Global Incidence and Mortality Rates of Stomach Cancer and the Human Development Index: an Ecological Study

Salman Khazaei[1], Shahab Rezaeian[2], Mokhtar Soheylizad[1], Somayeh Khazaei[3], Azam Biderafsh[4]*

1Department of Educational Health, School of Public Health, Hamadan University of Medical Sciences, Hamadan,
2Social Development & Health Promotion Research Center, Gonabad University of Medical Sciences, Gonabad, 3Operating Room, Rafsanjan University of Medical Sciences, Rafsanjan, 4Department of Social Medicine, Qom University of Medical Sciences, Qom, IR Iran *For correspondence: abiderafsh@yahoo.com

Abstract

Background: Stomach cancer (SC) is the second leading cause of cancer death with the rate of 10.4% in the world. The correlation between the incidence and mortality rates of SC and human development index (HDI) has not been globally determined. Therefore, this study aimed to determine the association between the incidence and mortality rates of SC and HDI in various regions.

Materials and Methods: In this global ecological study, we used the data about the incidence and mortality rate of SC and HDI from the global cancer project and the United Nations Development Programme database, respectively.

Results: In 2012, SCs were estimated to have affected a total of 951,594 individuals (crude rate: 13.5 per 100,000 individuals) with a male/female ratio of 1.97, and caused 723,073 deaths worldwide (crude rate: 10.2 per 100,000 individuals). There was a positive correlation between the HDI and both incidence ($r=0.28$, $P<0.05$) and mortality rates of SC ($r=0.13$, $P = 0.1$) in the world in 2012.

Conclusions: The high incidence and mortality rates of SC in countries with high and very high HDI are remarkable which should be the top priority of interventions for global health policymakers. In addition, health programs should be provided to reduce the burden of this disease in the regions with high incidence and mortality rates of SC.

Keywords: Stomach cancer - human development index - incidence - ecological study