

RESEARCH PAPER

Cancer mortality-to-incidence ratio among Iraqi citizens: Nine-year National Estimates (2012-2020) and its relation to population growth rate and health expenditure

Jasim N Al-Asadi^{1*}, Jasim M Salman¹

Address for Correspondence:

Jasim N Al-Asadi^{1*}

¹College of Medicine, University of Basrah

Email:jnk5511@yahoo.com

ORCID iD: 0000-0003-1507-9738

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ABSTRACT

Background: Cancer continues to be a significant worldwide health concern with substantial mortality. The cancer mortality-to-incidence ratio (MIR), a proxy measure of observed five-year survival, can serve as a valuable indicator of cancer management outcomes and healthcare disparities among countries. This study aims to determine the MIR trend for all cancers combined among Iraqi citizens during 2012-2020 for health expenditure percentages out of the gross domestic product (e/ GDP (%)) and population growth rate.

Methods: The study used the Iraqi Cancer Registry annual reports for cancer data and World Bank data for health expenditure and population growth. Simple linear regression analysis examined the relationship between health expenditure, growth rate, and MIR, while joinpoint regression analysis examined the trend over time. The Ethics Committee of the College of Medicine at the University of Basrah approved the study.

Results: An increasing trend in crude incidence rates for all cancer types combined was seen with a decrease in mortality rates from 2012 to 2020 in both sexes. A non-statistically significant reduction in MIR was found with an average annual percent change (AAPC) of -3.1% (P = 0.100). The decrease in MIR was higher among females than males, with a statistically significant difference (P = 0.003). High health expenditure presented as e/GDP (%) was associated with a favorable cancer survival rate, but this was not statistically significant (R² = 0.263, P = 0.158). In contrast, a low growth rate was significantly associated with cancer patients' survival (R² = 0.505, P = 0.032).