Prevalence and epidemiological profile of cervical cancer patients attending Nyeri County and Referral Hospital, Kenya: a review of records 2017 – 2022.

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Abstract

Introduction

Cervical cancer is the leading cause of cancer mortality in Kenya. This study aimed to establish the prevalence and epidemiological characterization of cervical cancer patients registered in Nyeri County and Referral Hospital, Kenya.

Methods

This was a retrospective observational design that involved the systematic collection and analysis of data from 2328 patient records. Relevant variables, including demographic characteristics, clinical features, treatment modalities and survival outcomes, were extracted and analyzed. Descriptive statistics were used to determine the prevalence of cervical cancer, while Chi-square test was performed to assess the association between various factors and survival outcomes. Multivariate analysis was conducted to control for confounding variables and determine the independent effects of predictors. Ethical clearance was obtained and ethical principles maintained.

Results

Records of 2328 cancer patients were analyzed, out of which 120 were cervical cancer. Majority of cervical cancer patients were aged 50-59 years with majority residing in Nyeri County. The prevalence of cervical cancer was 5.16%. The overall survival rate for cervical cancer patients was 58.33%. Advanced age and late-stage diagnosis were factors associated with lower survival rates.

Conclusions

The study revealed a prevalence of 5.16% of cervical cancer among patients attending Nyeri County and Referral Hospital in Kenya from the year 2017 to 2022 with an overall survival rate of 58.33%. Age and late-stage diagnosis were found to be influential factors in survival outcomes. Therefore, improving early detection and initiation of early treatment for all cervical cancer patients is required in order to improve survival status.

Introduction

Cervical cancer is a rated as the fourth commonest cancer among women globally, with 604 000 women diagnosed with the disease and 342 000 women dying in 2020 (Sung et al., 2021). Africa is reported as having the highest numbers of deaths (21.7%) from cervical cancer, with Sub Saharan Africa(SSA) accounting for approximately 15% of all cancer deaths in women (Jedy-Agba et al., 2020). In Kenya, one of SSA countries, cervical cancer is the leading cause of cancer mortality (Mwenda et al., 2022). In addition, the cervical cancer incidences have been increasing year after year in Kenya, as compared to other middle-income countries where cervical cancer incidence has been declining in recent decades (Jedy-Agba et al., 2020). This raises a concern since cervical cancer is preventable and amenable to

treatment if detected early. To eliminate cervical cancer as a public health problem, the World Health Organization (WHO) has launched a global strategy with key interventions and targets for countries by 2030 (WHO, 2021). These targets are; 90% of girls being fully vaccinated against human papilloma virus (HPV) by 15 years of age; 70% of women being screened with a high-precision test at least twice between the age of 30 and 49 years and 90% of women identified with cervical disease receiving treatment and care (WHO, 2021). In order to achieve these targets, understanding the prevalence and epidemiological characterization of cervical cancer cases is critical. Such data is also important for planning and determining the priorities for cervical cancer prevention in different parts of the world (Belbaraka et al., 2022). In addition, this data will assist in implementation of Kenyan cancer policy whose goal is to comprehensively address the cancer burden in Kenya (Ministry of Health, 2019) specifically cervical cancer as one of the common and actionable priority cancers for clinical research (Topazian et al., 2016).

A number of factors have been linked to high cases of cervical cancer globally with high-risk Human papillomavirus (HPV) infection being the major factor (Pimple & Mishra, 2022). Further, some of the co-factors that increases the risk of acquisition of HPV infection and its further progress to cervical cancer include co-infection with other sexually transmitted agents such as HIV, lifestyle factors such as multiple sexual partners, younger age at first sexual intercourse and immunosuppression (Pimple & Mishra, 2022). For instance, the high incidence of cervical cancer in the Kenya has been highlighted to be associated with high numbers of HIV cases (Macharia et al., 2018), similar to other East Africa countries such as Tanzania (Olson et al., 2020) and Uganda (Obol et al., 2021). Apart from HPV infection, late diagnosis of the disease has been linked to high prevalence of cervical cancer (Dunyo et al., 2018; Kojalo et al., 2023). Late diagnosis of disease is associated with shorter time to death among patients with cervical cancer (Seifu et al., 2022) since most patients usually report to the hospital when the disease has progressed to other parts of body reducing the effectiveness of treatment and management of the disease and thus increasing the likelihood of death. Considering all factors linked to poor survival outcome in cancer patients, older age, advanced cancer stage at diagnosis, HIV infection and not receiving cancer treatment are reported as the main predictors of survival among cancer patients(Seifu et al., 2022).

Studies that have profiled cervical cancer, in other counties in the Kenya, have reported cervical cancer as the leading cancer among women (Sung et al., 2021). It was ranked first in Kenyatta National Hospital and second in Moi Teaching and Referral Hospital (Macharia et al., 2018). Cervical cancer was also reported as the major cancer at the health facilities in Machakos County (Kamita et al., 2021). Though these are findings from other counties in the country, there has been no study that have profiled cervical cancer in Nyeri County and Referral Hospital (NCRH), the only level five county public health facility that has been on the forefront in the management of cancer patients in Nyeri and the neighboring counties. This study therefore aimed to establish the prevalence and epidemiological characterization of cervical cancer patients registered in NCRH which will provide scientific information necessary for subsequent studies. This preliminary information will also help to strengthen cervical cancer surveillance in the region and provide necessary information for consideration in prevention and better care for the cervical cancer patients in the region.

Materials and Methods

Study Design:

This study utilized a retrospective observational study design. The medical records of cervical cancer patients who attended Nyeri County and Referral Hospital during 2017 to 2022 period were reviewed to collect the necessary data.

Sample Selection:

The sample included all cancer patients attending Nyeri County and Referral Hospital from 2017 – 2022 totaling to 2328. Inclusion criteria included confirmed cancer diagnosis, availability of complete medical records, and consent for data usage. Patients with incomplete records and those who had received treatment at other healthcare facilities were excluded.

Data Collection:

Data was collected from electronic medical records and paper-based files. Variables of interest included demographic information (age, marital status and residence), clinical characteristics (stage at diagnosis), treatment modalities (surgery, radiation therapy, chemotherapy), comorbidities and survival outcomes. Data collectors were trained to ensure consistency and accuracy in data abstraction.

Data Analysis:

Descriptive statistics were used to calculate the prevalence of cervical cancer among the patient population attending NCRH. Fisher's exact test was performed to assess the association between various factors and survival outcomes. Factors such as age, stage at diagnosis, treatment modalities and comorbidities were assessed for their association on survival outcomes. Multivariate analysis was conducted to control for confounding variables and determine the independent effects of predictors.

Ethical Considerations:

The study adhered to ethical guidelines, ensuring patient confidentiality and privacy. Data was anonymized and stored securely. The study followed ethical guidelines and was approved by DeKUT ISERC, NACOSTI and Nyeri County Health Department.

Results

A total of 2328 cancer patients' records were reviewed. Of these, 120 were of patients diagnosed with cervical cancer. None of the patients diagnosed with cervical cancer were below 30 years. Majority, 30.83%(37) were aged 50–59 years. Only 5% (6) were between 30–39 years old. Majority were married (85.83%). Majority were residents of Nyeri County 86.67(104) while the rest were from neighboring

Counties of), Laikipia (5.83%, 7), Kirinyaga ((5%, 6) and Muranga, Nyandarua and Meru with one case each (0.83%).

Prevalence of Cervical Cancer Cases and survival rates:

During the study period from 2017 to 2022, out of 2328 cancer cases that were recorded among these patients attending Nyeri County and Referral Hospital in Kenya., a total of 120 cervical cancer cases were identified indicating a prevalence of 5.16%. Among the 120 cervical cancer patients, all of them were followed up until the end of the study period. The overall survival rate at the end of the study was found to be 58.33% (70), showing that 41.67% (50) experienced mortality during the study period. This represents a case fatality rate of 41.67%.

Treatment modalities and comorbidities:

In terms of treatment, 33.33% had received at least 6 cycles of chemotherapy, and 66.67% had received at least 25 cycles of radiotherapy and only 13.33% had received surgery as mode of treatment. Majority (67.5%) of patient had no other comorbidity apart from cervical cancer. Those who had comorbidities, the commonest were inform of HIV (11.67%) hypertension (7.50%) and diabetes (4.17%).

Factors associated with Survival of cervical cancer patients:

Out of the 120 cases diagnosed with cervical cancer; majority of the deaths, 40% (20) occurred among those who were aged between 50–59 years. Majority of deaths occurred among the married patients, i.e. 86% (43). Several factors were analyzed to determine their association with survival rates among cervical cancer patients. The demographic characteristics of the patients, including marital status (p = 0.902), County of residence (p = 0.768) were found not to have a significant impact on survival outcomes. However, age (p = 0.005) and the stage (p < 0.0001) of cervical cancer showed a significant association with survival outcomes (Table 1)

Table 1
Association between demographic factors and survival outcome

Characteristic	Category	Patient status(survival outcome)		Fisher's exact
		Alive	Dead	
Age	30–39	2	4	Fisher's exact = **0.005**
	40–49	26	6	
	50–59	17	20	
	60–69	14	6	
	70+	11	14	
Marital status	Married	60	43	Fisher's exact = 0.902
	Single	7	4	
	Widowed	3	2	
	Divorced	0	1	
Alternative staging	Early	10	0	Fisher's exact = **0.000**
	Locally advanced	41	11	
	Metastatic	19	38	
County of residence	Nyeri	61	43	Fisher's exact = 0.768
	Kirinyaga	4	2	
	Laikipia	3	4	
	Muranga	0	1	
	Nyandarua	1	0	
	Meru	1	0	

Equally, number of cycles for chemotherapy (p = 0.793), radiotherapy (p = 0.849) and presence of comorbidities (p = 0.580) were not significant. Out of the 119 cases evaluated for staging, 47.9% (57) were diagnosed at advanced stage when the cancer had already metastasis to other organs, only 8.4% (10) were diagnosed at an early stage. In logistic regression analysis, the stage of cancer remained a significant factor to survival outcome at p-value < .0001. (Table 2). Those diagnosed with an early stage of cancer were 10 times less likely to have died compared to those who were diagnosed at advanced stage with metastatic disease.

Table 2
Logistic regression output: factors predictive of survival outcome

Patient status	Odds ratio	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Age in years	.7886097	.1467124	-1.28	0.202	.5476526	1.135584
Alterative staging	.1187942	.050449	-5.02	0.000	.0516786	.2730738

Discussion

This study aimed to establish the prevalence and epidemiological characterization of cervical cancer patients registered in NCRH, Kenya. The findings highlight the prevalence, survival rates, and predictors of survival among cervical cancer patients. The prevalence rate was 5.16% indicating a significant proportion of cases managed in the hospital. However, a study done in Kenyatta National Hospital showed a cervical cancer prevalence of 13.2% (Osok et al., 2018), while a study in Meru county reported a 20% prevalence (Kobia et al., 2019). The slightly higher prevalence both in KNH and Meru County than what is reported in NCRH, may be due to the fact that the KNH being a national hospital deals majorly with National referral cases countrywide compared to NCRH which manages regional referrals. For the study in Meru, the study duration was 15 years, inclusive of period when early detection of cervical cancer was a great challenge. A hospital based study in Ethiopia reported a 10.1% prevalence of cervical cancer while in Ghana a prevalence of 50% was reported (Dunyo et al., 2018) signifying a variation in prevalence across Africa. In this current study, majority of patients with cervical cancer were between 50–59 years as compared to KNH study that had the highest cases between 40-49-years (Osok et al., 2018). A Zambian study also reported a peak of cervical cancer age range of 40–49 years implying that this age group was the high-risk group for cervical cancer in Zambia (Kalubula et al., 2021). A study in MTRH reported 50–59 years age group as representing the highest numbers in cervical cancer (Mwaliko et al., 2022). This age group has also been majorly affected in other studies done outside Africa such Baltic countries (Kojalo et al., 2023). Age was one of the factors that showed a significant association with survival outcome with those between 50–59 years dying more than the other age groups indicating that patients who are elderly are at higher risk of dying. Similar findings have been reported in other countries such as Ethiopia where poor cervical cancer prognosis and higher mortality rate is reported among older women (Seifu et al., 2022).

Majority (85.83%) of the patient with cervical cancer were married which was similar to a study done in Ethiopia by Seifu et al., (2022). The fatality rate in NCRH in this study is 41.67%. These findings are not different from what has been reported in other hospitals in Kenya. Previous studies done in Moi Teaching and referral Hospital and Kenyatta National Hospital reported a fatality rate of 43.2% and 41% respectively (Mwaliko et al., 2022; Osok et al., 2018). However, other studies in Africa have reported a higher fatality rates. For instance, in a study done in Ethiopia, 64.5% of cervical cancer patients died within the five-year period of follow up signifying a very high death rate. In Ghana the death rate of cervical cancer patient is reported to have increased from 12.5% five years ago to 60.7% (Effah et al., 2022). This confirms to what has been reported in most sub-Saharan countries where ~ 90% of all

cervical cancer cases occurs (Jedy-Agba et al., 2020) and which is the region most hard hit by this disease.

In this study, 47.9% of patients were diagnosed at advanced stages of cervical cancer, as compared to a study done in MTRH where 68.5% of participants presented with advanced stages of cervical cancer (Mwaliko et al., 2022). This difference may be attributed to the presence of screening services that may not have been available in the previous study. Screening services are important for early treatment and improved outcome of cervical cancer patients since those who are diagnosed early are more likely to have a good quality of life than those who are diagnosed late (Shajahan Ahamed & Degu, 2023). The stage of cervical cancer was identified as a key predictor of survival outcome, p-value < .0001 in this study, signifying that patient who are diagnosed early were less likely to die compared to those who were diagnosed late when the disease has already metastases to other body organs. Similar finding have been reported in study done in Ethiopia (Seifu et al., 2022), Ghana (Dunyo et al., 2018; Nartey et al., 2017) as well as in Baltic countries (Kojalo et al., 2023), where patient who were diagnosed at early stages, lived for longer time than those diagnosed at late stages.

Majority (67.5%) of patient in this study had no other comorbidity similar to a study done in KNH by Shajahan Ahamed & Degu (2023), where 65% of cervical cancer patient didn't have any other comorbidity. Having comorbidities, greatly aggravate the health status of patients and may have a negative effect on the quality of life given that cancer in itself affects the immune status of patient thus lowering their ability to respond to treatment (Santiago-Pérez et al., 2022). In this study, the few patient who had comorbidity were reported to have HIV (11.67%), a common occurrence among patient with cervical cancer and which has been predicted to contribute to lower survival rates(Seifu et al., 2022). A study in Nigeria, however reported hypertension (75.9%) and diabetes (25.0%) as the commonest comorbidities among cervical cancer patients(Salako et al., 2018).

Three modes of treatment were given to cervical cancer patients in this study which included surgery, chemotherapy and radiotherapy, but none showed significant association with survival rate although the treatment details of each mode were not available for analysis and comparison. The three modes are the recommended treatment depending on extent of the cervical cancer (Lin et al., 2022). This study's findings highlight the prevalence, survival outcome, factors associated with survival among cervical cancer patients for five years from year 2017 to year 2022. The results highlight the need for targeted interventions focusing on early detection and appropriate treatment for cervical cancer patients.

Conclusion

In conclusion, this study examined the records of 2328 cancer patients, 120 of whom had cervical cancer. The prevalence of cervical cancer among the study population was 5.16%. The overall survival rate for cervical cancer patients was 58.33%, indicating the need for improved patient management and outcomes of cervical cancer in this setting. Factors such as advanced age and late-stage diagnosis were found to be associated with lower survival rates. Early detection of cervical cancer is a key factors in

improving survival outcomes. Further research and interventions are necessary to enhance early detection efforts and reduce the burden of late-stage diagnoses in this population. Efforts should also be made to address the specific challenges faced by older patients and those with comorbidities to improve their overall survival outcomes.

Limitations

The retrospective nature of this study, reliance on medical records for data collection, missing or incomplete information, and the possibility of selection bias were some limitations. Efforts was made to mitigate these limitations through rigorous data collection, validation, and appropriate statistical analysis.

Declarations

Author Contributions

Conceptualization F.M, M.G and B.M.; methodology, F.M; data collection, B.M, F.M and M.G.; Formal analysis, F.M, M.G., and B.M.; writing—original draft preparation; F.M, M.G and B.M.; writing—review and editing; F.M and M.G. All authors critically reviewed and approved the final version of the manuscript.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and applicable ethical standards. Ethical approval was granted for this observational retrospective study.

Conflicts of Interest

The authors declare no conflict of interest.

References

1. Belbaraka, R., Benhima, N., Laatabi, A., El Fadli, M., & Essâdi, I. (2022). Incidence Trends of Cancer in Morocco: The Tale of the Oncological Center of Marrakech (Morocco) over 8 Years. *Journal of Cancer Epidemiology*, *2022*(volume XI). https://doi.org/10.1155/2022/3307194
2. Dunyo, P., Effah, K., & Udofia, E. A. (2018). Factors associated with late presentation of cervical cancer cases at a district hospital: a retrospective study. *BMC Public Health*, *18*(1156), 1–10. https://doi.org/10.1186/s12889-018-6065-6
3. Effah, K., Tekpor, E., Wormenor, C. M., Atuguba, B. H., Gedzah, I., Amuah, J. E., & Akakpo, P. K. (2022). A revolution in cervical cancer prevention in Ghana. *Ecancermedicalscience*, *16*, 1–9.

https://doi.org/10.3332/ecancer.2022.ed123

4. Jedy-Agba, E., Joko, W. Y., Liu, B., Buziba, N. G., Borok, M., Korir, A., Masamba, L., Manraj, S. S., Finesse, A., Wabinga, H., Somdyala, N., & Parkin, D. M. (2020). Trends in cervical cancer incidence in sub-Saharan Africa. *British Journal of Cancer*, *123*(1), 148–154. https://doi.org/10.1038/s41416-020-0831-9

5. Kalubula, M., Shen, H., Makasa, M., & Liu, L. (2021). Epidemiology of cancers in Zambia: A significant variation in cancer incidence and prevalence across the nation. *Malawi Medical Journal*, *33*(3), 186–195. https://doi.org/10.4314/mmj.v33i3.6

6. Kamita, M., Mweni, S., Nzioka, A., Figueroa, J. D., & Makokha, F. (2021). Analysis of cancer diagnoses from 2015-2019 within Machakos County, Kenya, support establishment of Cancer Centre in 2019 likely changing referral patterns. *Wellcome Open Research*, *5*, 1–12. https://doi.org/10.12688/WELLCOMEOPENRES.16340.1

7. Kobia, F., Gitaka, J., Makokha, F., Kamita, M., Kibera, J., Mwenda, C., Mucee, G., & Kilingo, B. (2019). The state of cancer in Meru, Kenya: a retrospective study. *AAS Open Research*, *2*, 167. https://doi.org/10.12688/aasopenres.13027.1

8. Kojalo, U., Tisler, A., Parna, K., Kivite-Urtane, A., Zodzika, J., Stankunas, M., Baltzer, N., Nygard, M., & Uuskula, A. (2023). An overview of cervical cancer epidemiology and prevention in the Baltic States. *BMC Public Health*, *23*(1), 660. https://doi.org/10.1186/s12889-023-15524-y

9. Lin, H., Wang, D., Li, H., Wu, C., Zhang, F., Lin, Z., & Yao, T. (2022). Survival, treatment pattern, and treatment outcome in patients with cervical cancer metastatic to distant lymph nodes. *Frontiers in Oncology*, *12*(August), 1–13. https://doi.org/10.3389/fonc.2022.952480

10. Macharia, L. W., Mureithi, M. W., & Anzala, O. (2018). Burden of cancer in Kenya: types, infection-attributable and trends. A national referral hospital retrospective survey. *AAS Open Research*, *1*, 25. https://doi.org/10.12688/aasopenres.12910.1

11. Ministry of Health. (2019). *Kenya Cancer Policy 2019-2030*. www.ncikenya.or.ke

12. Mwaliko, E., Itsura, P., Keter, A., De Bacquer, D., Buziba, N., Bastiaens, H., Akinyi, J., Obala, A., Naanyu, V., Gichangi, P., & Temmerman, M. (2022). *Survival of Patients With Cervical Cancer at Moi Teaching and Referral Hospital in Eldoret, Western Kenya*. https://doi.org/10.21203/rs.3.rs-2158838/v1

13. Mwenda, V., Mburu, W., Bor, J. P., Nyangasi, M., Arbyn, M., Weyers, S., Tummers, P., & Temmerman, M. (2022). Cervical cancer programme, Kenya, 2011–2020: lessons to guide elimination as a public health problem. *Ecancermedicalscience*, *16*, 2011–2020. https://doi.org/10.3332/ECANCER.2022.1442

14. Nartey, Y., Hill, P. C., Amo-Antwi, K., Nyarko, K. M., Yarney, J., & Cox, B. (2017). Cervical cancer in the Greater Accra and Ashanti Regions of Ghana. *Journal of Global Oncology*, *3*(6), 782–790. https://doi.org/10.1200/JGO.2016.005744

15. Obol, J. H., Lin, S., Obwolo, M. J., Harrison, R., & Richmond, R. (2021). Provision of cervical cancer prevention services in Northern Uganda: a survey of health workers from rural health centres. *BMC Health Services Research*, *21*(1), 794. https://doi.org/10.1186/s12913-021-06795-5

16. Olson, A. C., Afyusisye, F., Egger, J., Noyd, D., Likonda, B., Masalu, N., Suneja, G., Chao, N., Zullig, L. L., & Schroeder, K. (2020). Cancer incidence and treatment utilization patterns at a regional cancer center in Tanzania from 2008-2016: Initial report of 2,772 cases. *Cancer Epidemiology*, *67*(June), 101772. https://doi.org/10.1016/j.canep.2020.101772

17. Osok, D., Karanja, S., Kombe, Y., & Njuguna, E. (2018). Cancer Patients in Kenya : A Retrospective Follow-up Study. *East African Health Research Journal*, *2*(2), 118–127.

18. Pimple, S., & Mishra, G. (2022). Cancer cervix: Epidemiology and disease burden. *CytoJournal*, *19*, 21. https://doi.org/10.25259/CMAS_03_02_2021

19. Salako, O., Okediji, P., Habeeb, M., Fatiregun, O., Awofeso, O., & Joseph, A. (2018). The Burden of Comorbidities in Cancer Patients in Southwestern Nigeria. *Journal of Global Oncology*, *4*(Supplement 2), 61s-61s. https://doi.org/10.1200/jgo.18.14400

20. Santiago-Pérez, G. G., Amaya-Ardila, C. P., Umpierre, S. A., & Ortiz-Martinez, A. P. (2022). Effect of chronic comorbidities on quality of life of gynecologic cancer patients in Puerto Rico. *Revista Panamericana de Salud Publica/Pan American Journal of Public Health*, *46*, 1–9. https://doi.org/10.26633/RPSP.2022.29

21. Seifu, B., Fikru, C., Yilma, D., & Tessema, F. (2022). Predictors of time to death among cervical cancer patients at Tikur Anbesa specialized hospital from 2014 to 2019: A survival analysis. *PLoS ONE*, *17*(2 February), 1–15. https://doi.org/10.1371/journal.pone.0264369

22. Shajahan Ahamed, M., & Degu, A. (2023). Health-related quality of life among cervical cancer patients at Kenyatta National Hospital. *Journal of Oncology Pharmacy Practice*, *29*(2), 393–400. https://doi.org/10.1177/10781552211073886

23. Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians*, *71*(3), 209–249. https://doi.org/10.3322/caac.21660

24. Topazian, H., Cira, M., Dawsey, S. M., Kibachio, J., Kocholla, L., Wangai, M., Welch, J., Williams, M. J., Duncan, K., & Galassi, A. (2016). Joining forces to overcome cancer: The Kenya cancer research and control stakeholder program. *Journal of Cancer Policy*, *7*, 36–41. https://doi.org/10.1016/j.jcpo.2015.12.001

25. WHO. (2021). *WHO guidelines for screening and treatment of pre-cancerous lesions for cervical cancer prevention.* (second edi). WHO Press. http://www.guideline.gov/content.aspx?f=rss&id=49521&osrc=12