

THE AAS IMPACT

DELTA Africa: African researchers identify risk factors that compromise adolescent survival

CARTA at a glance

The Developing Excellence, Leadership and Training in Science in Africa (DELTA Africa), a programme of The African Academy of Sciences, supports the Consortium for Advanced Research Training in Africa (CARTA), which focuses on population and public health research in Africa. The consortium's goal is to understand the determinants of health in Africa and develop cost-effective interventions to improve health systems and outcomes.

Background

Research on non-communicable disease (NCD) prevalence and mortality among youth is scarce. However, this research is needed since South Africa is experiencing a quadruple burden of disease which includes a high prevalence of infectious diseases and increased levels of accident and injury mortality, along with disabilities and recently non-communicable or so-called lifestyle diseases. NCDs including cardiovascular diseases, obesity and hypertension are increasing in prevalence in South Africa. While research has, until now, focused on the biomedical causes, little research has examined the demographic and socioeconomic determinants and causes in the country.

This could have potentially devastating consequences on the country's economic and social growth. However, if we know more about who is affected, we would be better prepared to treat and prevent illness in the population. For this reason, scientific evidence of the burden of these diseases among the youth population in South Africa is both novel and needed.

Description of study

Disease remains the "largest contributor to adolescent mortality" in South Africa. First, with the increasing burden of NCDs in South Africa, there is need to better understand the disease distributions among youth. Early development of NCDs means that youth will arguably suffer longer, and illness among youth will impact the country's future social and economic development.

Secondly, in addition, to capacity-building, the innovative techniques that will be used to study NCDs and mortality are under-utilized in South African research and yet provide much needed insights into health challenges. South Africa, unlike many other African countries has a wealth of quantitative data on youth health outcomes.

CARTA researchers will make use of various secondary data sources to address the research aim. The study will also use various demographic techniques, including life table analysis to estimate probability of dying and decomposition to identify the greatest risk factors as well as various statistical techniques including hierarchical modelling to identify the comorbidities (other existing diseases), household and community factors which place youth at a high risk of contracting NCDs.

This approach is necessary to the science of studying NCDs as it allows for the identification of individual, household and community level structures which are associated with disease outcomes on a national level. The study will also engage with the Demographic Transition and Epidemiological Transition theories which explain how and why populations move from high prevalence of infectious disease to high prevalence of NCDs. Therefore through the engagement with theory and use of robust quantitative modelling the study will produce a holistic understanding of NCDs among youth in South Africa



NCDs* are increasing in prevalence among the youth

Non-communicable diseases (NCDs)

Anticipated outcomes

- The health and survival of adolescents is key to social and economic growth and disease in adolescents is associated with their environments (households and communities)
- Understanding the risk factors of NCDs among adolescents prevents further increases in the occurrence of these illness.