The 2011 United Nations High-Level Meeting on Non-Communicable Diseases: The Africa agenda calls for a 5-by-5 approach

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The High Level Meeting of the 66th Session of the United Nations General Assembly was held in September 2011. The Political Declaration issued at the meeting focused the attention of world leaders and the global health community on the prevention and control of non-communicable diseases (NCDs). The four major NCDs (cardiovascular diseases, cancer, diabetes and chronic respiratory diseases) and their four risk factors (tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol) constitute the target of the ‘4-by-4’ approach, which is also supported by national and international health organisations.

We argue that while preventing these eight NCDs and risk factors is also important in Africa, it will not be enough. A ‘5-by-5’ strategy is needed, addressing neuropsychiatric disorders as the fifth NCD; and transmissible agents that underlie the neglected tropical diseases and other NCDs as the fifth risk factor. These phenomena cause substantial preventable death and disability, and must therefore be prioritised.

Mental health, neurological and substance use disorders in Africa

More than a decade ago, the WHO called attention to the high burden of disease and disability due to neuropsychiatric and mental disorders in Africa. In its regional strategy for mental health in the Africa Region for the years 2000 - 2010, the WHO also highlighted the increasing burden of poverty, natural disasters, social upheaval, and wars and other forms of violence as major causes of the growing psychosocial problems, which are often compounded by harmful use of alcohol and other substances.

In the decade since these observations, little has changed in much of Africa. Most African countries, except South Africa, still have no policies, programmes, or action plans for the prevention and control of neuropsychiatric disorders, despite projections that the burden of neuropsychiatric and mental disorders is likely to increase.

Recently, the extensive challenges Africa faces in preventing and controlling Mental health, neurological and substance use disorders (MNS) disorders were highlighted again, in a workshop jointly organised by the US Institute of Medicine Forum on Neuroscience and Nervous System Disorders and the Uganda National Academy of Sciences Forum on Health and Nutrition.

MNS disorders are estimated to account for approximately 350 million disability-adjusted life years (DALYs) lost per year in sub-Saharan Africa — a burden that is significantly greater than that seen in developed countries at 150 million DALYs per year. Yet the infrastructure and manpower to address prevention, detection, evaluation and treatment is inadequate.
Most sub-Saharan African countries have less than 1 psychiatrist per 1 million people, and even fewer neurologists. A similarly grim manpower scarcity exists for psychiatric nurses, psychologists and trained social workers. Appropriate medications are scarce and, in the rare cases that they are available, access and affordability remain very limited. These challenges are compounded by weak primary healthcare and treatment systems and a high level of stigmatisation of mental health disorders, in a policy environment that continues to neglect NCDs.

As shown in Fig. 1, the leading psychiatric disorders underlying Africa’s disease burden include unipolar depressive disorders, post-traumatic stress, panic disorders, bipolar affective disorders and schizophrenia.14,16 Among the neurological disorders, by far the most prevalent cause of disability is epilepsy, typically caused by birth trauma, childhood infections and head injury in later life.14,16

While these MNS disorders are not leading causes of mortality, they do cause significant disability. To adequately tackle the inherent challenges, the UN HLM should facilitate substantial investments, allowing effective and strategic integration of mental healthcare into overall national health sector reform plans.17 Recently Jenkins et al.17 pointed out that it will be crucial to engage professionals with expertise in MNS disorders, and to intensively mobilise resources to address these disorders as economic and developmental challenges.17

Although significant new resources will have to be invested, the absolute amount is not large when viewed in light of other health investment strategies.18 Chisholm et al. have shown that the cost per capita (in US dollars) of providing the core package of interventions at target coverage levels ranged from $1.85 to $2.60 per year in low-income countries, compared with $3.20 to $6.25 per year in lower-middle-income countries.19 In a more recent analysis, the authors demonstrate the cost-effectiveness of a wide range of possible interventions that could be undertaken in sub-Saharan Africa, with the cost per year of healthy life varying from many multiples to just a fraction of average per capita income.20 More importantly, their data show that reallocating current resources to more cost-effective intervention strategies would not only save money, but also increase the health gain and help expand much-needed neuropsychiatric services in the sub-Saharan African setting.18

The UN HLM has a unique opportunity to foster a broader view of MNS disorders as a major cause of morbidity and an impediment to economic and social development in Africa. To do this requires: facilitating the development or renewal and enforcement of mental health legislation in Africa; working to secure the human rights of persons with MNS disorders; raising awareness and education about MNS disorders in order to dispel myths and associated stigmas; supporting partnerships between African national and international neurologic and psychiatric associations and their affiliation to the World Psychiatric Association; and identifying appropriate roles for traditional healers while promoting biomedical services.21

We should also support the work of the South African Institute of Race Relations, which has done excellent work in raising awareness and education about MNS disorders in order to dispel myths and associated stigmas.22,23 The Institute has worked closely with the National Council of Social Service Providers (NCS), a group of more than 400 community organisations across South Africa, and the Department of Health, to raise awareness and education about MNS disorders.24

In order to improve mental healthcare delivery, the UN HLM should support the development of mental health policies, guidelines and strategies that are appropriate for the African setting.25 These policies should be developed by various stakeholders, including mental health professionals, civil society organisations, and traditional healers.26,27 The policies should be based on evidence-based guidelines and should be adapted to the specific needs and cultural context of each country.28,29

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Infections play a primary aetiological role in many chronic NCDs that are endemic in sub-Saharan Africa, such as rheumatic heart disease, liver cancer, cervical cancer and HIV-related dementia. Taken together, these infections cause substantial chronic disability, lifelong impairments and lost national income. It is therefore appropriate to prioritise them as the fifth major risk factor for the post-UN HLM agenda, to be addressed by the WHO and the public health community.

The neglected tropical diseases (NTD) affect an estimated 1 billion people, most of whom live in Africa and are among the poorest in the world,23,24 causing significant disability and impairing quality of life. In the Global Burden of Disease assessment, the major NTDs include trypanosomiasis, Chagas disease, schistosomiasis, leishmaniasis, lymphatic filariasis, onchocerciasis, intestinal nematode infections, Japanese encephalitis, dengue and leprosy. These accounted for an estimated 177 000 deaths worldwide in 2002, mostly in sub-Saharan Africa, and about 20 million DALYs, or 1.3% of the global burden of disease and injuries.25 NTDs have largely been ignored on the global health policy agenda,26 despite effective prevention, treatment and control programmes.

Recurrent streptococcal infection, the cause of rheumatic fever and rheumatic heart disease (RHD) and kidney disease, represents another major infectious risk factor for NCD in Africa. As pointed out in the Drakensberg Declaration,27 as many as half of the 2.4 million children globally affected by RHD live in Africa, and a major proportion of all cardiovascular disease in children and young adults in Africa is attributable to rheumatic fever. The impact on economic productivity in African countries is substantial.28

Many infections are also important contributors to the burden and sequelae of major NCDs through triggering acute exacerbations and hospitalisations.29 For example, tuberculosis (TB) can aggravate blood glucose control and trigger diabetes,30 as well as aggravating the social and financial stress that contributes to substance abuse and mental illness.31
In some settings, infections may also be causally linked to NCDs. For example, malaria in pregnancy is an important cause of fetal malnutrition and intrauterine growth retardation in Africa, and can indirectly serve as a risk factor for the development of obesity, type 2 diabetes, cardiovascular diseases and sickle cell disease. Appropriate prenatal care can therefore be an effective intervention for the prevention of NCDs.

Population-wide vaccination interventions can be another effective strategy for NCD prevention in Africa. For example, vaccination against hepatitis B, a major cause of liver cancer, is now considered a 'best buy' and vaccination against human papillomavirus (HPV), the main cause of cervical cancer, is also recommended.

A history of pulmonary tuberculosis (PTB) is among the leading causes of bronchiectasis, and a powerful risk factor for chronic obstructive pulmonary disease (COPD) in Africa. In a national household survey of adults in South Africa, Ehrlich et al. showed that a history of PTB is the strongest predictor of chronic bronchitis, with an odds ratio of 4.9 (95% CI 2.6 - 9.2) for men and 6.6 (95% CI 3.7 - 11.9) for women. While the overall prevalence of chronic bronchitis was 2.3% in men and 2.8% in women, the risk of chronic bronchitis was more strongly associated with TB than with tobacco smoking or exposure to smoke from biomass fuel. This suggests that, in Africa, TB is a powerful risk factor for COPD.

As previously noted, infections also play an important role in MNS disorders.

Conclusion

Sub-Saharan African populations are in the midst of a health transition characterised by the simultaneous occurrence of epidemic infectious diseases and a rise in NCDs. There is direct interaction between infectious risk factors and chronic diseases, such as HPV and cervical cancer; Strepptococcus pyogenes and rheumatic heart disease; TB and chronic lung disease; and HIV and dementia.

The link between infectious risk factors, NCDs and neuropyschiatric illness has a direct bearing on the appropriate agenda for the prevention and control of chronic diseases in sub-Saharan Africa. There is a need to add the fifth risk factor (transmissible agents) and a fifth condition (neuropsychiatric illness) to the agenda for the prevention and control of NCDs in Africa. A 5-by-5 strategy that recognises 5 risk factors (tobacco smoking, unhealthy diet, physical inactivity, excessive alcohol use and transmissible agents) and 5 diseases (cardiovascular disease, chronic lung disease, diabetes, cancer and neuropyschiatric illness) is required to combat NCDs in sub-Saharan Africa.

This 5-by-5 approach is consistent with the language and intent of the WHO Africa regional ministerial consultation on the prevention and control of NCDs, held in Brazzaville, Congo, in the months leading up to the UN HLM.

References


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