

COMMENTARY

An Impending Cancer Crisis in Developing Countries: Are We Ready for the Challenge?

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Abstract

Cancers affect all communities worldwide. There are, however, marked differences in the prevalence and types of cancers among communities. While the total cancer burden remains the highest in affluent societies, less developed economies are closing the gap very rapidly. As developing countries succeed in achieving lifestyles similar to those in advanced economies, they will also encounter much higher cancer rates, particularly cancers of the breast, colon, prostate and uterus. The increased prevalence and incidence of cancers in developing countries reflects a wider transition in the global burden of diseases from infectious to a greater frequency of non-communicable, chronic illnesses.

Key Words: Developing world - cancer burden - transition phase - non-communicable diseases

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The Challenge

Several factors contribute to the transition of global cancer epidemiology. The reasons for differences in the incidence, pathology, mortality, and clinical characteristics of cancers in different geographical regions are manifold and complex. The rapid aging of populations is a major factor in global cancer trends. Other important factors are diet, tobacco, infectious agents, historical background, genetics, environment, lifestyles, socio-cultural and behavioral factors. Certain types of cancer, such as that of breast, colon, and prostate are associated with western lifestyle as demonstrated by their higher incidence in developed countries.

Whereas developed countries have made strides in prevention of some cancers, such as those caused by smoking, the incidence of these cancers are on the rise in developing countries. Another important distinction between developed and less developed economies is the incidence of preventable cancers caused by infections, for instance cancers of cervix, liver and stomach. Moreover, early detection and access to advanced diagnostic modalities and cancer therapies has also led to decline in the incidence and mortality of certain cancers in developed countries, not seen in less developed communities. Epidemiological data are useful to identify disparities in cancer risk factors, burden, detection and prevention, as well as treatment outcomes. Often, the epidemiological trends in the global burden of cancer reflect local economic and policy factors. Nevertheless, the enormous disparities in wealth between developing and developed countries

may also be relevant in the types, frequency, and outcomes of cancers as the developing countries only have 5% of the resources spent on cancer globally.

The overall age-standardized incidence rates of cancers among developing nations remain below those of developed countries. The starkest contrast in cancer incidence is seen in cancers associated with infectious diseases in developing countries and those associated with western lifestyle in developed countries, respectively. In developed countries, tobacco is a major culprit, causing one in three cancer deaths. While in the developing world, infections play the largest role; being responsible for almost one in four cancer deaths.

There is often a misperception that cancer is associated with wealthy nations and limited to the effects of diet, lack of exercise, and smoking. This is not true as 5.8 million of 10.8 million new cases of cancer worldwide in 2002 were in the less developed regions. This accounts for approximately 53% of total new cancer cases (Ferlay et al., 2004). But the future is even more alarming. By 2020, the total number of new cases is expected to increase by 29% in developed countries whereas; in developing countries an increase of 73% is expected (Kanavos, 2006).

The global cancer mortality is expected to increase by 104% by 2020. The increase in death rates will be about 5-fold greater in the developing world, compared to the established market economies. Nearly 70% of deaths in the looming cancer pandemic will be in the economically disadvantaged countries, reflecting that survival rates in these regions would be less than half of those in developed countries. This disproportionate

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mortality reflects belated reactions by overburdened health care systems that are ill equipped to deal with changing patterns of illness. Therefore, the cancer problem confronting the developing countries is potentially one of crisis proportions.

Much of this disparity in cancer mortality is attributable to lack of prevention and early detection. For example, more than 80% of cervical cancer, a disease potentially detectable in pre-cancerous stage, occurs in developing countries; where it is the most common cause of cancer death among women. As 80% of patients in developing countries already have incurable disease when first diagnosed, late diagnosis and inadequate treatment for advanced cancer contribute to mortality (Kanavos, 2006).

Reversing the trend of increasing cancer mortality is by no means an unrealistic or impractical target. This, however, requires a population highly sensitized to cancer risk factors and early detection and an economy ready to invest in mass scale screening programs and intensive treatment regimens.

Despite the seemingly bleak outlook for cancer burden in the developing world, there are many reasons for optimism. First, the cancer is potentially one of the most preventable chronic illnesses. Existing knowledge is sufficient to prevent at least one-third of the 10 million cancer cases that occur annually. Moreover, we already have the knowledge needed to curb aggressively the cancer burden of the developing world. With appropriate resources for its application, current understanding of early detection and treatment could prevent an additional third of expected new cases. For those with disseminated and advanced cancer, there are effective strategies that can increase survival. Understanding of palliative care could also alleviate a great deal of suffering and improve the quality of life in cancer patients and their families. For places where prevention remains suboptimal, there are promising approaches on the horizon, such as the availability of vaccines to prevent cervical cancer caused by human papilloma virus and the hepatocellular carcinoma caused by hepatitis viruses. Many comprehensive partnerships are underway to enhance oncology training and health research (Ngoma, 2006).

The opportunity to translate existing knowledge into cancer control is not only a reason for optimism, but it must also be a call to action. The struggle to curtail the increasing burden of cancer requires an enormous endeavor, requiring comprehensive policies to improve resources in prevention, early detection, diagnosis, treatment, rehabilitation and palliation. These strategies require substantial economic and human resources, as well as political will (WHO, 2002; Ngoma, 2006).

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