Excess Mortality Associated with Cancer in a Private HIV Care Program in South Africa

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BACKGROUND

- Many low- and middle-income countries with a high HIV prevalence still have an excess burden of the AIDS-defining cancers (Kaposi sarcoma, cervical cancer, non-Hodgkin lymphoma).
- Meanwhile, in an ageing HIV population, the burden of infection-unrelated cancers such as prostate cancer is increasing.
- Data on mortality in people living with HIV (PLWH) and cancer in lower- or middle-income countries are scarce.
- We quantified excess mortality associated with various infection-related and infection-unrelated cancers in a South African HIV disease management program.

METHODS

- The excess life-years lost (LYL) indicate how many years someone with an illness is expected to lose after onset of the illness, compared to someone of the same age who does not have the illness.
- We analyzed routine data from a private-care HIV disease management program based in South Africa (years 2012 to 2018) and estimated excess LYL associated with cancer before age 75.
- We identified cancers based on ICD-10 diagnoses from hospital reimbursement claims.
- We calculated excess LYL associated with various types of infection-related and infection-unrelated cancers, for men and women separately, and overall.

	Anogenital cancer	Breast cancer	Cervical cancer	Hodgkin lymphoma	Lung cancer	Kaposi sarcoma	Non-Hodgkin lymph.	Prostate cancer
N	121	254	273	204	167	371	516	221
Median age at diagnosis (years) [IQR]	45 [39-51]	44 [40-51]	42 [37-47]	43 [37-48]	50 [42-55]	40 [36-48]	43 [37-50]	57 [52-61]

Table: Frequency and age distribution of individuals diagnosed with cancer, for a selection of cancer types.

In this population of people living with HIV, an individual with cancer is expected to lose **16.5 life-years** compared to an individual without cancer.

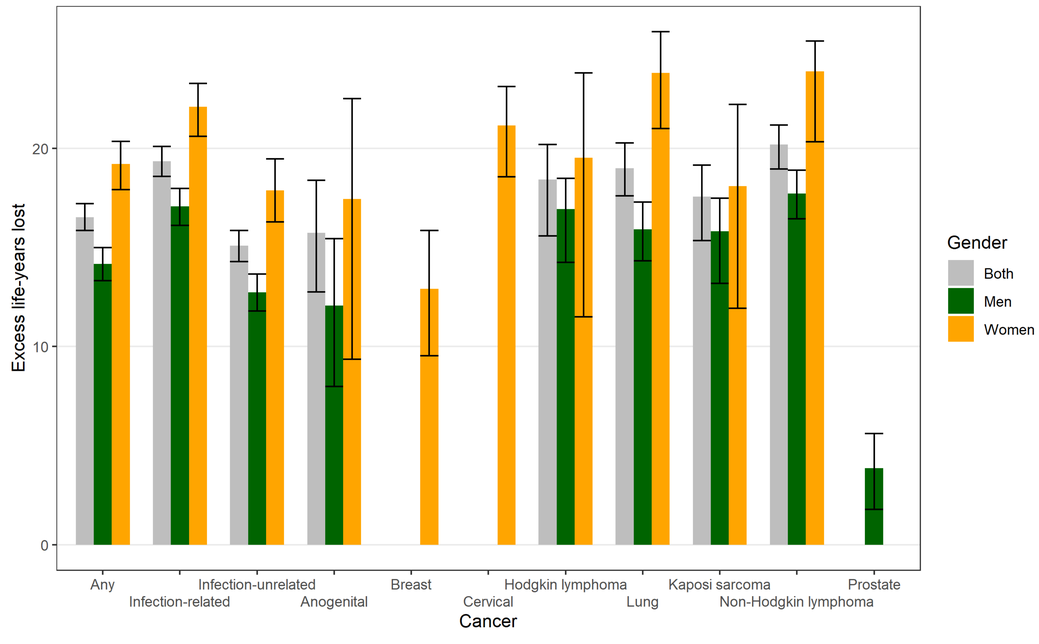

Figure: Excess life-years lost up to age 75 associated with various types of cancer.

RESULTS

- We included 122,051 PLWH, of whom 2,675 were diagnosed with cancer. The median age at cancer diagnosis was 45 years (IQR 38-53). (Table).
- An individual diagnosed with cancer was estimated to lose 16.5 life-years (95% CI 15.9-17.2) before the age of 75, compared to someone without cancer (Figure).
- Women lost more years (19.2 excess LYL, 95% CI 17.9-20.4) than men (14.2 excess LYL, 95% CI 13.3-15.0).
- Infection-related cancers (19.4, 95% CI 18.6-20.1) were associated with higher excess LYL than infection-unrelated cancers (15.1, 95% CI 14.3-15.9).
- Among the specific cancers we analyzed, non-Hodgkin lymphoma yielded the highest excess LYL (20.2, 95% CI 19.0-21.2), followed by lung cancer (19.0, 95% CI 17.6-20.3), cervical cancer (18.7 95% CI 16.2-20.7), Hodgkin lymphoma (18.4, 95% CI 15.6-20.2), and Kaposi sarcoma (17.6, 95% CI 15.4-19.2).

CONCLUSIONS

In South Africa, cancer often affects PLWH in their middle age and leads to many excess life-years lost. Infection-related cancers such as non-Hodgkin lymphoma and cervical cancer are major contributors to this loss. Cancer prevention efforts and early screening are essential to improve life expectancy for PLWH.

ADDITIONAL KEY INFORMATION

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