Data Article

Dataset evaluating the treatment timeliness of cervical cancer in Zambia

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ABSTRACT

Cervical cancer is the fourth most common cancer diagnosed among women globally. Effective screening routines and early detection are vital in reducing its disease burden and mortality. Several factors can influence the timely detection and treatment of cervical cancer, especially in low middle-income countries where the burden of this disease is highest. The data presented in this paper relates to

the research article "Cervical cancer diagnosis and treatment delays in the developing world: Evidence from a hospital-based study in Zambia". The raw and analysed data include the studied patients' social demographic factors, clinical data concerning the stage and histological subtype of cancer, dates at which the various activities within the cancer treatment pathway occurred and delays to definitive treatment of cervical cancer at Zambia's only cancer treatment facility. Detailing delays to the treatment of cervical cancer allows recognition of specific points in the cancer treatment pathway requiring intervention to effectively improve cancer care and reduce the morbidity and mortality associated with the disease.

Specifications Table

Subject	Health and medical sciences
Specific subject area	Gynaecology and Oncology
Type of data	Table
	Graph
	Figure
How data were acquired	Extraction from patient case files stored at the Cancer Diseases Hospital (CDH) in Lusaka, Zambia
Data format	Raw and Analyzed
Parameters for data collection	All patients presenting to CDH for the first time with the diagnosis of histologically confirmed cervical cancer. Patients not included were those with recurrence of the disease and/or comorbid malignancy and patients not managed at CDH. Patients with missing information relating to date of biopsy collection, date of receipt of histology results, date of first assessment at CDH and date of initiation of treatment were also excluded from the study. The study focused on patients presenting to CDH with maiden histology results of cervical cancer.
Description of data collection	Identification of all cervical cancer patient case files for those referred to the CDH between January 2014 and December 2018. Duplicates were removed and a systematic inclusion criterion established. All case files not fulfilling the inclusion criteria were excluded. These included those with non-maiden histological diagnosis of cervical cancer, those lacking the histological diagnoses of cervical cancer, those with recurrence of cervical cancer or its occurrence as a second/comorbid malignancy, those with cervical intraepithelial neoplasia (CIN) or other cancers besides cervical cancer and those with missing dates of biopsy, receipt of histopathology, initial patient assessment at CDH and initiation of the definitive treatment of cancer.
Data source location	Institution: Cancer Diseases Hospital, Nationalist Road, P/Box RWX1 50110 Ridgeway City/Town/Region: Lusaka
	Country: Zambia
Data accessibility	Mendeley Data, V2, https://doi.org/10.17632/hdv56x5vv7.2
	Data can be accessed at:
	https://data.mendeley.com/datasets/hdv56x5vv7/2
Related research article	Mumba JM, Kasonka L, Owiti OB, Andrew J, Lubeya MK, Lukama L, Kasempa C, Msadabwe SC, Kalinda C (2021) Cervical Cancer Diagnosis and Treatment Delays in the Developing World: Evidence from a Hospital-Based Study in Zambia. Gynecologic Oncology Reports. 2021:100784. https://doi.org/10.1016/j.gore.2021.100784.

Value of the Data

- The dataset is of value to the scientific community because it can serve as a reference for other researchers interested in determining the adverse effects of delays in the treatment of cervical cancer.

- The data can be used as educational material and for research that focuses on understanding global variations in the management of cervical cancer, and the importance of its timely diagnosis and treatment.
- The data can provide insights into factors that influence diagnostic and overall turnaround time in cervical cancer treatment in a low-income country.
- This data can be used to understand how centralization of cancer treatment may influence the risks of adverse health outcomes of cervical cancer.

1. Data Description

Cervical cancer is a significant cause of cancer-related mortality among women worldwide, with 90% of the cases occurring in low- and middle-income countries (LMICs) [1,2]. Although the disease is preventable, health system barriers such as the lack of organized screening programmes and delayed treatment have led to fatalities among many patients [3]. The dataset presented in this article is secondary data obtained from the registry unit of the only cancer treatment centre in Zambia, the Cancer Diseases Hospital (CDH) in Lusaka. Information relating to patients with a maiden diagnosis of cervical cancer presenting to CDH is outlined in the data. The data is a set of patient demographics, relevant clinical information and the clinical referral channel obtained from patient case files stored at CDH [4] and shared publicly in Mendeley [5]. The data includes the dates of cervical biopsy, receipt of histopathology results, histological subtype and stage of the cancer, and the dates of initial assessment and initiation of treatment of the patients at CDH. Analysis of this data can provide insights into factors that contribute to delays in the treatment of cervical cancer.

2. Experimental Design, Materials and Methods

2.1. Study area description

The Cancer Diseases Hospital (CDH) is a public tertiary institution providing oncology services in Zambia. It is in Lusaka. It is the sole provider of radiation therapy services in Zambia. The institution was established in the year 2007 to meet the growing demand for oncology services in Zambia and the rest of the Southern African region. The institution serves the entire population of Zambia which is estimated to be over 18 million. The Cancer Diseases Hospital receives patient referrals from all the 10 provinces of Zambia, as well as neighbouring countries such as Malawi, Zimbabwe, and the Democratic Republic of Congo. The facility is a comprehensive cancer treatment centre.

The Cancer Diseases Hospital treats approximately 3000 new cases of cancer annually, of which approximately 900 are cervical cancer. Therefore, cervical cancer is the most frequently treated cancer at CDH. Other more frequently treated cancers are prostate cancer, kaposi's sarcoma, and breast cancer. In addition, dead and neck cancers, gastro-intestinal malignancies, lymphomas, other gynaecologic malignancies, and various childhood malignancies are also treated at CDH.

The Cancer Diseases Hospital is also a specialist training site for Clinical Oncology, Radiation Therapy Technology, and Oncologic Nursing. The institution has both local and international students enrolled in these specialist training programs. As the demand for oncology services continues to rise in the country and the region, so does the need for trained specialists. Thus, these training programs are aimed at meeting this need for qualified personnel in cancer management.

2.2. Data collection

The data were collected from patient hospital case files of women aged between 21–90 years old treated at CDH between 1 January 2014 to 31 December 2018. The patients were

Table 1
Turnaround time for women in relation to marital status.

Marital status	Divorced, N = 109	Married, N = 1,092	Single, N = 220	Widowed, N = 501	p-value
Diagnostic TAT	40 (10–114)	33 (8–103)	31 (9–106)	28 (7–126)	0.7
Referral TAT	53 (27–152)	53 (24–155)	49 (22–138)	56 (22–144)	0.9
Assessment TAT	83 (28–170)	62 (27–138)	69 (31–152)	62 (26–120)	0.10
Overall TAT	138 (73–238)	106 (62–214)	117 (61–188)	104 (60–190)	0.3

Table 2
Turnaround time among women in relation to HIV/AIDS status.

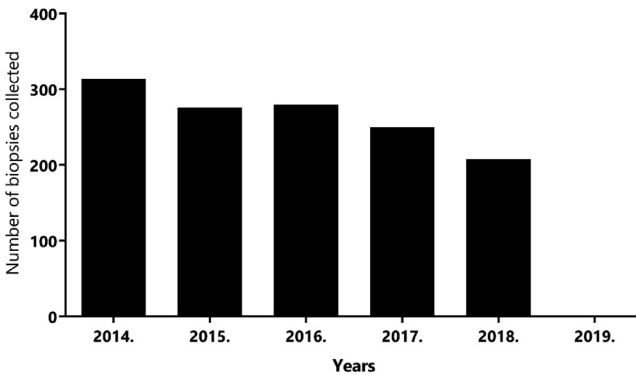| HIV status	No, N = 1,099[1]	Yes, N = 898[1]	p-value
Diagnostic TAT	32 (8–101)	28 (8–124)	0.6
Referral TAT	56 (25–154)	56 (23–154)	0.8
Assessment TAT	62 (27–137)	64 (31–135)	0.3
Overall TAT	106 (60–208)	114 (63–204)	0.4

Fig. 1. Number of cervical cancer patients presenting to CDH.

referred from the 10 provinces of Zambia. The data set comprised information from 2121 women. The data were analysed using descriptive and inferential statistics (Tables 1 and 2). The turnaround time from tissue biopsy to diagnosis of cervical cancer, turnaround times to receipt of histopathology results, referral to CDH, first assessment and initiation of definitive treatment of cervical cancer at CDH were determined (Figs. 1–6). Factors influencing the diagnosis and overall turnaround time to treatment of the disease were also analysed.

2.3. Data analysis

Data processing involved generation of categorical/factor variables from the raw data set that would then fit into the final model. We specifically generated the age category (21-30, 31-40, 41-50, …, 81-90), marital status (single, married, divorced, widowed), HIV status (yes, no), stage of the cancer (I-IV), laboratory location (Lus, CB, CP, other), treatment methods (Chemoradiotherapy, radiotherapy, palliation, chemotherapy, surgery) among others. Being a count data, Poisson distribution was a natural choice but the assumption of equality of mean and variance did not hold. Thus, a negative binomial distribution was used to adjust for over dispersion. Analysis was conducted in R(4.0.2) and Rstudio (1.4.1103-3). All the codes and the accompanying data is available upon request.
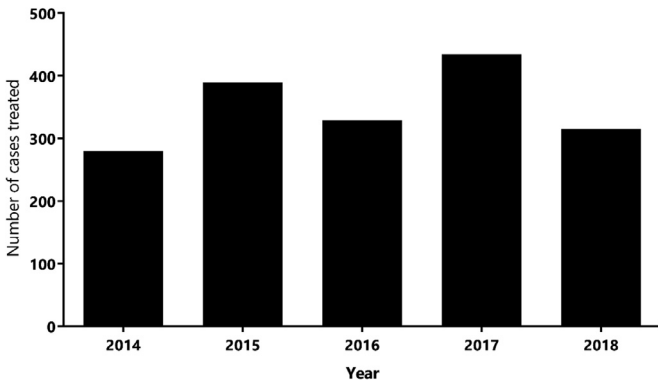
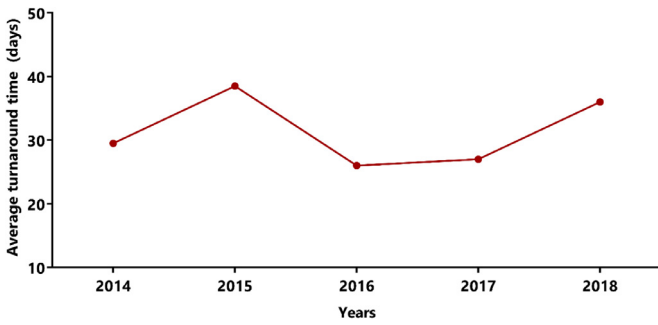**Fig. 2.** Number of cervical cancer patients treated at CDH.

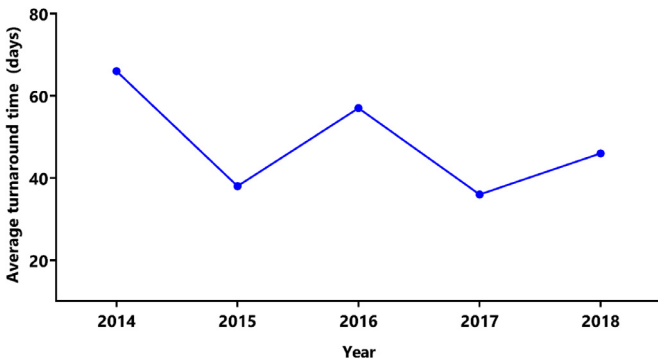**Fig. 3.** Annual diagnostic turnaround time for the years 2014-2018.

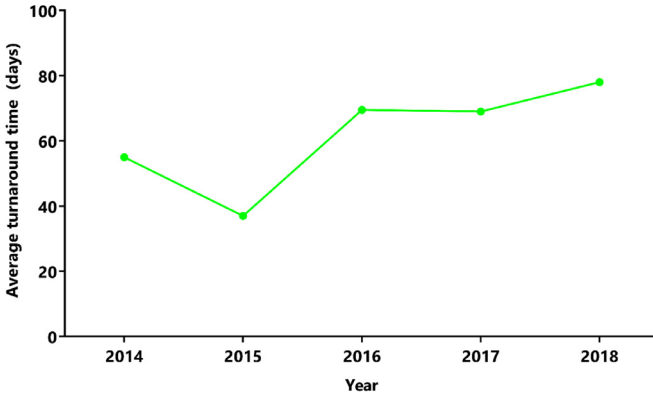**Fig. 4.** Annual referral turnaround time for the years 2014-2018.

Fig. 5. Turnaround time to first assessment at CDH for the years 2014-2018.
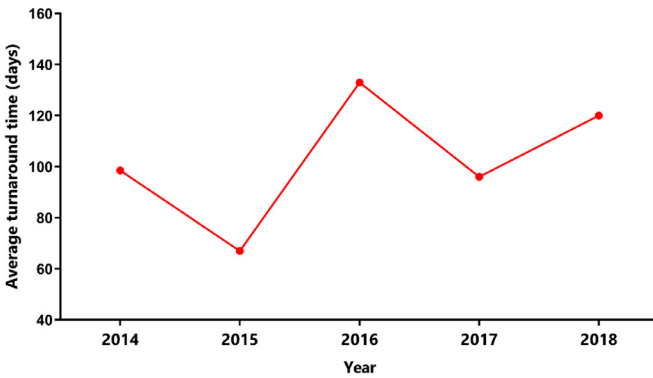

Fig. 6. Overall turnaround time from diagnosis to initiation of treatment for the years 2014-2018.

Ethics Statement

Ethical approval of the study was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) [Ref. No. 425-2019] and the National Health Research Authority (NHRA) while the gatekeeper permission was obtained from the Cancer Diseases Hospital [Ref: MH/CDH/101/14/1].

CRediT Author Statement

Jane Mwamba Mumba: Conceptualization, Methodology, Investigation; **Lackson Kasonka:** Conceptualization, Supervision, Writing – Reviewing and Editing; **Okola Basil Owiti:** Software and Data curation, Visualization, Software, Validation, Writing – Reviewing and Editing; **Susan C. Msadabwe:** Conceptualization, Supervision, Writing – Reviewing and Editing; **John Andrew:** Software and Data curation, Visualization, Software, Validation, Writing – Reviewing and Editing; **Mwansa Ketty Lubeya:** Conceptualization, Supervision, Writing – Reviewing and Editing; **Lufunda Lukama:** Writing – Reviewing and Editing; **Charlotte Kasempa:** Methodology, Supervision; **Chester Kalinda:** Writing – Original draft preparation, Visualization, Writing – Reviewing and Editing.

Declaration of Competing Interest

Susan C. Msadabwe is a Clinical and Radiation Oncologist at Cancer Diseases Hospital while Charlotte Kasempa is a medical doctor at the same hospital. The rest of the authors declare that they have no known competing financial interests or personal relationships which have or could be perceived to have influenced the work reported in this article.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2021.107201.

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