Commentary: Non-communicable diseases in sub-Saharan Africa: a new global health priority and opportunity

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As part of the updated assessment of the Global Burden of Disease (GBD) study, the World Health Organization (WHO) has provided an overview of the global and regional levels and patterns of causes of death.¹ Based on this assessment, it is estimated that nearly 59 million people died in the world during 2004. Of these deaths, ~60% were due to non-communicable diseases (NCDs) (i.e. Group II conditions), such as cardiovascular disease, diabetes, cancer and metabolic disorders.¹,² With only about one-third of the deaths due to communicable diseases, maternal and prenatal conditions and nutritional deficiencies (Group I conditions), there is increasing recognition of the importance of NCDs as a growing contributor of the GBD.

Within sub-Saharan Africa, Group I conditions remain an important cause of deaths, although the contribution of NCDs is also increasing. In 2004, Group I conditions accounted for ~62% of all deaths among adults aged 15–59 years in this region, whereas cardiovascular diseases, cancer and other Group II conditions contributed for about one-third of the deaths due to communicable diseases, maternal and prenatal conditions and nutritional deficiencies (Group I conditions), there is increasing recognition of the importance of NCDs as a growing contributor of the GBD.

Within sub-Saharan Africa, Group I conditions remain an important cause of deaths, although the contribution of NCDs is also increasing. In 2004, Group I conditions accounted for ~62% of all deaths among adults aged 15–59 years in this region, whereas cardiovascular diseases, cancer and other Group II conditions contributed for about one-third of the deaths in this age group among both males and females.³ Within Group I conditions, HIV/AIDS was the main contributor of mortality, accounting for ~35% of the overall adult deaths. Thus, if we exclude HIV/AIDS, the contribution of remaining Group I conditions to the burden of diseases in sub-Saharan Africa is comparable with that of NCDs, which are becoming a significant public health problem in the region. Similar trends have been observed in other low- as well as middle-income countries which, when taken together, are projected to account for ~80% of all global deaths due to NCDs by the year 2030.⁴

The increasing burden of NCDs in low- and middle-income countries previously dominated by infectious and other Group I conditions suggests that a major epidemiological transition is taking place in these settings. However, the precise burden of NCDs and other chronic conditions, as well as the rate of occurrence of associated morbidity and mortality in most countries remains unknown. This is particularly true in sub-Saharan Africa where health facilities are under-resourced and accurate information about chronic diseases is lacking.³ In addition, only few patients with NCDs seek medical services, and limited research has been conducted to determine the burden of NCDs and the distribution of potential risk factors in various geographical locations.

To help fill this gap in our knowledge, Dalal et al.⁶ report in this issue of the IJE a comprehensive review of literature on the burden of NCDs as contributors of morbidity and mortality, as well as the prevalence of associated risk factors. As part of this publication, they searched the PubMed database and included community-based studies conducted in any sub-Saharan African country, published in English, and reported on the burden or risk factors for four main NCDs: heart diseases, stroke, diabetes mellitus type 2 and cancer. They also analysed publicly available data sets on estimated and projected causes of death from the WHO GBD and the International Agency for Research on Cancer (IARC).

The findings of this report provide important insights on the epidemiology of NCDs in Africa and associated risk factors. Overall, NCDs were relatively common in the studies reported, indicating that they are a major public health priority in sub-Saharan Africa. These results confirm that Africa is facing an emerging epidemic of NCDs, which is overlapping with the ongoing burden of infectious diseases. The prevalence of specific conditions and associated risk factors varied from one country to another and also within the same country, indicating that the burden...
of NCDs is not uniform in this region. The greatest variability was observed in studies reporting the prevalence and risk factors for cardiovascular diseases.

Results of studies reviewed in this report also confirm known risk factors for cardiovascular diseases, including hypertension, diabetes, overweight, abdominal obesity, smoking, alcohol use and abnormal blood lipids. Hypertension is also one of the major risk factors for stroke, a serious chronic condition known to occur at a relatively earlier age in sub-Saharan Africa and usually associated with poor prognosis. These risk factors also influence the prevalence of diabetes and its complications, and are in turn affected by broader societal changes in lifestyle. On the other hand, a review of the WHO/IARC database indicates that cancers of the breast, cervix, liver and prostate have the highest incidence and mortality in Africa.

Consistent with other studies, this report highlights the role of infectious diseases as key risk factors for NCDs. For example, rheumatic heart disease, HIV, tuberculosis and other common infectious diseases have been associated with cardiovascular diseases, whereas Helicobacter pylori, hepatitis B virus and human papilloma virus (HPV) are known to be associated with peptic ulcer disease (PUD), and liver and cervical cancer. This presents an opportunity for integrated public health approach, including prevention of infectious diseases together with control of other known environmental risk factors for NCDs, as a strategy for mitigating the dual epidemics of infectious diseases and NCDs in sub-Saharan Africa.

As acknowledged by the authors, this extensive literature search is subject to a number of limitations. Only few NCD publications in English were identified from about one-third of 45 countries in sub-Saharan Africa, and publications in other databases—outside PubMed—were not included. This affects the generalizability of the findings presented in the report, although this does not affect the validity of the results. Publication bias is always a problem in studies based on reports from peer-reviewed journals as non-published reports are missing out. This review was limited to community-based studies of four main NCDs, including heart diseases, stroke, diabetes mellitus type 2 and cancer. Consequently, other chronic conditions, such as mental health disorders, were not included in the review. Finally, because most studies included in the review were cross-sectional in their design, it is not possible to establish temporal relationship between potential risk factors and selected NCDs.

To obtain more accurate estimates of the burden and risk factors for NCDs in sub-Saharan Africa, as well as disease-specific morbidity and mortality complications, Dalal et al. call for increased NCD research in this region. To achieve this well-justified call for more research, global efforts are needed to promote NCD research in Africa and contribute in mobilizing additional resources from international funding organizations and local governments to support new research initiatives. Multidisciplinary research employing both epidemiological and social science methods in a range of populations at both national and sub-national levels will be required. In addition, development of NCD surveillance systems within health facilities and in the general population will allow for more continuous monitoring of the burden of these diseases in selected communities.

In conclusion, as we continue accumulating more evidence about the increasing burden of NCDs in sub-Saharan Africa, the importance of NCDs in this region cannot be ignored. Comprehensive approach will be required to integrate prevention efforts, with improved treatment and management of chronic complications of these conditions. Given the chronic nature of NCDs, a sustained health-systems response will be required to detect these diseases and deliver a continuum of treatment and long-term care using appropriate technologies and well-trained health professionals. In addition, effective prevention programmes will be required to increase awareness about NCDs and contribute in reducing the population risk and individual susceptibility to these conditions.

Conflicts of interest: None declared.

References