Ministry of Health

DIVISION OF NON-COMMUNICABLE DISEASES

KENYA STEPwise SURVEY FOR NON COMMUNICABLE DISEASES RISK FACTORS 2015 REPORT

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EXECUTIVE SUMMARY

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Executive Summary

Back ground

Kenya is experiencing an epidemiological transition in its diseases burden from infectious to non-communicable conditions resulting in the double burden of disease. Non communicable diseases are a major public health concern with significant social and economic implications in terms of health care-needs, lost productivity and premature death. NCDs contribute to over 50% of inpatient admissions and 40% of Hospital mortality causing substantial financial burden and pushing individuals, households and communities into poverty as well as slowing down economic progress of the nation.

The disease burden caused by NCDs in Kenya is fueled by adoption of unhealthy lifestyles whose magnitude and impact on NCDs has not been documented hitherto appropriately. Planning and programming has been depended on fragmented local data and epidemiological models and projections that may not be nationally representative or accurate.

A comprehensive study was therefore needed to examine the prevalence and the magnitude of common risk factors for NCDs in Kenya which is useful to the Ministry of Health, different government sectors and county governments to establish interventions that are based on local risk factor burden.

The basis of chronic disease prevention is the identification of the major common risk factors and their prevention and control as the risk factors of today are the diseases of tomorrow. Additionally, information from this study will provide baseline data that will be used to assess disease trends and impact of various interventions. This will be the first national NCD risk factor survey against which future surveys can be based to assess impact and effectiveness of national prevention and control efforts for NCDs and their risk factors.

The Kenya STEPs 2015 is the first nationally representative survey to collect comprehensive information on risk factors for NCDs, Injuries and oral health in adults' age 18 - 69 years. The aim of the survey was to establish an NCD surveillance platform that collects baseline indicators on determinants of NCD and their risk factors for policy and planning purposes.

The key objectives of the NCD STEPS survey were:

a) To determine the prevalence and determinants for the four major behavioral risk factors for NCDs in Kenya: tobacco use, harmful use of alcohol, unhealthy diets, and physical inactivity.
b) To determine the prevalence and determinants for the four key biological risk factors for NCDs in Kenya: overweight and obesity, raised blood pressure, raised blood glucose and abnormal blood lipids
c) To determine the prevalence and determinants of injuries in Kenya.
d) To determine the prevalence and determinants of oral diseases in Kenya
e) To investigate potential links between different risk factors and determinants of health (socio-economical status, demographic factors, gender, age)

Rational

The World Health Organization (WHO) estimates that NCDs will cause 73% of global deaths and 60% of the burden of disease by 2020. Sixteen million of NCD deaths occur before the age of 70 with 82% of these "premature" deaths occurred in low- and middle-income countries. Cardiovascular diseases account for most NCD deaths, or 17.5 million people annually, followed by cancers (8.2 million), respiratory diseases (4 million), and diabetes (1.5 million).These 4 groups of diseases account for 82% of all NCD deaths with tobacco use, physical inactivity, harmful use of alcohol and unhealthy diets all increase the risk of dying from an NCD significantly.

Besides the burden of deaths and disability, non communicable diseases pose a greater social and economic burden to the economy. NCDs threaten progress in the post-2015 development agenda as poverty is closely linked with NCDs. The rapid rise in NCDs is predicted to impede poverty reduction initiatives in low-income countries, particularly by increasing household costs associated with health care. Vulnerable and socially disadvantaged people get sicker and die sooner with NCDs than people of higher social positions, especially because they are at greater risk of being exposed to harmful products, such as tobacco or unhealthy food, and have limited access to health services.

NCDS in Kenya

Non communicable diseases account for 27% of the total deaths and over 50% of total hospital admissions in Kenya. The major NCDs are cardiovascular conditions, cancers, diabetes, and chronic obstructive pulmonary diseases with their sequelae and their shared risk factors. Equally contributing to the huge burden of NCDs are violence and injuries, haemoglobinopathies, epilepsy, mental disorders, oral, eye and dental diseases

Cancer

In Kenya, it is estimated to be the second leading cause of NCD related deaths after cardiovascular diseases and accounting for 7% of overall national mortality.
Existing evidence shows that the annual incidence of cancer is close to 37,000 new cases with an annual mortality of over 28,000 making cancer the third leading cause of death after infectious diseases and cardiovascular conditions. These estimates are conservative and could be higher given that many cases go unreported and unaccounted for. The leading cancers in Kenyan women are breast, cervical and esophagus. Breast cancer affects 34 per 100,000 population while cervical cancer affects 25 per 100,000 population a clear indication of the threat cancer poses to women. In men, esophageal, prostate cancer and Kaposi sarcoma are the most common cancers with incidence rates of 17.5, 15.2 and 9.2 per 100,000 men respectively.

Risk factors for cancer in Kenya includes genetic predisposition, behavioral risk factors (mainly smoking, alcohol use, inadequate physical inactivity and poor diet), environmental carcinogens (e.g. aflatoxin and asbestos), and infections (e.g. HPV in cervical cancers, Hepatitis B and C in liver cancers, H. Pylori in stomach cancers, HIV in Karposi Sarcoma).

While early detection ensures a favorable outcome and prognosis of most cancers, about 80% of reported cases are detected at an advanced stage when very little can be achieved in terms of treatment. Some of the challenges include low awareness of cancer signs and symptoms, inadequate early detection services, weak referral systems, poor treatment and palliative services. Achieving universal coverage for the key cancer control interventions will therefore be vital in halting and reducing the rising burden of cancer in Kenya.

Diabetes

This rise in the burden of diabetes is associated with demographic and social changes such as globalization, urbanization, aging population and adoption of unhealthy lifestyles such as consumption of unhealthy diets, physical inactivity and excessive alcohol consumption. As the prevalence of Diabetes mellitus is escalating, patients face an even greater threat from long term complications like foot, cardiovascular, eye, nerve and renal complications that are the hall mark of diabetes and its impact. Owing to poor glycemic control, a majority of patients referred for specialized end organ damage treatment at the national referral hospitals and outside the country are diabetes patients.

Cardiovascular Diseases

Mortality due to CVD in Kenya ranges from 6.1% to 8%, while autopsy studies suggest that more than 13% of cause-specific deaths among adults could be due to CVDs. The prevalence of hypertension has increased over the last 20 years. Recent studies have shown the overall prevalence to vary in various Kenyan communities. Rheumatic heart disease continues to be a major contributor to cardiovascular disease prevalence among children and adults.

Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease (COPD) describes chronic lung diseases that cause limitations in lung airflow. COPD is an often under-diagnosed, life threatening lung disease that may progressively lead to death.

Despite high prevalence in developed nations, almost 90% of COPD deaths occur in low- and middle-income countries.

The main drivers of COPD include tobacco smoking, indoor air pollution (from use of biomass fuel for cooking and heating), outdoor air pollution and occupational dusts and chemicals. In Kenya COPD is estimated to cause approximately the same amount of DALYs as ischemic heart disease, stroke and epilepsy indicating that it is grossly underdiagnosed and treated.

Injuries and Violence

In Kenya, injuries are becoming an increasingly important cause of hospital admissions and mortality. The leading causes of injury in Kenya include assault (42%), road traffic crashes (RTC) (28%), unspecified soft tissue injury (STI) (11%), cut-wounds and dog-bites, falls, burns and poisoning (each <10%).

Road traffic crashes are the ninth leading cause of mortality in Kenya. In 2015 data from the National Safety and Transport Authority indicates that road traffic crashes were responsible for 3057deaths. Pedestrians are the most commonly affected in road traffic incidences where they comprised 43% of road traffic fatalities in 2015. Violence is ranked as the ninth highest cause of mortality in Kenya. According to violence against children national survey conducted in 2010, 48.7% of female and 47.6% of male aged between 13-17 years had experienced some form of physical violence in the preceding 12 months before the survey.

Mental disorders

Mental disorders are an important cause of morbidity and contribute to the global burden of non-communicable diseases. Their control therefore requires a robust surveillance system coupled with a responsive health care system that assures availability and access.

Mental disorders affect and are affected by other non-communicable diseases. They can be a precursor or consequence of a non-communicable disease, or the result of interactive effects. For example, there is evidence to suggest that depression predisposes people to heart attacks and, conversely, heart attacks increase the likelihood of depression. The same appears for diabetes, where the association of depression to diabetes appears stronger than the inverse.

Depression is associated with severe obesity, physical inactivity, and poor self-care, all risk factors for diabetes, and studies suggest long-term use of antidepressants increases the risk of diabetes by almost two fold. Despite these strong connections, mental disorders in patients with non-communicable diseases as well as non-communicable diseases in patients with mental disorders have not received the attention they deserve. Mental disorders share common risk factors with other non-communicable diseases such as sedentary behavior and harmful use of alcohol and are more common among the economically underprivileged population segments such as those with lower educational levels.

KENYA STEPS SURVEY 2015 FINDINGS:

Behavioral Risk factors –STEP 1

Within STEP 1 of the survey, Socio demographic and behavioral information on age, sex, marital status, education, occupation, housing and social amenities were collected. Behavioral Information regarding Tobacco Use, Alcohol Consumption, Diet, Physical Activity, History of Raised Blood Pressure, History of Diabetes, History of Raised Total Cholesterol, History of Cardiovascular Diseases, Lifestyle Advice, History of Diabetes, Cervical Cancer Screening, Injury and Oral health were also collected.
Thirteen percent of Kenyans currently consume some form of tobacco products with a significantly higher prevalence among men (23.0 percent) than women (4.1 percent). The percentage of Kenyans who are currently using smoked tobacco products that includes manufactured cigarettes, hand rolled cigarettes, pipes and shisha is 10.1 percent. Eight percent of Kenyans are daily tobacco smokers with the mean number of manufactured cigarettes smoked per day being seven sticks per smoker. Current use of smokeless tobacco was reported in 3.6 percent of Kenyans. Twenty four percent and 20.9 percent of Kenyans are exposed to second hand smoke at home and work respectively.

Approximately, 19.3 percent of Kenyans currently drink alcohol with 13 percent of these consuming alcohol on a daily basis. However, three in five Kenyans are lifetime abstainers with the percentage of abstinence among women being nearly twice that among men. Heavy episodic drinking defined as drinking six or more drinks on a single occasion was reported by 12.7 percent of Kenyans. The overall mean number of standard drinks per drinking occasion is 9.7 standard drinks with no significant difference between the sexes. Approximately 17 percent of former drinkers had stopped drinking due to health reasons in the past 12 months. Consumption of unrecorded alcohol (alcoholic drink alcohol that is homebrewed alcohol (excluding changaa, busaa or muratina) or any alcohol not intended for drinking was reported by 35.5 percent of adults.

Fruit is consumed on average on 2.5 days a week and vegetables on 5.0 days a week among Kenyans. The World Health Organization (WHO) recommends at least 5 servings of fruits and vegetables a day. The survey results thus show that 94.0 percent of Kenyans are consuming less than 5 servings of fruits and vegetables per day.

Nearly a quarter (23.2 percent) of Kenyans always add salt often before eating or when eating and a further 4.3 percent admitted to always or often consume processed food high in salt.

Twenty eight percent of Kenyans always add sugar to beverages. Majority of Kenyans use vegetable oil (59.1 percent) for cooking, compared to 38.5 percent who use vegetable fat.

Overall, 6.5 percent of Kenyans do not engage in the recommended amount physical activity. WHO recommends that adults aged 18–64 years should do at least 150 minutes of moderate-intensity physical activity throughout the week, or do at least 75 minutes of vigorous-intensity physical activity throughout the week. The median minutes of total physical activity per day is 263. It was established that 69 percent of total physical activity is work-related, 26 percent transport-related and 5 percent recreation-related. The median minutes spend on sedentary time is 120 minutes.

More than half (56 percent) of Kenyans have never been measured for raised blood pressure. Among those who reported to have been previously diagnosed with hypertension, only 22.3 percent were currently on medication prescribed by a health worker. Overall, 87.8 percent of Kenyans had never been measured for raised blood sugar and among those previously diagnosed with elevated blood sugar, less than half (40.1 percent) were currently taking medication. Majority of Kenyans (97.7 percent) have never been measured for cholesterol levels with only 13.3 percent of respondents who reported to have been diagnosed with elevated cholesterol levels being on medication.

Four in ten adult Kenyans have heard of any cervical cancer screening test while only 11.3 percent of women have ever been screened for cervical cancer. Among the age group 30-49 years which is the recommended age for screening, 16.4 percent have ever been screened for cervical cancer.

Only one in five Kenyans have ever been advised to to eat at least five servings of fruit and/or vegetables by a health worker while eight percent of the respondents had been advised against tobacco use by a health care worker in the past three years. Ten percent of the respondents have been advised to either stop drinking alcohol or not to start by a health care worker. Ten percent and 11.4 percent have been advised to reduce salt and fat in the diet respectively.

Physical Measurements-STEP 2

Physical measurements such as height, weight and blood pressure were collected in Step 2.
Twenty seven percent of Kenyans are either overweight or obese with the percentage being significantly higher in women (38.5 percent) than men (17.5 percent). Twelve percent of respondents from urban settlements were obese while 7 percent of rural dwellers are obese indicating a big risk of NCDs and their complications.

The mean waist circumference for men and women is 78.6 cm 79.1 cm respectively. Twenty eight percent of the men and 36 % of the Kenyan women had a higher Waist–hip ratio than recommended. The Waist–hip ratio (the waist circumference divided by the hip circumference) is an index used to identify individuals at increased risk of obesity related morbidity due to accumulation of abdominal fat (WHO, 2011). Women whose waist hip ratio (WHR) is ≥0.85 and men with a WHR ≥0.9 are considered to be at increased risk of obesity-related morbidity.

Raised blood pressure (defined as having SBP ≥140 mmHg and/or DBP ≥90 mmHg or on medication for raised blood pressure) was found in 23.8 percent of the respondents. Eight percent of the Kenyans have severe hypertension (defined as having SBP ≥160 mmHg and/or DBP ≥100 mmHg) and among this group seven percent were not currently taking medication.

Biochemical Measurements – STEP 3

The survey results show that 3.1 percent and 1.9 percent of Kenyans have impaired Fasting glycaemia and raised blood glucose respectively. Raised blood glucose was defined as plasma venous value ≥ 7.0 mmol/L or currently on medication for diabetes. Approximately one in ten respondents have cholesterol ≥ 5.0 mmol/L or currently on medication for raised cholesterol. Half of all men (50%) and more than half of the women (60%) had low HDL levels (values of HDL cholesterol below 1.03 mmol/L for men and 1.29 mmol/L for women)

Cardiovascular disease (CVD) risk

The total risk of developing cardiovascular disease (CVD) was determined by the combined effect of behavioral and biological risk factors (for instance smoking, or having raised blood sugar), age and sex. Eight percent of the Kenyans in the 40-69 age group have a CVD risk of 30 percent or above with only 6.2 percent of them

currently receiving drug therapy and counseling to prevent heart attacks and strokes. Assessment of the risk posed by combined risk factors was also determined. The five common and critical risk factors for NCDs including current daily smokers, overweight or obese (BMI>25kg/m2), raised blood pressure (SBP>140 and/or DBP>90 mmHg or currently on medication for raised BP), less than 5 servings of fruit and vegetables per day and low level of physical activity were used. Only 3 percent of Kenyans have none of the above risk factors. Among the age group 18-44 years, 10.4 percent have three or more of the above risk factors while among the age group 45 to 69 years, 25.9 percent have three or more of the above risk factors indicate a heightened risk of NCDs and their complications that warrants interventions ranging from awareness, treatment and follow-up.

Oral Health

Overall, eighty nine percent of adults have 28 or more natural teeth. Twelve percent and 7.2 percent of Kenyans reported to have poor or very poor state of teeth and poor or very poor state of gums among those having natural teeth respectively. Five percent of Kenyans have removable dentures. While a history of oral pain and discomfort in the past 12 months was reported by 31.6 percent only one in ten Kenyans visited a dentist in the past 12 months. Overall, 62.7 percent of Kenyans have never visited a dentist. Thirty six percent of Kenyans clean their teeth twice daily.

Injuries and Violence

A vast majority of Kenyans (87.6 percent) do not always use seat belt when travelling in a vehicle. Additionally 94.1 percent of drivers or passengers of motorcycles or motor-scooter do not always use protective helmets. Overall, 3.4 percent of adults reported driving under the effects of alcohol in the past 30 days while 12.7 percent reported to riding in a vehicle with a driver under the effect of alcohol. Six percent of Kenyans have been involved in a road traffic crash during the past 12 of which 53.9 percent were serious enough to necessitate medical attention. The survey results indicates that 10.4 percent of all respondents got seriously injured in other injuries other than road traffic crashes with the most prevalent injuries being Cuts (47.6 percent) and falls (34.0 percent). Overall, 3.9 percent of the respondents were involved in violent incident resulting in a serious injury in the past 12 months with majority of the injuries being caused by a friend or acquaintance (23.4 percent).

Conclusions and Recommendations

The Kenya STEPs is the first nationally representative survey to collect comprehensive information on risk factors for NCDs, Injuries and oral health in Kenya. It provides essential information on Key NCD indicators by age group, sex and residence, education level and wealth quintile in some cases. The findings are useful in informing public health policy and the following recommendations are proposed:

1. There is a need to Prioritize NCD prevention and control at both national and county level using whole of government, whole of society and life course approach as it is an emerging threat to health, social and economic development.
2. Sustained public awareness campaigns and interventions to reduce the modifiable risk factors for NCDs: unhealthy diets, physical inactivity, harmful use of alcohol, tobacco use and exposure to tobacco smoke.
3. Build the capacity of the health workforce while ensuring the availability, access, affordability and quality of safe, efficacious medicines and basic technologies for screening, diagnosis, treatment and monitoring of common NCDs such as hypertension and diabetes at primary health care.
4. Restructure the health information systems to guarantee reliable, timely, complete and quality data for evidence-based practice and decision making in NCD prevention and control.
5. Establish wellness clinics in all facilities to encourage early detection and screening of NCDs such as diabetes, cervical cancer, hypertension and others as well as serve as sources of information for prevention and health promotion.
6. Strengthen the implementation of the Framework Convention on Tobacco Control (FCTC) by enforcing the provisions of the Tobacco control Act at both the national and county level.
7. Adapt the global strategy to reduce harmful use of alcohol.
8. Strengthen implementation of the Kenya's National Nutrition Action Plan 2012-2017 and ensure continuous engagement with the agricultural sector to promote healthy diets and eating habits.
9. Introduction of legislations on production, packaging and responsible marketing of food and drinks to reduce consumption of unhealthy foods.
10. Implement the physical activity tool kit in the country to encourage adoption of active lifestyles and to reduce sedentary lifestyles.
11. Establish mechanisms to foster multi-sectoral collaboration to ensure all the pillars of the decade of action on road safety are well implemented

12. Conduct public education and social marketing campaigns on prevention of injuries.
13. Strengthen the delivery of oral health services throughout the country by raising the awareness on the importance of regular dental checkups and maintenance of proper oral health hygiene.
14. Integrate NCD indicators in national health surveys to supplement the data collected in periodic STEPS survey for proper planning and projection of NCD prevention and control.