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Population based cancer survival in Africa: first results and methodological considerations to the calculation of age adjusted cancer survival estimates

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Promotionsfach: Epidemiologie

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Cancer is not a rare disease in Africa, even if there are other diseases that pose a burden of much higher magnitude on the populations of many African countries today. In fact, the probability of developing cancer by the age 65, even if Kaposi sarcoma and skin melanomas are not included, is only around 20 percent lower for a woman living in Kampala or Harare today than it is for a woman living in western Europe. Therefore, there is every reason for the promotion of cancer control on the African continent. The initiation and management of cancer services should be based on scientific data and a careful assessment of existing health care options to help identify promising intervention options. This project constitutes a vital step in this process, as there was no information available on the survival of cancer patients on a population based basis from sub-Saharan Africa.

Despite numerous circumstantial difficulties, the collection of follow-up data was successful in both Harare and Kampala and data quality is comparable to studies from several other developing countries. In both countries, the obtained survival estimates can be considered to be largely accurate and good estimates for the true survival of cancer patients.

The survival of cancer patients in Zimbabwe and Uganda is very poor, and is characterized by staggering deficits in comparison to African American patients in the United States. Survival was in fact worse than survival in other non-African developing countries.

These results are unfortunately not surprising, considering that the two countries' health systems are under tremendous pressure due to the huge number of immediate and pressing public health problems that pose a much more serious burden of disease, such as HIV/AIDS, malnutrition, maternal mortality, malaria, and others. The lack of resources greatly limits the options for patients and health care providers alike.

Cancer management faces an enormous task in the two countries, and should be focused on the cancers with the largest burden on the population, which may be prevented, or screened for comparatively easily, and for which deliverable treatment promises with a positive outcome. On the policy level, the results underscore the importance of the consistent application of the national cancer control programme guidelines as outlined by the WHO.

The work presented here also demonstrates that the comparative analysis of existing cancer survival data from sub-Saharan African countries faces particular methodological challenges. A particular methodological focus of this work was on calculating age standardized survival which is needed for the valid comparison of cancer survival in cancer patient populations with different age structures. Sparse data has often hindered the calculation of such comparative estimates in the past. With a recently proposed alternative method, the calculability of age adjusted estimates has been improved. Nevertheless, the reliability of age adjusted estimates, due to sparseness of data in older age groups often receiving large weight with commonly used standard populations remains of concern. Additional steps, such as truncation of the age range, or the use of "balanced age groups" in age standardization may be helpful to overcome or at least limit these difficulties in certain situations. If the effect of age is not homogeneous in the patient populations included in the comparison of cancer survival between populations, or if the age distribution of the standard population strongly differ from the distribution of the patient populations, one may prefer not carry out age adjustment altogether, but rather present age specific survival estimates only.