



Integrating health care services for prevention and control of non-communicable diseases in Tanzania

Key messages

- Globally, there is a rising epidemic on non-communicable diseases (NCDs)
- Three-quarters of all deaths in low-and-middle income countries are due to NCDs
- There is increasing interaction between NCDs and communicable diseases (CDs) which calls for integrated prevention and control
- Prevention and control of NCDs should focus on common functions i.e. prevention, treatment and care rather than disease categories.
- The existing communicable diseases control programmes such as HIV/AIDs and tuberculosis (TB) could be used as a platform for integration of prevention and control of NCDs.
- In this policy brief, multi-sectoral approaches for the integration of CDs and NCDs based on primary health care in Tanzania are proposed.

Executive summary

The increasing epidemic of non-communicable diseases (NCDs) has well been reported worldwide as well as in Tanzania. In low-and-middle income countries, the growing burden of NCDs is hitting on the already overburdened health care system with communicable diseases (CDs). The increase of NCDs has commonly been fuelled by lifestyle, environmental as

well as interactions with CDs. Despite the understanding of the existence of interactions between NCDs and CDs the control efforts have inadequately jointly been implemented. Most prevention and control approaches have focused on disease categories i.e. vertical disease control programmes mainly focusing on communicable diseases. In order to use properly the available limited resources and to have an effective prevention and control of both NCDs and CDs, holistic and multi-sectoral approaches are needed. Policies guidelines are needed to enable the implementation of the integrated approaches for the prevention and control of the epidemics. This policy brief highlights on the link between NCDs and CDs and on how their prevention and control can be integrated.

The Problem

Non-communicable Diseases (NCDs) are medical conditions that are non-infectious i.e. they cannot be transmitted from one person to another. They are generally chronic conditions that do not result from acute infectious process. The conditions usually develop over relatively long periods – at first cause no symptoms. Generally, these conditions or diseases result from prolonged exposure to causative agents. The conditions cause loss of income, dysfunction or impairment of quality of life and death. Most of the conditions are associated with personal behaviour and environmental factors.

There is a rising epidemic on NCDs in Sub-Saharan Africa (SSA). With the increasingly growing burden of NCDs, it is important to understand their impact not only on health but also on socio-economic development; and thus, a need for future focus on integrated prevention and control of both NCDs and communicable diseases (CDs). Globally, particularly in low-and-middle income countries the problem of NCDs is increasingly becoming one of the major causes of morbidity and mortality. About 75% of the total deaths due to NCDs occur in developing countries where the system is already burdened with communicable diseases coupled with understaffing of health professionals and inadequate infrastructure.

The increasing burden of NCDs in Africa shows a growing health iceberg hidden under epidemics of infectious diseases. Unfortunately, the problem has not been seriously taken into consideration as an important health problem that need urgent attention, this was evidenced by not being addressed in the Millennium Development Goals (MGDs). Currently, the SSA countries

are facing the so called “double burden” i.e. heavy burden of communicable diseases and an increasing burden of NCDs. With the already overburden health system with communicable diseases, the need for an integrated prevention and control strategies for NCDs and CDs is inevitable.

The risk factors such as person’s life style, genetics or environment are responsible for the increase of certain NCDs. Of these three risk factors, 50% of all NCDs are a result of poor life style choices including drug use, alcohol, tobacco use, diet and lack of physical exercises or stress management. Although NCDs are largely a lifestyle disease, their epidemiology in the African setting deserves further consideration in the midst of high burden of communicable diseases. For example, in Africa the epidemiology of cardiovascular diseases is less related to ischemic heart conditions; hypertensive heart disease resulting from poor treatment coverage and uptake; rheumatic heart disease from infective causes (Kengne et al., 2012).

Table 1: Interaction between non-communicable diseases, communicable diseases and poverty related risk factors

System affected	Non-communicable disease	Communicable disease
Cardiovascular	Pulmonary Hypertension/ pericarditis Cardiomyopathy Rheumatic Heart Disease Congenital Heart Diseases	Tuberculosis HIV, Malaria Streptococcal infections Maternal Rubella, Micronutrient deficiencies
Gastro-intestinal	Gastric Cancers Cervical Cancer Oral cancers Kaposi’s Sarcoma Liver cancer Bladder Cancers	<i>H. pylori</i> infection HPV, HIV HIV HIV Hepatitis B infection, Schistosomiasis
Endocrine	Diabetes Hyper/ hypothyroidism	Undernutrition, maternal deprivation Iodine deficiency

Neurological	Stroke Epilepsy	HIV, Malaria Rubella, Measles, Herpes Simplex, HIV Haemophilus influenza, Meningitis, Streptococcal infection, Candidiasis, Toxoplasmosis, Malaria Taeniasis, Echinococcosis, Schistosomiasis
Respiratory Urogenital	Chronic Obstructive Pulmonary Disease Renal failure	Tuberculosis, Neonatal lung disease Malaria, HIV, Chronic Urinary Tract Infections, Schistosomiasis

Statistics indicate that the majority of the cancers in developing countries are related to infectious causes. Cervical cancer is associated with Human Papilloma virus and HIV infections (Oduola et al., 2016), Hepatitis B infections and liver carcinoma (Wong & Goh, 2006), schistosomiasis infections and bladder cancer (van der Werf et al., 2003), Helicobacter pylori infection and gastric cancers (Wroblewski et al., 2010). Endocrine disorders have also been linked to malnutrition and maternal deprivation (Dabelea & Crume, 2011) which is thought to cause epigenetic transformation that predispose the offspring to cardio-metabolic diseases and conditions later in life. Studies have also shown that there is increased susceptibility to infections such as tuberculosis for people with diabetes (Faurholt-Jepsen et al., 2011). Infectious diseases are also reported to significant burden neurological diseases such as stroke and epilepsy (<https://www.ncbi.nlm.nih.gov/books/NBK83677/>). People with chronic NCDs also have high prevalence of mental health conditions such as depression, anxiety and sleep disorders (Clarke & Currie, 2009) (Table 1).

Policy options

While a multisectoral approach in the prevention and control of the dual conditions is urgently needed, integration of the prevention and control of NCDs and CDs need to be implemented at different levels of health care delivery system as well as at the community levels. The approach needs policy guideline for different actions that need to be implemented so as to achieve integration for prevention and control of NCDs (Table 2).

Currently there is increasing interaction between NCDs and CDs and these calls for an integrated approach in their prevention and control. The existing CDs control programmes (TB, HIV and Malaria) have mainly been operating vertically particularly at National level. With the observed increasing interaction between NCDs and CDs, approaches need to change to be able to manage both diseases using the available limited resources. Integration of prevention and control of NCDs and CDs will ensure optimal care and management of patients with dual diseases and proper management of primary infections to prevent development of complications that can lead to chronic conditions. Furthermore, there is an advantage of integrating the NCDs at primary health care as it enhances motivation, skills and competence of health workers (Narain, 2011).

However, there are some challenges/barriers for integration of approach. Most of the communicable disease control programmes are donor dependent. In most cases each

donor has its interest in certain diseases programme. Each disease control programme works independent of others and have its vertical communication/coordination mechanism. Although the health care system is well integrated at the primary health care level, it operates parallel at the national level. The disease control programmes have specific data capturing tools that are designed to capture relevant information for the control programme.

Table 2: Actions needed for prevention and control of non-communicable diseases

Strategy	Actions for control measures
Reduction risk factors	Implementation of multi-sectorial, cost-effective, population-wide interventions for the reduction of NCDs is possible through reduction of tobacco use, improvements in diet and nutrition, uptake of physical activity and moderation of alcohol use, improved sanitation, sexual health, food fortification programs.
Creation of health-promoting environments	Reduction in use of salt in food industries and promotion of healthy behaviours among students and workers (e.g. tobacco-free workplaces, workplace wellness programs), health insurance plans could also contribute to lowering the burden of NCDs.
Strengthening national policies and health systems	Clear policies for reduction of NCDs and strategies for successful implementation of these policies are needed. Health systems should be strengthened to support primary levels of care with sustainable, coordinated, cost-effective and evidence-based approaches such as vaccinations for HPV, Influenza, Hepatitis B; appropriate treatment of conditions to avoid long term complications; and rational use of antimicrobial agents.
International cooperation and collaborative partnerships Research and development	Local, national, regional, and global collaboration through exchange of best practices in health promotion, legislation, regulation and health systems strengthening are important for the prevention and control of NCDs. Quality research is necessary to investigate the epidemiology of NCDs as well as the strategies used to reduce them. Research is important for generating and enhancing knowledge for national, regional and global action.
Strengthen routine health management information system	Improve and integrate HMIS to capture data both on NCDs and CDs at different levels of health care systems. Build capacity at local level to analyze and interpret collected data for improved actions.
Monitoring and evaluation	Systems for monitoring and evaluating health information systems, exposure to risk factors, determinants of health and health system responses are critical in efforts to reduce NCDs.

Implementation considerations

Establish mechanisms for inter-sectoral collaboration: Joint coordination should be established at all levels, with representation from all relevant stakeholders. A joint plan for activities should be drawn up and reflected in national plans for non-communicable diseases and CDs. Where collaborative activities are being established, national programmes should agree on a core set of indicators and tools to collect data for monitoring and evaluating activities to improve care and prevention of both diseases.

Detect and manage CDs among people with NCDs: At a minimum, people with NCDs should be screened for any communicable disease at the time of their diagnosis with NCD and, if possible, during regular check-ups. Screening for infectious diseases on broader indications (for example, for all people in whom NCD is diagnosed, regardless of symptoms) should be explored as part of the research agenda to improve the diagnosis of CDs among people with NCDs. A referral system should be established so that patients suspected of having CDs are promptly referred for diagnostic and treatment centres, and evaluated in accordance with guidelines of the national control programs. The use of the already existing health infrastructures could properly be maximized, expanded or modified to accommodate care of both NDCs and CDs patients. Due to critical shortage of health care providers, the available manpower could be capacitated through training/on-job training to be able to manage and care patients with dual diseases.

Competing interests

The authors declare that they have no competing interests.

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About Catholic University of Health and Allied Sciences-Bugando

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