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Insights Into the Rising Cases of Cancer in Nigeria

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Review

Globally, sub-Saharan Africa accounts for the highest cancer cases and by the year 2030, it is projected that developing countries with Nigeria inclusive, will account for approximately 70% of all new cancer cases mainly attributed to life expectancy and population growth. Cancer is ranked second after cardiovascular disease, as the leading cause of death worldwide, with approximately one in six deaths. It is worrisome that despite the increasing public health threat posed by cancer in Nigeria and other countries in sub-Saharan Africa, there is a paucity of accurate and up-to-date data on the incidence and mortality of cancer. There are few documented cases as well as studies on cancer in Nigeria, in the few studies conducted, most have not focused on the mortality, yearly trends, causes as well as prevention at the community level. Among the few cancer studies conducted in Nigeria, there is a paucity of information on especially the yearly trends concerning the 36 states of the federation, with the North largely left behind. Nigeria has only four cancer registries, with 3 located in the south and 1 in Abuja. The absence of enough cancer registries in the country is thought to play a key role in the persistence of many cancers in Nigeria. This research is set to provide an insight into the various types of cancer, their incidence, and mortality in Nigeria as well as their causes and control.

Keywords: Malignant Tumour; Cancer Cases; Cancer Registry; Nigeria; Sub-Saharan Africa; incidence and mortality of cancer; Deaths; Northern Nigeria; Southern Nigeria.

Abbreviations: IARC: International Agency for Research on Cancer; HBV: Hepatitis B Virus; HCV: Hepatitis C Virus; HTLV-1: Human T-Cell Leukaemia Virus Type 1; ATL: Adult T-Cell Leukaemia/Lymphoma; HPV: High-Risk Human Papillomavirus; HHV-8: Human Herpesvirus Type 8; EBV: Epstein-Barr Virus

Introduction

Cancer, otherwise referred to as a malignant tumour or neoplasm, is defined by the uncontrollable growth of abnormal cells in the body, making them exceed their usual boundaries thereby invading the other body organs [1,2]. In Nigeria, along with other underdeveloped, and developing countries, once a patient is diagnosed with cancer, the high level of fear with which the patient family developed, made the populace including the elite class consider it a direct death sentence. This may be attributed to the fact that cancer is deadly, and the burden of the disease is expanding [3]. In Nigeria and other African countries, high cases of mortality due to cancer are contributed to the unprepared nature of most health systems, the high cost of treatment, the absence of healthcare providers in remote villages and towns, and the lack of access to timely and high-quality diagnosis and treatment. Until recently, cancer cases in Africa were seen as a disease of less public health importance. The survival rate of most cancers is very high in countries where there exist strong health systems [4]. Cancer is ranked second after cardiovascular disease, as the leading cause of death worldwide [5]. Cancer accounts for 18.1 million cases annually.

In 2018, it is estimated that 9.6 million people died of cancer worldwide. The cases of cancer in Nigeria, sub-Saharan Africa, and other developing countries are worrisome going by the projections that by the year 2030 the developing countries with Nigeria inclusive will account for approximately 70% of all new cancer cases, with approximately 13.1 million mortalities. This is mainly attributed to an increase in life expectancy and population growth, increased prevalence of obesity, physical inactivity, and smoking [5,6]. Compared with other developed regions of the world, cancer mortality in Africa significantly varies. In Sub-Saharan Africa alone, about 626,400 and 447,000 new cancer cases and deaths respectively, were estimated in the year 2012

alone [5,7]. It is worrisome that despite the increasing public health threat posed by cancer in Nigeria and other countries in sub-Saharan Africa, there is a paucity of accurate and up-to-date data on the incidence and mortality of cancer [6,8].

As the number of innocent lives lost to cancer is increasing at a very high and unprecedented level in sub-Saharan Africa, unless governments at all levels, policymakers, stakeholders, the communities, and everyone concerned to come together to act soon, millions of people will be affected. Nigeria's cancer cases are characterized by a high case-fatality ratio. The annual cases of cancer in Nigeria are increasing. According to a study conducted in 2012, Nigeria records approximately 100 000 new cases of cancer per year, with 15% of the total (681,000) cases in Africa [4,6]. According to new studies conducted in the year 2020, Nigeria records 102,000 new cases annually with approximately 72,000 deaths. Comparing the two estimates, a decreasing trend in overall cancer deaths is observed, and this might not be in connection with the increased level of government intervention, awareness, and the location in which the studies were conducted [1,9]. Despite the reduction in the death rate, the level remains alarmingly high.

In recent times, Nigeria's cancer data are based on estimates from the hospital-based registry, medical records, case series, and the University of Ibadan population-based cancer registry, which is Nigeria's first ever cancer registry established in 1962. This first-ever cancer registry located at the University of Ibadan suffered major setbacks mainly due to technical issues, insufficient manpower, and logistics problems. To overcome such issues, the Federal Government through the Federal Ministry of Health in collaboration with the Institute of Human Virology Nigeria initiated a National System of Cancer Registries in the year 2009 to strengthen the old registries and provide further training [4,6]. To date, this National Registries has been faced with problems regarding funding, as well as technical and manpower issues. To limit the burden of cancer as projected by the year 2030, there is the need for improved Government funding as well as focused attention on effective service delivery. There is also an urgent need for public health awareness as well as vaccination campaigns [10,11].

On the few cancer studies conducted in Nigeria, there is a paucity of information on especially the yearly trends with regards to the 36 states of the federation, with the North largely left behind. The southern part of the country has about 3 cancer registries, with the Calabar, Ekiti, and Ibadan cancer registries. In the entire north, no single cancer registry exists, except for the Abuja (the country's capital) cancer registry [12]. Going by the high poverty and illiteracy rate record in this region, there is a need for other studies to focus on such areas as the persistence of many Cancerous infections are linked with poor living conditions.

According to a report by the International Agency for Research on Cancer (IARC), cancers affecting the body organs such as lungs, colorectal, breast (female), and prostate are regarded as the cancers that cause major mortality. In an order of increasing incidence, these are followed by stomach, liver, and esophagus cancer with the cervix accounting for the least cases [5,13]. Liver, stomach, colorectal, prostate, and lung are the cancers commonly found among males while thyroid, cervical, lung, colorectal, and breast cancers are commonly found among females [4,5]. In the report released by the Global Cancer Observatory-Nigeria, the cancers that are most frequently recorded in Nigeria are the breast, prostate, cervix, non-Hodgkin lymphoma, and Liver cancer among others, all with varying numbers, and death rates (Table 1).

Table 1: Incidence and mortality rate of cancer in Nigeria based on site of infection.

	New cases		Deaths	
Cancer	Number	(%)	Number	(%)
Gallbladder	222	0.18	196	0.25
Melanoma of skin	4,79	0.38	195	0.25
Oesophagus	515	0.41	489	0.62
Kaposi sarcoma	1,170	0.94	689	0.87
Bladder	1,241	0.99	684	0.87
Lung	1,789	1.4	1,643	2.1
Hodgkin lymphoma	2,030	1.6	919	1.2
Kidney	2,608	2.1	1,702	2.2
Colon	3,337	2.7	2,396	3
Leukaemia	3,378	2.7	2,504	3.2
Liver	5,180	4.2	5,046	6.4
Non-Hodgkin lymphoma	7,310	5.9	4,732	6
Cervix uteri	12,05	9.7	7,968	10.1
Prostate	15,306	12.3	8,517	10.8
Breast	28,380	22.7	14,274	18.1

Carcinogenic infections mainly caused by viruses and bacteria are known to significantly contribute to the global cancer burden. This is observed predominantly in Africa and other underdeveloped and developing countries. They are regarded as an important cause of cancer and are known to account for 16.1% of all cancer cases globally in the year 2018 [14]. According to the International Agency for Research on Cancer (IARC), there are 11 infectious agents, otherwise referred to as group 1, which have been implicated as the major causes of infectious cancers. These are viruses; (hepatitis B and C (HBV and HCV) causing liver cancer, human T-cell leukaemia virus type 1 (HTLV-1) causing Adult T-cell leukaemia/lymphoma (ATL), high-risk human papillomavirus (HPV), and their 12 different subtypes (type16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59) causing cervical cancer, human herpesvirus type 8 (HHV-8) causing Kaposi sarcoma "rare cancer of the immune cell, with lesions growing in the mouth, throat, skin, and tissues", Epstein-Barr virus (EBV) "linked with nasopharyngeal cancers, Burkitt and non-Hodgkin lymphoma"

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and bacteria (*Helicobacter pylori* causing gastric cancer) and parasites (*Schistosoma haematobium* causing bladder squamous cell carcinoma, *Clonorchis sinensis* causing cancers of biliary duct system "bile ducts and gall bladder", and *Opisthorchis viverrini* causing stomach cancer) [12,14].

Cancer Prevention and Control Strategies

By the modification or avoidance of key risk factors, high cancer mortality (30-50%) can be preventable. More so, the implementation of evidence-based prevention strategies has been found to drastically reduce the burden of most cancers. These include early hospital visits for diagnosis, early detection, and management [15]. Part of the keyway to the prevention of cancers include regular exercise, safe sex, taking healthy diet, avoiding contact with indoor and urban polluted air, regular, timely, and qualitative health care, treatment of chronic infections, reduced exposure to ultraviolet radiation, effective vaccination against HPV, HBV, and HCV, abstinence or regulated alcohol and tobacco use, and above all living a healthy lifestyle [4,16,17].

Conclusion

Carcinogenic infections mainly caused by viruses and bacteria are known to significantly contribute to the global cancer burden. Nigeria has only four cancer registries, with 3 located in the south and 1 in Abuja. The absence of cancer registries in the north as well as state cancer registries in the country is thought to play a key role in the persistence of many cancers in Nigeria. On the few cancer studies conducted in Nigeria, the North remains largely left behind. Going by the high poverty and illiteracy rate record in this region, there is a need for other studies to focus on such areas as the persistence of many Cancerous infections are linked with poor living conditions. To limit the high burden of cancer as projected by the year 2030, there is the need for community Sensitization via print, TV, and radio stations using a local dialect, improved Government funding as well as focused Government attention for effective service delivery. To curtail the high burden of cancers in Nigeria, there is there need for enlightenment campaigns on the need for a healthy lifestyle, public acceptance of vaccines against infections linked with cancers, belief in the existence of cancer as well as early hospital visits for timely medical intervention. There is a need for improved Government funding for healthcare training and retraining of healthcare personnel for accurate and effective service delivery.

Conflict of Interest Statement:

All authors (Ismail Rabiu, Jaafaru Isah Abdullahi, Abdurrazak Muhammad) had access to the data and have read and agreed with the content and final draft of the manuscript.

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