

Incidence and mortality of the most common cancers in the Eastern Mediterranean Region, focusing on IRAQ

Nada A. S. Alwan.^a

ABSTRACT

The Eastern Mediterranean region encompasses a diverse group of countries with varying levels of healthcare infrastructure and resources. Over the past few decades, there has been a noticeable increase in cancer incidence rates across many countries in this region. That dilemma continues to pose a significant challenge, with breast, lung, and colorectal cancers emerging as major public health concerns. Ageing of the populations, life-style changes, environmental influences and limited access to early detection and treatment services are major factors contributing to the rising burden of cancer. It is crucial to understand the evolving trends, disparities, and challenges in cancer incidence and mortality within the different countries of the region. The pivotal significance of aligning with the World Health Organisation's Cancer Control Programs is highly emphasised to enhance prevention, early detection, and treatment strategies in these areas.

Key words: Cancer, incidence, mortality, trends, Eastern Mediterranean region, WHO cancer control programs.

INTRODUCTION

The Eastern Mediterranean region (EMR) comprises a population exceeding 760 million individuals living in 22 countries, which display large variations in national demographics and rankings on the Human Development Index (HDI).^[1,2] Whereas Iraq falls within the medium category, the overall HDI of the EMR varies, with some countries achieving high levels while others fall into the low categories. In general, countries of the EMR face a growing burden of cancer driven by a complex interplay of genetic, environmental and lifestyle factors. Despite advancements in cancer care and treatment in some countries of the region, mortality rates remain a significant concern. Challenges such as late-stage diagnosis, gaps in healthcare delivery and limited access to quality care have hindered efforts to reduce cancer-related deaths.^[2-5] As cancer rates continue to escalate

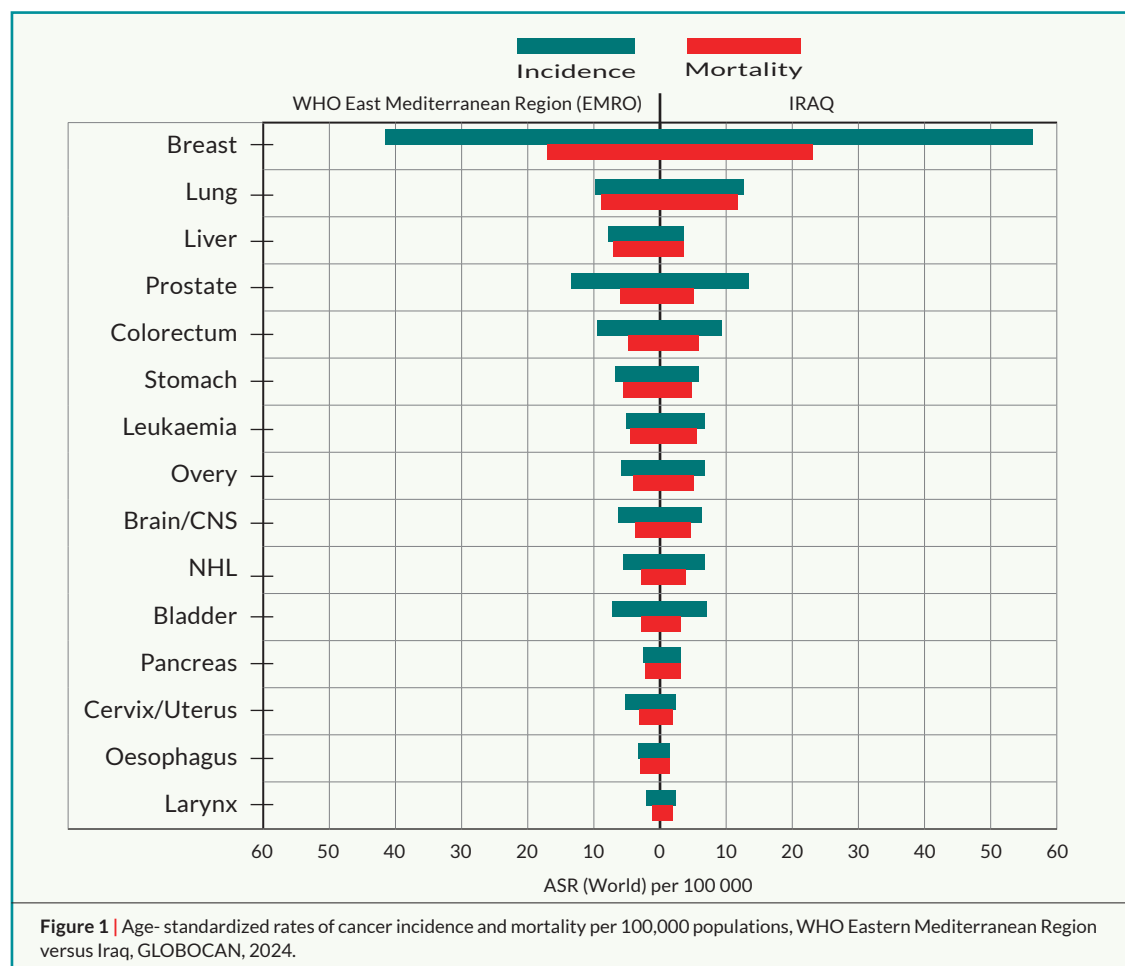
in the region, addressing the epidemiological trends in incidence and mortality and implementing evidence-based interventions, guided by the World Health Organization (WHO), are considered mandatory steps for effective control of cancer in the EMR.^[6]

Overall Cancer Incidence and Mortality

Recent global data illustrates the alarming rise in cancer incidence and mortality rates across countries in the EMR. The latest registry from the Global Cancer Observatory reported 781,574 newly diagnosed cancer cases and 485,347 deaths in the EMR during 2024; whereas the number of prevalent cases reached 1,867,485. The age-standardised rates of cancer incidence and mortality were 127 and 82 per 100,000 population, respectively. The top cancers among both sexes were diagnosed in the Breast, Lung and Colorectal, and the



^a: MD, PhD Path, Emeritus Professor, Medical College, University of Baghdad, Iraq. E mail: nadalwan@yahoo.com.



leading cancer sites ranked by deaths were the Breast, Lung and Liver.

The corresponding data registered for Iraq in the same reference year displayed a total of 37,382 new cancer cases, 21,536 cancer deaths, with a prevalence number exceeding 96,000, see [Table 1](#). Age-standardised rates for cancer incidence and mortality were 136 and 84 per 100,000 population, respectively. The top cancers in terms of incidence among both sexes were also in the Breast, Lung and Colorectal, whereas the leading mortality was due to cancers of the breast, lung and Leukaemias.^[1,4] WHO projection models predicted that the number of incident cases in the EMR is likely to double by 2040; indicating the highest estimated increase in cancer incidence among all WHO regions.^[4] Factors that contribute significantly to the rise in

cancer burden in this part of the world include population growth, longer life expectancy, environmental exposures to risk factors and lifestyle transitions (eg. tobacco use, physical inactivity and poor dietary habits), access to timely diagnostic and treatment services remains limited in many countries; exacerbating the challenges faced by the healthcare systems and the affected individuals in addressing the growing impact of cancer.^[7]

Trends of the Most Common Cancer Types

The incidence rates of the top leading cancers in Iraq are consistent with those registered among the overall EMR as far as the Breast, Lung, Colorectum, and Prostate are concerned.^[1,4,5] Female Breast cancer is by far the most prevalent type of malignancy worldwide, and its burden continues to

expand steadily in upward trends in Iraq and the EMR, reflecting lifestyle westernisation and improved detection practices. Although a national program for early detection of breast cancer was established in Iraq in 2001, it still ranks first among female cancer-related deaths. The low survival in Iraq and other countries within the EMR is mainly attributed to late-stage presentation, resulting from many factors that include stigma, limited access to diagnosis and remarkable gaps in the knowledge and attitudes towards the disease even among the educated female sector of the community.^[5,7-10]

Lung cancer remains the main cause of related morbidity and mortality among men in Iraq, EMR and worldwide.^[1,4] It continues to demonstrate a worrisome escalating trend that is closely associated with the tobacco epidemic and environmental pollution, particularly in urban settings.^[5,7,9-11] Similarly, Colorectal and Prostate cancer incidence and mortality patterns have been on the rise in Iraq and the EMR during the last decades, displaying markers of socio-economic development that encompass ageing of the population, modifications of lifestyle, physical activity, diet and exposure to environmental agents.^[5,7,10,12] The management of common cancers in the EMR necessitates targeted strategies to address modifiable risk factors and upgrade prevention, early detection, treatment and control efforts.

Cancer Control Priorities

Developing a robust population-based cancer registry is a fundamental priority in the EMR, where reliable data can be used to monitor trends in incidence, geographical patterns, mortality, and survival. Although more than 50% of EMR countries have functional cancer registries, there is considerable variation in terms of coverage and quality, reflecting the different stages of development in the region.^[2,3,9] Promoting prevention strategies is considered one of the major priorities in the region. Apart from raising community awareness, some of the leading cancers can be prevented through feasible, cost-effective

public health interventions. The implementation of WHO FCTC recommendations (Framework Convention on Tobacco Control) demonstrated a significant role in reducing tobacco consumption and controlling lung cancer.^[2,6,13] Early detection, through early diagnosis and/or screening approaches, is another important key priority to control several prevailing cancers in EMR (including Breast, Colorectal and Prostate cancers). The provision of appropriate treatment and palliative care remains a dilemma in low-income countries of the region, where out-of-pocket expenditure could reach 70%.^[2,13]

Disparities and Challenges

Socio-economic disparities and variations in healthcare infrastructure contribute to different cancer outcomes within the EMR. The WHO "Cancer Control Knowledge into Practice" program provides valuable resources and tools for enhancing cancer care delivery, addressing disparities and promoting equitable access to quality services.^[6] Strengthening the capacity of the health systems to deliver comprehensive cancer care is a critical factor in mitigating disparities and improving survival rates in underserved communities of the region.^[13] It has been estimated that approximately 50% of countries in the EMR do not have operational national cancer control plans.^[2] In addition to the challenge emerging from fragile healthcare systems and fragmented public services, establishing cancer control programs has been largely impeded by political instability, humanitarian crises and acute emergencies. Other obstacles include scarcity of resources, poor infrastructure, financial constraints, limited access to cancer medicines and dependence on the private sector.^[13] In Iraq, a national cancer control plan was developed in 2010; nevertheless, the repercussions of the successive wars, local conflicts, and displacements witnessed over the past decades have yielded a substantial decrease in the availability of the requested medical resources, thus disturbing the provision of optimal cancer care services.^[9, 14]

CONCLUSION

The incidence and mortality of the top leading cancers in the EMR and Iraq are steadily increasing in an alarming pattern. However, they remain underestimated due to suboptimum registration and a lack of appropriate surveillance systems. Effective, well-governed national cancer control programs are crucial to reduce the burden of cancer in the EMR. Although progress in cancer planning has been achieved in some countries, many gaps still exist in the implementation stage, particularly in low-resource settings due to financial constraints, misalignment with national health strategies, a lack of evaluation, and political instability. Addressing the complex challenges of cancer control in the EMR requires a multifaceted intervention approach that should encompass accurate population-based registration and comprehensive strategies to strengthen prevention, early detection, treatment and palliative care measures. By embracing the recommendations outlined in WHO's Cancer Control Programs, policymakers and healthcare providers can collaborate to leverage best global practices in reducing the cancer burden in the region, through dismantling existing barriers, minimising disparities, and improving the quality of life for cancer patients and their families.

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Abbreviations list: Eastern Mediterranean region (EMR), Framework Convention on Tobacco Control (FCTC), Human Development Index (HDI), World Health Organization (WHO).

Conflict of interest: Authors have nothing to declare.

Funding: Nothing apart from personal fund.