

**Delays in Cancer Diagnosis: Review of a Theoretical Literature**

Jehovanis Manirakomeye\*

Researcher, University of Rwanda, Rwanda.

**Corresponding Author**

Jehovanis Manirakomeye, Researcher and Medical Student, University of Rwanda.

**Submitted:** 2023, Jun 01; **Accepted:** 2023, Jun 21 **Published:** 2023, Jun 30**Citation:** Manirakomeye, J. (2023). Delays in Cancer Diagnosis: Review of a Theoretical Literature. *Int J Cancer Res Ther*; 8(2), 64-66.**Abstract**

Cancer diagnosis which is made at a later stage than it could have been, due to various reasons such as missed or misinterpreted symptoms, delayed medical consultations, or delayed diagnostic tests, is a significant public health issue which sequentially affect the prognosis and survival rates of cancer patients. A late cancer diagnosis can have devastating consequences as many patients miss an important window of time in which cancer treatment can be most effective. As a result, time left untreated can allow cancer to grow and spread to other parts of the body, making treatment even more difficult or impossible at all.

A literature review of relevant studies reveals several factors that contribute to delayed cancer diagnosis, including patient-related factors, healthcare system-related factors, and provider-related factors. Commonly and even strangely, for some type's cancer, patients do not exhibit clear signs until later stages with which the cancer may have metastasized to other parts of the body. This can be seen when cancer screening indicated false negative results, and in this case, delayed diagnosis is unavoidable due to lack of observable symptoms.

**Keywords:** Cancer, Cancer Mortality Rate, Delayed Cancer Diagnosis, Sub-Saharan Africa, Rwanda**1. Problem Definition**

A study published in the BMJ investigated seven cancers that together represent 44% of all incident cancers globally, and it found that delayed cancer diagnosis can be a significant issue for patients with these cancers and emphasized the need for effective cancer screening programs and early detection strategies [1].

**2. Global Statistical Data**

According to the National Cancer Institute, in 2018, there were 18.1 million new cases and 9.5 million cancer-related deaths worldwide. By 2040, the number of new cancer cases per year is expected to rise to 29.5 million and the number of cancer-related deaths to 16.4 million [2]. According to the World Cancer Research Fund, breast and lung cancers were the most common cancers worldwide in 2020, contributing 12.5% and 12.2% of the total number of new cases diagnosed, respectively. Colorectal cancer was the third most common cancer with 1.9 million new cases in 2020, contributing 10.7% of new cases. However, the report did not provide specific statistics on delayed cancer diagnosis [3].

In addition, breast and lung cancers were the most common cancers worldwide in 2020, contributing 12.5% and 12.2% of the total

number of new cases diagnosed, respectively. Colorectal cancer was the third most common cancer with 1.9 million new cases in 2020, contributing 10.7% of new cases [3].

Regarding cancer treatment, interruption in any stage of treatment was reported by up to 77.5% of patients who responded to the surveys, while three longitudinal studies assessed the interruption of treatment and reported a rate of up to 26.3%. A wide variety of delays and changes in chemotherapy and radiotherapy plans were observed [4].

**2.1 Sub-Saharan Africa Statistics**

Based on the web search results provided, cancer is a significant health issue in Africa, particularly in low- and middle-income countries. Nearly one in six deaths globally are due to cancer, with approximately 70% of cancer deaths occurring in low- and middle-income countries [5]. The Cancer Atlas reports that the incidence and mortality rates for all cancer sites combined are high in sub-Saharan Africa, with age-standardized rates ranging from 197.5 to 213.9 per 100,000 people [6]. Regarding breast cancer, which is the leading cancer diagnosis and the second most common cause of cancer deaths in sub-Saharan Africa, few popula-

---

tion-level survival data are available, but a study estimated breast cancer survival rates within SSA [7].

According to Globocan 2020 data, there were an estimated 1,109,209 new cancer cases in Africa in 2020, with breast cancer, other cancers, and cervical cancer being the most common types. Breast cancer had the highest number of new cases at 186,598, followed by other cancers at 575,382, and cervical cancer at 117,316 [8].

A study published in *The Lancet Oncology* in 2022 estimated that there were 801,392 new cancer cases and 520,158 cancer deaths in sub-Saharan Africa in 2020. Breast cancer and cervical cancer accounted for three in ten of the cancers diagnosed in both sexes, with breast cancer being the most commonly diagnosed cancer in women and prostate cancer being the most commonly diagnosed cancer in men. The study also noted that the burden of cancer in Africa is expected to increase as the population ages and risk factors such as tobacco use, alcohol consumption, and unhealthy diets become more prevalent [9].

Overall, the statistics about cancer in Africa highlight the need for improved cancer prevention, diagnosis, and treatment, particularly in low- and middle-income countries. Efforts to address risk factors such as tobacco use, alcohol consumption, and unhealthy diets, as well as to improve access to cancer screening and treatment services, are crucial to reducing the burden of cancer in Africa.

## 2.2 Rwanda Statistics

While there has been much research on cancer prevalence, a few-to-no researches have taken into consideration the contribution of delayed cancer diagnosis to the cancer prevalence in Rwanda. According to the Cancer Country Profile for Rwanda published by the World Health Organization (WHO) in 2020, there were a total of 13,489 cancer cases and 10,215 cancer deaths in Rwanda in 2019. Cancer accounted for 41.6% of all non-communicable disease (NCD) premature deaths in the country. The most prevalent cancers in Rwanda are breast, cervical, colorectal, liver, and prostate cancers [10]. Additionally, the WHO estimates that about 10,000 new cancer cases occur in Rwanda each year, and the number of reported cancer cases in Rwanda has been increasing over time, with fewer than 300 cases reported annually before 2004 and over 3,000 cases reported in 2018. The WHO has however developed plans to improve pathology services in Rwanda to aid in the detection and management of cancer cases in the country [11].

There is limited information available regarding cancer survival rates in Rwanda, but the country has made efforts to improve cancer prevention and treatment. Rwanda is a low-income country in East Africa that has made remarkable progress in healthcare over the past two decades [11]. In 2021, Rwanda launched a ten-year cervical cancer strategy with an elimination threshold of 4/1000 women [12]. The country has also made efforts to increase vac-

ination coverage for human papillomavirus (HPV), which is a leading cause of cervical cancer [13]. While information regarding cancer survival rates in Rwanda is scarce, these initiatives suggest that Rwanda is working towards improving cancer prevention and treatment in the country.

## 3. Discussion

A literature review of relevant studies reveals several factors that contribute to delayed cancer diagnosis, including patient-related factors, healthcare system-related factors, and provider-related factors.

Patient-related factors like fear and denial can lead to delayed cancer diagnosis. Studies have shown that patients who have fear or misconceptions about cancer, such as the belief that cancer is incurable or that the treatment will be worse than the disease, are more likely to delay seeking medical attention for symptoms. Patients who have a low health literacy level may also be less likely to recognize the symptoms of cancer and delay seeking medical attention. It is important to note that early detection is crucial in the successful treatment of cancer, and individuals should seek medical attention if they notice any concerning symptoms or changes in their health.

Healthcare system-related factors, such as limited access to care and long wait times, can also contribute to delayed cancer diagnosis. Patients who lack health insurance or have inadequate insurance coverage may delay seeking medical attention due to the perceived cost of care. Additionally, patients who live in rural or underserved areas may have limited access to healthcare facilities, leading to delayed diagnosis.

Provider-related factors, such as misdiagnosis or failure to follow up on abnormal test results, can also contribute to delayed cancer diagnosis. Studies have shown that misdiagnosis or delayed diagnosis can occur due to a lack of communication between providers or a failure to refer patients to specialists for further evaluation.

## 4. Conclusion

Several studies have examined the impact of delayed cancer diagnosis on patient outcomes. Delayed diagnosis has been associated with a higher risk of advanced-stage cancer at the time of diagnosis, lower survival rates, and increased healthcare costs. In addition, delayed diagnosis can also lead to a psychological burden on patients and their families.

Several strategies have been proposed to address delayed cancer diagnosis. These include increasing public awareness of cancer symptoms and the importance of early detection, improving access to healthcare services, and implementing quality improvement initiatives within healthcare systems. Additionally, improving communication between providers and patients, enhancing provider training on cancer diagnosis, and promoting multidisciplinary care

---

can also help reduce delayed cancer diagnosis.

In conclusion, cancer is a significant global health issue, with millions of new cases and deaths each year. While a delayed cancer diagnosis is not always reported, it can be a significant issue for patients with many different types of cancer, and it can still have negative impacts on patient outcomes and healthcare costs. Efforts to improve cancer screening, access to healthcare services, and provider communication can help reduce delayed cancer diagnosis and improve patient outcomes.

## References

1. Hanna, T. P., King, W. D., Thibodeau, S., Jalink, M., Paulin, G. A., Harvey-Jones, E., ... & Aggarwal, A. (2020). Mortality due to cancer treatment delay: systematic review and meta-analysis. *bmj*, 371.
2. Cancer statistics .(2020). National Cancer Institute. (Accessed: 01 March 2023).
3. Worldwide cancer data: World cancer research fund international. (2022). WCRF International. (Accessed: 16 March 2023).
4. Riera, R., Bagattini, Â. M., Pacheco, R. L., Pachito, D. V., Roitberg, F., & Ilbawi, A. (2021). Delays and disruptions in cancer health care due to COVID-19 pandemic: systematic review. *JCO Global Oncology*, 7(1), 311-323.
5. Cancer (no date) World Health Organization. (Accessed: 16 March 2023).
6. Sub-Saharan Africa. (2019). The Cancer Atlas. (Accessed: 17 March 2023).
7. Joko-Fru, W. Y., Miranda-Filho, A., Soerjomataram, I., Egue, M., Akele-Akpo, M. T., N'da, G., ... & Parkin, D. M. (2020). Breast cancer survival in sub-Saharan Africa by age, stage at diagnosis and human development index: A population-based registry study. *International journal of cancer*, 146(5), 1208-1218.
8. WHO(2020). 'Cancer Population Fact Sheets, Africa'. International Agency for Research on Cancer.
9. Bray, F., Parkin, D. M., Gnanon, F., Tshimomo, G., Peko, J. F., Adoubi, I., ... & Chingonzoh, T. (2022). Cancer in sub-Saharan Africa in 2020: a review of current estimates of the national burden, data gaps, and future needs. *The Lancet Oncology*.
10. Cancer Country Profile. (2020). Rwanda Burden of Cancer.
11. Rubagumya, F., Costas-Chavarri, A., Manirakiza, A., Murenzi, G., Uwinkindi, F., Ntizimira, C., ... & Booth, C. M. (2020). State of cancer control in Rwanda: past, present, and future opportunities. *JCO Global Oncology*, 6, 1171-1177.
12. KTPress. (2021). 'HOW RWANDA PLANS TO DEAL WITH CANCER IN THE NEXT DECADE', 14 February.
13. BBC News. (2019). 'Rwanda leads fight against cervical cancer in Africa', 28 November.

**Copyright:** ©2023 Jehovanis Manirakomeye. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.