

Epidemiology of ischaemic heart disease in sub-Saharan Africa

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Abstract

Background: The epidemiology of ischaemic heart disease (IHD) in sub-Saharan Africa (SSA) remains largely enigmatic. Major obstacles to our understanding of the condition include lack of reliable health statistics, particularly cause, specific mortality data, inadequate diagnostic capabilities, shortage of physicians and cardiologists, and misguided opinions.

Methods: This review of the epidemiology of ischaemic heart disease in sub-Saharan Africa involved a systematic bibliographic MEDLINE search of published data on IHD in SSA over the past century. Search words included epidemiology, ischaemic (coronary) heart disease, myocardial infarction, cardiovascular risk factors and sub-Saharan Africa. Selected data are presented on the prevalence of cardiovascular risk factors and mortality from ischaemic heart disease from different countries representing the main regions of the continent.

Results: Although IHD in SSA remains relatively uncommon, its prevalence is predicted to rise in the next two decades due to the rising prevalence of risk factors, especially hypertension, diabetes, overweight and obesity, physical inactivity, increased tobacco use and dyslipidaemia. It is estimated that age-standardised mortality rates for IHD will rise by 27% in African men and 25% in women by 2015, and by 70 and 74%, respectively by 2030.

Conclusion: Ischaemic heart disease remains relatively uncommon in SSA, despite an increasing prevalence of risk factors, but its incidence is rising. The pace and direction of economic development, rates of urbanisation, and changes in life expectancy resulting from the impact of pre-transitional diseases and violence will be major determinants of the IHD epidemic in SSA. The best window of opportunity for prevention of the emerging epidemic of ischaemic heart disease in sub-Saharan Africa is now.

Keywords: epidemiology, ischaemic heart disease, sub-Saharan Africa

'a riddle wrapped in a mystery inside an enigma'

1 October, 1939

Sir Winston Churchill, British orator, author and Prime Minister (1874–1965)

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Previously published in *Cardiovasc J Afr* 2013; **24**: 34–42

S Afr J Diabetes Vasc Dis 2015; **13**: 88–96

Over a century ago, Sir Winston Churchill, a renowned British statesman and leader during the Second World War (WWII), made a celebrated visit to Uganda, where he was so moved as to describe it as 'the Pearl of Africa'. Sir Winston, referring to the quality of intelligence gathered by Western allies during WWII, called Russia a 'riddle wrapped in a mystery inside an enigma'.

While the same phrase could be used today to describe the epidemiology of ischaemic heart disease (IHD) in sub-Saharan Africa (SSA) because of many puzzles and lingering myths, what is enigmatic is the contempt with which the potential threat of IHD has been treated at various levels of health sectors, governments and international agencies. A recent change in posture by World Health Organisation (WHO) Regional Office for Africa, with greater focus on non-communicable disease (NCD), and the United Nations high-level meeting on NCD prevention and control in New York on 19–20 September 2011 are good indicators of the recognition of the importance of NCDs and the rapidly unfolding epidemiological landscape catalysed by the birth of conjoined twins, infectious diseases and non-communicable diseases.

The 30th anniversary of the Pan-African Society of Cardiology (PASCAR) conference along with the Third All-Africa Conference on Heart Disease, Diabetes and Stroke took place at Munyonyo Speke Resort in Kampala on the shores of Lake Victoria in May 2011. The warmth of the land, the gentle tropical rain showers interspersed with bright sunshine, and above all, the friendliness of Ugandans must have pervaded the hearts of most foreign delegates to the conference.

This review article will focus on some of the obstacles to our understanding of IHD in SSA. A synopsis of cardiovascular risk factors and their role in IHD in SSA, and selected mortality data on IHD from various countries across the continent are presented in this article. A plea for urgent and concerted action to avert the impending epidemic of IHD in SSA is made.

Obstacles to our understanding of IHD in SSA

Major obstacles to our understanding of IHD in SSA include lack of reliable statistics on health, life expectancy and disease incidence, and the absence of cause-specific mortality data. This is confounded by lack of diagnostic capabilities in most of SSA, emanating from a shortage of physicians, particularly cardiologists, and lack of appropriate investigations, such as resting 12-lead electrocardiographs (ECGs), exercise ECGs, cardiac biomarkers (troponins, CKMB) and cardiac imaging such as echocardiography, coronary angiography, computed tomography (CT) angiography, intravascular ultrasound scans (IVUS) and radionuclide myocardial perfusion studies.

Resting 12-lead ECGs, although generally more widely available and relatively inexpensive, have limited sensitivity and specificity for the diagnosis of acute coronary syndromes. Furthermore, there are high rates of non-specific ST-segment and T-wave changes suggestive of myocardial ischaemia in up to 10% of asymptomatic African men and 20% of women over the age of 40 years.¹