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Letter to the Editor

Inequality in the Incidence and Mortality of All Cancers in the World

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Dear Editor-in-Chief

In the recent years, incidence and mortality of cancer, has been increasing in the world (1). Therefore, cancer is one of the major public health problems in many countries (2).

The incidence of cancer is different in various countries. Geographical differences in the cancer incidence may be due to different distribution of cancer risk factors in the world. Many of risk factor causes cancer, a risk factor for incidence and mortality of cancer is related to development, so that, previous studies have examined the role of indicators associated with development such as Human Development Index(HDI) with the incidence and mortality of some cancers (3). There are significant differences between developed and developing countries according to prevalence of cancers (4).

One of these indicators is HDI, this index is a number between zero and one. According to HDI, countries in the world are divided into four categories: Countries with very high HDI (HDI> = 0.9), countries with a high HDI (HDI> = 0.8), Medium HDI countries (0.8> HDI> 0.5), and countries with a low HDI (HDI <= 0.5), the index proposed by UNDP in 1990 as an indicator of comparison of countries in three human aspects (5).

It is possible to find significant differences between developed and developing countries according to prevalence of cancers. The aim of this study was to investigate the relationship between incidence and mortality of all cancers with human development index (HDI) in 2012.

In this study, we extracted data related to all cancers excl. non-melanoma skin cancer from International Agency for Research on Cancer (IARC) database. In this project, cancer incidence and mortality are calculated and recorded for 184 countries (6). We compared the incidence and mortality all cancers excl. non-melanoma skin cancer in countries with difference HDI.

In 2012 in world cancer incidence in high human development index countries (41%) and mortality rate in this countries is (32%), whereas cancer incidence in medium development index countries consist 37% of cancers occurring in the world, but 45 percent of death event in this countries.

Cancer incidence in developed countries is high but mortality rate in developing countries is high (Fig. 1, 2). A positive relationship between HDI and the incidence of cancers and negative relationship between HDI and the mortality of cancers and HDI is reported.

With increasing income and improving living standards in developing countries, the incidence of some cancer increases. This may be due to longer life, higher exposure to risk factors, eating

more fatty foods and obesity, and lower pregnancy rates (7).

High incidence rates for some cancers in developed countries may reflect the detection method is through screening and imaging techniques. Early detection reduces the mortality rate in these countries (8), in high-income countries, taking advantage of better diagnostic methods significantly is different from other countries (9). Lower survival in cancer patients more related with the lack of access to quality care, not biological differences between tumors (10).

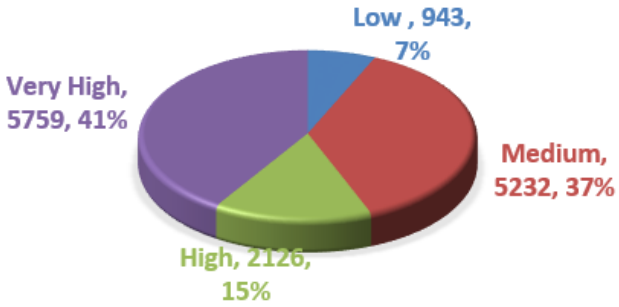

Fig. 1: All cancers excl. non-melanoma skin cancer: Both sexes estimated number of cases (* 1000)

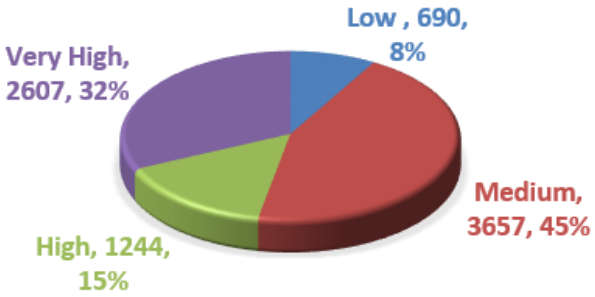

Fig. 2: All cancers excl. non-melanoma skin cancer: Both sexes estimated number of death (* 1000)

Right now in developing nations, diagnostic information cannot be properly completed (8).

In conclusion cancers in low and moderate HDI countries is increasing, so it is necessary to be planning for the control and prevention of cancers as a priority for health policy makers in these countries, also further epidemiological studies into the etiology and early detection are essential.

Acknowledgement

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