

EDITORIAL

The Rising Burden of Noncommunicable Diseases in Low- and Middle-Income Countries: A Global Health Challenge

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INTRODUCTION

Noncommunicable diseases (NCDs) have become one of the most significant global public health challenges of the 21st century. NCDs are chronic conditions, also known as lifestyle-related diseases that are not transmitted from person to person, tend to be of long duration, typically progress slowly over time^{1,2}. These diseases are generally incurable but manageable through early detection, lifestyle changes, and medical treatments³. World Health Organization (WHO) classified NCDs into four major disease groups: (i) cardiovascular diseases (CVDs) which include heart attack and stroke, (ii) cancer, (iii) diabetes, (iv) chronic respiratory illness diseases (such as asthma, chronic obstructive pulmonary disease (COPD) which now account for the majority of global mortality and morbidity worldwide^{4,5}. However, NCDs have expanded beyond the “classic” four groups of diseases to include a wider range of chronic conditions including hepatic, renal, and gastroenterological diseases, endocrine, haematological, and neurological disorders, dermatological conditions, genetic disorders, trauma, mental disorders, and disabilities (e.g., blindness and deafness)¹. This

broader definition acknowledges that these diseases, despite their diversity, share similar risk factors (tobacco, alcohol, unhealthy diet, physical inactivity) and require long-term care.

This global burden of NCD is not merely a health issue; it is an emergency posing significant public health crisis that needs urgent care and attention as these diseases strike people in their most productive years, strain fragile health systems, and entrench cycles of poverty. Traditionally associated with high-income countries, NCDs are now increasingly prevalent in low- and middle-income countries (LMICs). This editorial explores the growing global burden of NCDs, their underlying risk factors, current prevention and control efforts, and the key challenges that remain.

NCDs as a Global Burden

According to the WHO, NCDs are responsible for around 43 million deaths in 2021, which is equivalent to three-quarters of non-pandemic-related deaths worldwide². The fastest growth of NCDs causes a disproportionate share occurs in LMICs accounting for 73% of all NCD deaths. In 2021, the number of total deaths from an NCD were 18 million before age 70 years where

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82% of these premature deaths occur in LMICs². Study reported CVDs being the leading cause of death (17.9 million deaths annually), followed by cancers (9 million), chronic respiratory diseases (3.9 million), and diabetes (1.6 million) placing immense strain on health care systems and economies particularly in resource-constrained settings¹.

Risk Factors Contributing to NCDs

NCDs affect people in all age groups in all countries. The key risk factors causing NCD includes behavioural, metabolic, environmental and non-modifiable factors. The behavioural risk factors are unhealthy diets, tobacco use, harmful use of alcohol and physical inactivity. The metabolic risk factors are high blood pressure, rising high BMI (overweight/obesity), high blood sugar and abnormal blood lipids including high cholesterol. The environmental risk factors include indoor and outdoor air pollution accounting for a large number of global deaths causing stroke, ischaemic heart disease, chronic obstructive pulmonary disease, and lung cancer². The non-modifiable risk factors are age, gender, genetic factors, race, and ethnicity¹.

Diets high in processed foods, sugar, salt, and unhealthy fats are leading drivers of NCDs, such as heart disease, diabetes and cancers^{5,6}. Moreover, declining physical activity and high body mass index resulting from rapid urbanisation, and continuous development in technology and social changes are linked to higher incidence of NCDs^{1,7}. Globalization has significantly accelerated the spread of NCDs by facilitating unhealthy commodities like tobacco, ultra-processed food and soft drinks, and alcohol into emerging markets globally. This shift often drives a “nutrition transition” replacing traditional diets with high-calorie, low-nutrient products. These unhealthy commodities like soft drinks and processed foods having high salt, fat, and sugar content, as well as increased tobacco and alcohol consumption are leading risk factors for NCDs⁸. The burden of NCDs in LMICs is not solely due to rapid urbanization or aging populations, but also includes poverty, limited healthcare access, and social inequities limiting access to prevention, early detection, and treatment that poses a significant global challenge.

Strategies for Prevention and Control of NCDs

The prevention and control of NCDs requires

interventions on reducing the risk factor exposure associated with these diseases, individual approaches to modify risk factors for high-risk individuals, and treatment of NCDs⁴. Therefore, lifestyle modifications, eating healthy food, sufficient activity as well as exercise, and regular check-ups are important measures to prevent NCDs¹¹. The metabolic and behavioural risk factors are largely preventable through intervention on controlling tobacco and alcohol consumption, regular physical activity and controlling weight, stopping unhealthy food habit¹.

While individual responsibility plays a key role, effective management requires robust, evidence-based policy interventions to create supportive environments. Evidence-based interventions and policies include: (i) tobacco taxation; (ii) dietary regulation such as front-of-pack nutrition labelling, restrictions on trans fats, restricting the marketing of unhealthy foods; (iii) implementing policies in alcohol marketing to reduce harmful alcohol consumption; (iv) creating infrastructure to encourage physical activity; (v) clean air regulations are cost-effective and scalable. Although these interventions are simple to execute, some require political commitment and coordinated cross government action¹². To mitigate NCD risk on individuals and society, a comprehensive multi-sectoral approach involving health, finance, transport, education, agriculture, planning and others is required. This collaborative effort can reduce the risks associated with NCDs, and promote interventions for prevention and control².

Management of NCDs includes detection and treatment of these diseases, and providing access to palliative care for people in need². Primary health care (PHC) is indeed recognized as the foundational cornerstone for combating the growing burden of NCDs, providing a cost-effective and equitable approach to management, prevention, and control⁴. An integrated approach as outlined by the WHO is required particularly in low resource settings to manage NCDs and their complications. This strategy focuses on early detection, cost-effective treatment, and reducing the burden of complications through a primary healthcare (PHC) framework⁴. Other strategies include digital health approaches, such as mobile health and healthy lifestyle support tools; community-based screening services; supporting patient self-management and establishing

peer support groups etc¹³. Many countries are providing universal health coverage (UHC) to ensure all people access quality health services without financial hardship.

Challenges

The management of NCDs in LMICs faces significant challenges due to mismatch between the need for chronic care and the existing health systems designed for acute, episodic care¹⁴. Limited awareness and lack of health education contribute to delayed diagnosis and poor disease management. NCDs demand continuous, long-term care with regular monitoring, affordable medications, reliable supply chains, and a stable primary care infrastructure. Yet many LMIC health systems face challenges including lack of essential diagnostic instruments or essential medications, shortage of skilled health care providers leading to disruptions in proper care of the patient^{5,15}.

The burden of NCDs is heavily driven by socioeconomic inequities. Urban slums often lack safe spaces for exercise and access to fresh foods, influenced by the higher exposure to processed, energy-dense, and nutrient-poor foods, contributing to obesity¹⁶. Swift marketing and easy access to tobacco also plays its part. Rural communities face long distances high travel costs, and poor infrastructure to reach health clinics¹⁵. Air pollution, both ambient and household, disproportionately affects poorer populations. Climate change, by intensifying heatwaves and worsening air quality, compounds cardiovascular and respiratory risks^{2,17}.

The economic impact of NCDs is another significant challenge for lower income population who may have limited access to preventive measures, early diagnosis, and treatment. The long-term nature of chronic diseases reduces workforce productivity leading to strain on national economies and catastrophic health care expenditures pushing many families into poverty^{5,15}. These effects can slow economic development and exacerbate existing inequalities.

Moreover, global health financing remains skewed toward communicable diseases to reduce

the communicable diseases burden globally but has left NCDs largely neglected, leaving NCDs underfunded¹⁸. International collaboration and support from global health organizations are important for helping LMICs strengthen their health systems and implement effective NCD prevention programs².

CONCLUSION

The rising global burden of NCDs, particularly in LMICs, necessitates a major shift in public health priorities toward prevention, strengthened primary care, and equitable access to health services. Addressing common modifiable risk factors such as tobacco use, unhealthy diets, physical inactivity, and harmful alcohol use is critical for effective prevention strategies. The primary health care must be reinforced to deliver continuous and integrated management of NCDs, including screening and early detection. Achieving universal health coverage (UHC) is essential to ensure equitable access to essential medicines, and diagnostic services for NCDs without suffering financial hardship. Furthermore, global partnerships must evolve, accompanied by increased and sustained financing for NCD prevention and control. A multisectoral approach is also imperative, recognizing that health outcomes are shaped by determinants beyond the health sector. This includes the implementation of policies such as taxation on sugar and tobacco products, urban planning that promotes physical activity, and clear food labelling regulations, all of which are vital for mitigating the burden of NCDs and enhancing prevention and control efforts.

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