

CONTEMPORARY CHALLENGES IN CANCER CARE IN LMICS: PERSPECTIVES FROM AWARENESS, PREVENTION, SCREENING, AND HEALTH FINANCING RESEARCH

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Cancer care continues to pose one of the most formidable public health challenges of the twenty-first century, as an increasingly disproportionate burden is borne by low- and middle-income countries (LMICs). The increasing epidemiology of malignancies in LMICs, delayed presentation, increasing morbidity from the disease, lack of ready access traditional and precision treatment with eventual poor outcomes are characteristics of cancer care in LMICs exposing the profound weaknesses and gaps in the health systems in these resource constrained settings regarding.

Current evidence as provided by recent estimates from the World Health Organization (WHO) and the International Agency for Research on Cancer (IARC) suggest that the steepest proportional increases in cancer incidence and mortality are expected in lower-income countries over the coming decades despite having the least capacity to respond effectively to the growing burden of disease.¹

Furthermore, the substantial inequities between LMICs and High-income countries (HICs) in access to screening, diagnosis, treatment, palliative care for cancer care is attributed the lack of financial protection of patients with cancer diagnosis.² Thus, creating a widening gap between cancer outcomes in high-income countries and those in LMICs.

Again, Artificial intelligence (AI) represents an emerging frontier with significant potential to address some of the systemic gaps in cancer care in LMICs. From AI-assisted image analysis for early detection of breast and cervical cancers to natural language processing tools that can support health literacy campaigns in local languages, these technologies offer scalable, low-cost solutions that are particularly relevant in resource-constrained settings. Additionally, AI applications in health financing, including predictive modelling for insurance risk stratification and fraud detection in mobile health payment systems, align with ongoing efforts to expand financial protection for cancer patients. However, realising this potential will require deliberate investment in digital infrastructure, context-specific validation of AI tools, and governance frameworks that ensure equitable access and ethical deployment across diverse LMIC settings.

Given the above realities, there have been calls to increase funding for cancer screening, diagnosis and care. However, a more pragmatic approach given resource constraints remain increase public awareness about risk factors for different malignancies and possible preventive strategies and early identification of symptoms of malignancy to ensure early presentation and increased opportunity at achieving cure with attendant reduction in cancer related morbidity and mortality. The WHO suggest that a significant proportion of malignancies can be prevented through modification of known risk factors. It is estimated that approximately 30 – 50% of cancers are potentially preventable through evidence-based interventions.³ Such interventions avoid tobacco use, maintain a healthy weight, eating a healthy diet with plenty of fruit and vegetables, exercise regularly, and to limit alcohol use.³

Studies have demonstrated that cancer awareness levels of risk factors, preventive strategies and symptoms, especially for the most common malignancies, such as breast, cervical, colorectal, lung and prostate cancers remain suboptimal in LMICs⁴. This gap is compounded by cultural beliefs, myths, stigma, misconceptions about cancer causation, fear of diagnosis, and low health literacy among the populace. It is being proposed that awareness campaigns should focus on sustainable community engagement, school-based health education, and digital health communication. Strengthening cancer literacy should therefore be viewed not merely as a communication strategy but as a foundational component of cancer control policy.

Several manuscripts in the edition of this journal (Volume 24, Issue 1) reflect on the awareness levels among the populace about breast, colorectal and lung cancers. They also reflect on unique characteristics of treatment characteristics and long-term complications of cancer treatment. It is hoped that this will provide the new trends in awareness levels and attitudes towards cancer prevention in LMICs and guide further intervention by researchers and policy makers in reducing the burden of malignancy in LMICs. Also explored in this issue is an innovative modality in increasing healthcare funding and insurance coverage using technological advancements of the 21st century,

with the aim of reducing financing disparities in health care financing including cancer care.

The insights from these and other articles within the pages of this edition offer a meaningful contribution to the ongoing journey of an evolving scientific world that focuses on improving health awareness, attitudes, providing first aid measures, providing treatment and improving policy practice. It is hoped that the scientific community will find this issue both enlightening and thought-provoking.

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