

cART [9]. Continued efforts to increase the awareness of pediatric KS may provide great impact in the vision to treat HIV and cancer in sub-Saharan Africa.

## Notes

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## Reply to El-Mallawany et al

We agree with El-Mallawany and colleagues [1] that Kaposi sarcoma (KS) causes a high burden of disease in human immunodeficiency virus (HIV)-infected children in Eastern and Southern Africa, the regions most heavily affected by the HIV/AIDS epidemic. Worldwide, 1.8 million children aged 0–14 years are HIV-infected and most of these (1.04 million; 58%) live in Eastern and Southern Africa [2]. HIV infection increases the risk of developing cancer by compromising the immune system and increasing susceptibility to oncogenic viruses [3, 4]. We recently showed that KS and non-Hodgkin lymphoma (NHL) are the cancers with the highest incidence in HIV-infected children in South Africa [5]. In a clinical trial in Malawi, median survival in HIV-infected children and adolescents with KS was <6 months [6]. Another study from South Africa showed that 10% of HIV-infected children with cancer died of treatment-related complications and severe infections [7].

Data on cancer burden and risk factors in HIV-infected children in African settings are scarce [8]. Even in well-funded Antiretroviral therapy (ART) programs in South Africa, cancer cases are frequently underreported. We previously linked data of 5 pediatric HIV programs participating in the International Epidemiology Databases to Evaluate AIDS (IeDEA) Southern Africa [9] with data of 4 referral pediatric oncology departments in South Africa using probabilistic record linkage methods [5]. We included data of 12 448 HIV-infected children and identified a total of 47 prevalent and 24 incident cancer cases. Of all cancer cases identified, 15.5% were only identified in the HIV cohort, 15.5% were identified both in the HIV cohort and in the oncology departments, and 69% were identified in the oncology departments only. Including cases identified through record linkage increased the rate per 100 000 person-years from 24 to 34 for KS and from 0 to 31 for NHL [5]. The risk of developing cancer was lower in children on ART (hazard ratio [HR], 0.29; 95% confidence interval [CI], .09–.86)

than in children not on ART. Other risk factors were higher age (>10 vs <3 years: HR, 7.3; 95% CI, 2.2–24.6) and immuno-deficiency at enrollment (advanced/severe vs no/mild: HR, 3.5; 95% CI, 1.1–12.0). In regions where pediatric oncology departments or functioning cancer registries exist, probabilistic record linkages with these data sources might be a valuable approach to improve cancer ascertainment. Alternatively, dedicated studies will be needed to better estimate cancer burden and monitor trends over time in HIV-infected children in African settings.

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## HIV/AIDS in Iran

TO THE EDITOR—Iran has previously been considered protected from human immunodeficiency virus (HIV) and AIDS because of dominant conservative cultural norms concerning sexual habits. However, more recent evidence shows that Iran is facing a rapid increase in the sexually transmitted spread of HIV [1]. Because Iranian policymakers usually respond by endorsing abstinence from illicit drug use and illegitimate sexual practices, the underlying problem is not addressed. While people who inject drugs have been the most effected by HIV over the years in Iran, Iranian female sex workers seem to be catching up [2]. Sex work is highly illegal throughout Iran and is thus greatly stigmatized. As a consequence, HIV/AIDS remains a taboo topic, and intervention, prevention, and treatment strategies have not been successful where there is high-risk behavior in the Iranian population coupled with

low-risk perception. However, the challenge of addressing the increasing threat of HIV spread in Iran is significant, since further neglect will most certainly lead to an epidemic. Nevertheless, breaking barriers with regards to this disease has remained a challenge since HIV is more than just a medical and biological problem.

While the global consensus, inspired by the Joint United Nations Programme on HIV/AIDS, is to achieve a shared vision of zero new HIV infections, zero discrimination, and zero AIDS-related deaths by 2030, it is important to keep in mind that such strategies need to be designed based on individuals' situations in different countries around the world. In the case of Iran, it is recommended that HIV prevention and treatment strategies be integrated within the existing religious, cultural, and social context. This is paramount because political, financial, social, and religious barriers have kept the most effective prevention and treatment approaches from reaching those with the most high-risk behaviors. Especially in the case of prevention strategies, it is key to view its success as a constant process, to be ever open to change and to be extremely flexible.

Thus, appropriate healthcare resource establishments, close collaboration with religious leaders, and adequate infrastructure should be the initial prevention and treatment strategies in Iran. Success stories in other Islamic countries such as Indonesia [3] leave experts hopeful that the same achievements can be accomplished in Iran. This is especially heartening since ignorance and neglect of the disease can lead to a full-blown epidemic, which can affect people not associated with illicit sexual relations or drug use.

## Note

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