilities, where most men first present for care. Additionally, awareness campaigns targeting older men about prostate cancer risk and symptoms, along with strengthening diagnostic and treatment infrastructure including surgery and radiotherapy, are essential to improve outcomes [24]. The high burden of prostate cancer in Tanzania underscores the need for national screening programs and public health strategies aimed at early detection and timely management.

Cervical Cancer: A Preventable Public Health Issue

Cervical cancer remains the leading cause of cancer incidence and mortality among women in Tanzania, accounting for 52.0% of new female cases and 53.2% of female cancer deaths. Its predominance is largely due to persistent high-risk human papillomavirus (HPV) infections, compounded by low HPV vaccination coverage and limited screening programs, which result in late diagnosis [21, 22]. Socioeconomic and cultural barriers, including limited awareness, stigma, and difficulty accessing healthcare facilities, further delay diagnosis and treatment. Treatment infrastructure is limited, especially in rural areas, where access to surgery, radiotherapy, and chemotherapy is constrained, contributing to high mortality. Breast cancer, the second most common malignancy among women, is increasing due to urbanization, delayed childbearing, reduced breastfeeding, obesity, and adoption of Westernized diets [23]. The high burden of cervical cancer underscores the preventable nature of this disease if comprehensive HPV vaccination, routine screening, early treatment, and public awareness programs are scaled up nationally.

Gastrointestinal Cancers: Persistent Contributors to Mortality

Gastrointestinal cancers, including oesophageal, stomach, and colorectal cancers, continue to exert a significant impact on both sexes in Tanzania. These cancers are often diagnosed at advanced stages, leading to high mortality rates. Contributing factors include dietary habits, tobacco and alcohol use, and infections such as Helicobacter pylori. Addressing these risk factors through public health interventions could help reduce the burden of gastrointestinal cancers in the country [28–30].

Strengths and Limitations

This study’s key strength lies in its use of GLOBOCAN 2022, which provides nationally harmonized cancer estimates developed by the International Agency for Research on Cancer (IARC/WHO). These

estimates are based on the best available data, including subnational population-based cancer registries in Kilimanjaro, Mwanza, Dodoma, and Mbeya, and are modeled using robust survival and mortality estimation methods, allowing for reliable comparisons across cancer types, sexes, and age groups.

However, the study has several limitations. The GLOBOCAN estimates are modeled rather than derived from real-time national surveillance, and rely on subnational registry data that may not fully capture the diversity of cancer burden across Tanzania, particularly in rural and underserved regions. Mortality estimates are derived from modeled mortality-to-incidence ratios, which use regional survival data and may not reflect cancer-specific survival outcomes in Tanzanian settings. Consequently, the estimates may under- or overestimate the true national burden of cancer. These limitations highlight the urgent need to establish and sustain a comprehensive national population-based cancer registry, incorporating both incidence and survival data, to enhance data accuracy and guide evidence-based interventions.

Conclusion

The findings of this study demonstrate that, Tanzania faces a substantial and growing cancer burden, with prostate and cervical cancers driving incidence and mortality among men and women, respectively, while gastrointestinal and breast cancers contribute significantly across both sexes. The high mortality-to-incidence ratios, late-stage presentations, and limited access to preventive and therapeutic services highlight critical gaps in the national cancer control framework. These findings reaffirm the need for urgent and targeted interventions to curb the growing cancer epidemic in Tanzania. National investments must prioritize prevention, early detection, equitable access to treatment, and the establishment of a robust cancer surveillance system.

Recommendations

Based on the study findings, the following recommendations are proposed:

1. Expand cervical cancer prevention by scaling up HPV vaccination, community-based screening programs, and timely treatment for pre-cancerous lesions, especially in rural and underserved areas.
2. Improve early detection and diagnosis of other common cancers such as breast, colorectal, and prostate by training primary health providers, introducing cost-effective screening tools, and improving laboratory/pathology capacity.
3. Strengthen cancer treatment infrastructure, including radiotherapy, chemotherapy, and surgical oncology services, particularly outside major urban centres.
4. Develop and operationalize a national population-based cancer registry to improve real-time data availability, guide resource allocation, and monitor progress over time.
5. Integrate cancer prevention into existing NCD and HIV/AIDS platforms to leverage existing infrastructure and enhance program sustainability.
6. Promote public awareness campaigns to improve cancer literacy, reduce stigma, and encourage timely health-seeking behaviour.

Declarations

Ethical Approval and Consent to Participate

This study did not involve human participants or primary data collection. It was conducted using publicly available secondary data from GLOBOCAN 2022 (International Agency for Research on Cancer, World Health Organization). As such, ethical approval and informed consent were not required.

Consent for Publication

Not applicable.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contribution

The author completed all aspects of the study and manuscript preparation.

Data Availability

Cancer incidence, mortality, and prevalence data were obtained from the Global Cancer Observatory (https://gco.iarc.who.int/). GLOBOCAN provides national-level estimates for 36 types of cancer in 185 countries, including Tanzania. The data used for Tanzania in GLOBOCAN 2022 were derived through modeling approaches based on available subnational cancer registry data and survival estimates, adjusted to the national population.

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