Implementing the Chronic Care Model for the Management of Noncommunicable diseases (NCDs) in the Primary Care Setting

Lecture: Non-Communicable Diseases

NCDs are a Growing Burden on the healthcare system due to a rapidly ageing population. Increased environmental risks—smoking, AIR POLLUTION, changed diet, increasing inactivity, air pollution – Think of the difference in your level of activity 10 to 20 years ago versus now. Then years ago, you probably walked to and from school/work, engaged in more physical activities and there were definitely less fast-food restaurants at every corner, so the diet was likely healthier. Also, the health system is facing the Double jeopardy of still fighting infectious diseases such as covid -19, M-pox, Dengue, HIV and others while experiencing impacts of the growing burden of chronic disease.

The burden of chronic diseases is rising fastest among lower-income countries, populations and communities and is projected to increase substantially over the next 2 decades. Losses in economic output due to NCDs, between 2011-2030 is projected to cost low- and middle-income countries more than 21 trillion USDs.

Three Biggest Worries About Having a Chronic Illness (Age 50 +):

- Losing independence,
- Being a burden to family or friends, and
- Not being able to afford needed medical care.

Major chronic diseases and their risk factors

The diseases that are responsible for the majority of the premature death and disability associated with chronic conditions are:
cardiovascular diseases including hypertension, cancers and diabetes.

- Chronic respiratory diseases
- Mental health disorders
- Injuries and violence

It is known that the major causes of chronic diseases are the modifiable or lifestyle risk factors of unhealthy diet, physical inactivity, alcohol and tobacco use. A recent WHO report stresses that if these major risk factors were eliminated, at least 80% of all heart disease, stroke and type 2 diabetes would be prevented; as well as over 40% of cancers would be prevented.

Looking at the rates of Non-Communicable Diseases in Jamaica. In 2015, an estimated 7 out of 10 Jamaicans died from the 4 major NCDs shown here: Cancer, Cardiovascular Disease, Diabetes and Chronic Lower Respiratory Disease. And In 2018, the WHO estimated that 80% of all deaths in Jamaica were due to NCDs (cardiovascular diseases, cancer, diabetes, chronic respiratory diseases, other NCDs).

This slide shows the top 10 causes of deaths in JA in 2019 and compares the percent change in these causes in 2009 and 2019. Blue indicates NCDs, Green Injuries and red Communicable disease. There are no communicable diseases listed among the top 10 causes in 2009 or 2019. Interpersonal violence decreased by 58.6% from 2009 to 2019 and is no longer in the top 10. Of note, in 2019 the list of the top 10 leading causes of death in JA was comprised of only NCDs with Stroke, diabetes and ischemic heart disease remaining as the top 3 leading causes of death and to the right it shows that their %s increased by 14.8%, 11.1% and 14.2% respectively. This supports the fact that NCDs are becoming an increasing burden on the healthcare system.

For Prevalence:

- 1 in 3 Jamaicans have hypertension
- 1 in 8 are living with diabetes
- 1 in 2 are overweight or obese

Approximately 4 out of 5 individuals die from NCDs.

Diabetes in the Jamaica. Diabetes represents a significant public health problem worldwide by decreasing quality of life and causing death and disability at great economic cost. Among Jamaicans 15 to 74 years old, the prevalence of diabetes has increased by 41.1% from 2001 to 2017. It affects approximately 11.9% of Jamaicans: 9% of men, and 14.6% of women. Of these, fortunately 92.5% are on treatment. However, of those on treatment only 27.5% are adequately controlled.

Looking at the mortality rate among diabetics in Jamaica. In 2016, 2,339 persons died from diabetes which represented 12.7% of all deaths that year. 41.3% of those were men and 58.7% were women

For Cardiovascular Diseases, there is a High prevalence of stroke among people aged 55–74 years. Ministry of Health and Wellness data indicate that in 2016 there were a total of 18,373 deaths of which 6,189 or 33.7%, were due to CVD. And in the following year it was similar, with there being 6,068 deaths due to CVD.

For, Hypertension in Jamaica, as mentioned before, 1 in 3 Jamaicans have hypertension. 35.8% women and 3 1.7% men (according to the Jamaica Health and Lifestyle Survey for 2016/17). 4 out of every 10 Jamaicans with hypertension are unaware of their status that number is mostly comprised of males due to poor health seeking behaviour and emphasizes the need for screening to be done (60% men and 26% women). The incidence is increasing in Jamaicans aged 15 to 74 years old. In 2017, 31.5% of persons in this age group had high blood pressure compared to 20.9% in 2001.

The main cause of death and premature death in Jamaica is stroke, for which HTN is an important risk factor. HTN affects over a quarter of the Jamaican population

For Cancers in Jamaica - According to the Jamaica Cancer Registry at the University of the West Indies, a total of 7348 cancers were recorded in Jamaica as of 2018 – 3,495 in males and 3,853 in females. Cancer of the Prostate, Breast, Colon, Lung, and Cervix Uteri remain the five most prevalent cancers in Jamaica

The United Nations Inter-Agency Task Force on NCDs (UNIATF) conducted NCD investment assessment of Jamaica which assesses the burden/impact of NCDs.
NCD investment cases are national economic and political analyses of current and potential interventions to prevent and control NCDs. The aim is to define the costs of inaction, identify priority areas of action, and quantify the benefits of these actions.

The assessment looks at (i) the economic burden of NCDs using a cost of illness approach; (ii) the costs of implementing a set of recommended actions or policy packages to prevent and control NCDs; (iii) the health gains, and associated economic benefits of a healthier workforce; and (iv) benefit-cost ratios that represent the potential returns to investing in the interventions.

The assessment showed that over a 15-year period, implementation of the policy packages would result in an estimated 5,735 lives saved and 67,462 health life years restored. Contributing to a net present value of 77.1 billion JMD (US$ 607 million. Noting that, it is obvious that:

- "The current care systems **cannot** do the job."
- "Trying harder will not work."
- "Changing healthcare systems will."

To bring about changes in the healthcare system, it is also important to look at the spectrum of care for chronic diseases. The spectrum spans Primary, Secondary and Tertiary prevention

Primary prevention: Aims to prevent disease thus reducing the incidence and prevalence of a disease. It may involve reduction or avoidance of exposure to risk factors (we looked at some risk factors earlier) which may begin early in life.

Secondary prevention: involves early detection and management of disease prior to complications. For example, for CVR disease it may mean prevention of further attacks following an initial heart attack.

Tertiary prevention: aims to improve control of the disease, treat complications early and improve the quality of life and functional status of people with the disease.