

Cancer Incidence and Mortality: Global Trends

Benny PV

Chief Editor, Kerala Medical Journal*

Published on 21st December 2020

Cancer remains one of the leading causes of morbidity and mortality worldwide. Despite decreases in the cancer death rates in high-resource countries, such as the USA, the number of cancer cases and deaths is projected to more than double worldwide over the next 20–40 years.¹ Globally by 2030, it is projected that there will be ~26 million new cancer cases and 17 million cancer deaths per year. The projected increase will be driven largely by growth and aging of populations and will be largest in low- and medium-resource countries. Under current trends, increased longevity in developing countries will nearly triple the number of people who survive to age 65 by 2050.¹

The most frequently diagnosed cancers by sex vary considerably across country. The most commonly diagnosed cancer among men is lung cancer in most parts of Eastern Europe and Asia; prostate cancer in North America, Western and Northern Europe, Australia, and South America; liver cancer in parts of West Africa; Kaposi sarcoma in central parts of Africa; esophagus in East Africa; and bladder cancer in Egypt. Among women, the most frequently diagnosed cancer is breast cancer in most parts of the world, including North America, Australia, Western Asia, North Africa, and parts of South America; cervical cancer in Central America, parts of South America, Sub-Saharan Africa, and India; liver cancer in Mongolia and Vietnam; and lung cancer in China and North Korea.

The incidence and mortality rates for most cancers, including lung, female breast, colo-rectum, and prostate are decreasing in developed, but they are increasing in several less developed and economically transitioning countries. In addition to the summing up of risks associated with tobacco, alcohol, diet, lack of exercise, and industrial exposures, the developing world is also burdened by cancers some of which are attributable to infectious diseases. The full impacts of these unhealthy lifestyle changes on the cancer burden in less developed

or economically transitioning countries are likely to take decades to be realized; new alarming trends in cancer rates have already emerged in these countries. Cancers related to infectious agents includes cancers of cervix, liver, and stomach cancers. The proportion of new cancer cases diagnosed in less developed countries is projected to increase from about 56% of the world total in 2008 to more than 60% in 2030 because of the increasing trends in cancer rates and expected increases in life expectancy and growth of the population.²

Migrant studies have documented that cancer rates in consecutive generations of migrants shift in the direction of the prevailing rates in the host country, reminds that the international variations in cancer rates for most cancers largely reflect differences in environmental risk factors (including lifestyle and culture) rather than genetic differences.³ Disparities in cancer risk combined with poor access to epidemiological data, treatment, research, and cancer control and prevention combine to result in significantly poorer survival rates in developing countries for a range of specific malignancies.⁴

The pattern of cancer risk factors are changing so rapidly. In general, smoking, dietary patterns, and reproductive behaviors have been known to be the major risk factors for cancer in western (host) countries, and infectious agents in economically developing countries. While smoking prevalence is declining in economically developed countries, it is increasing in some developing countries in South America, Asia, and Africa. For example, current smoking prevalence among adult men in the West, including the United States, is about 20%, compared with more than 60% in China, Indonesia, Greece, and Jordan. This demographic shift in cancer pattern is compounded by the entrenchment of modifiable risk factors such as smoking and obesity in many low-and medium-resource countries and by the slower decline in cancers related to chronic infections

Cite this article as: Benny PV. Cancer Incidence and Mortality: Global Trends. IMA Kerala Medical Journal. 2020 Dec 21;13(4):125–6.

Corresponding Author:

Dr Benny PV, Chief Editor, IMA Kerala Medical Journal; Professor, Department of Community Medicine, Sree Gokulam Medical College, Kerala, India. Email: drbennyvm@gmail.com

(especially stomach, liver and uterine cervix) in economically developing than in industrialized countries.

The recent trends in the epidemiology and survival of cancers in the developing and developed world consist of mainly by raising awareness as well as education and training to promote better informed decision-making, together with improved cancer surveillance, early detection and emphasis on prevention. Improved health care financing and international initiatives and/or partnerships could also provide additional impetus in targeting resources where needed urgently.

WHO is working with its cancer research agency, International Agency for Research on Cancer (IARC), to strengthen research into cancer, as well as increase support to Member States with guidelines, strategies and interventions for the prevention and treatment of cancer, including the Global Strategy on Diet and Physical Activity and the Framework Convention on Tobacco Control Treaty (5).

WHO has developed guidelines and policies for establishing an effective national cancer control program to accelerate the translation of cancer control knowledge into action according to capacity and economic development. In economically developing countries, this includes raising awareness on the increasing burden of cancer, reducing the prevalence of major risk factors (obesity, tobacco, and infectious agents), the application of low-technology and cost-effective approaches to prevention/early detection of cervical cancer, and improving the availability of palliative care. International public health agencies and private and govern-

ment donors can play significant roles in strengthening existing cancer control programs and/or implementing new programs to arrest the growing burden of cancer in economically developing countries. Development of a cancer control program should include the establishment of a cancer registry to assess the cancer burden and identify priorities and to evaluate the effectiveness of the program.

END NOTE

Author Information

Dr Benny PV, Chief Editor
IMA Kerala Medical Journal;
Professor, Department of Community Medicine
Sree Gokulam Medical College, Kerala, India.

Conflict of Interest: None declared

REFERENCES

1. Thun MJ, DeLancey JO, Center MM, Jemal A, Ward EM. The global burden of cancer: priorities for prevention. *Carcinogenesis*. 2010 Jan 1;31(1):100–10.
2. Ahmedin Jemal Melissa M. Center Carol DeSantis Elizabeth M. Global Patterns of Cancer Incidence and Mortality Rates and Trends. [Internet]. 2010 Aug. Available from: <http://cebp.aacrjournals.org/content/19/8/1893>
3. (Emeritus) DSJGSP of EU of MS of PH, Director D of CE and GNCIJFFJ. *Cancer Epidemiology and Prevention*. Oxford University Press, USA; 2006. 1412 p.
4. Kanavos P. The rising burden of cancer in the developing world. *Ann Oncol*. 2006 Jul 1;17(suppl 8):viii15–viii23.
5. WHO | The 58th World Health Assembly adopts resolution on cancer prevention and control [Internet]. WHO. [cited 2015 Jul 16].