Global Spotlights

Heart failure in Africa: challenges of dealing with a heterogeneous syndrome in a heterogeneous continent

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Heart failure (HF) is an evolving syndrome. In developed countries, echocardiographic-based studies suggest that the true prevalence is double of the 1%–2% generally found in the adult population. Furthermore, recent studies indicate a crescent burden in younger population, opposing to the trend in the older, and HF with preserved ejection fraction is estimated to represent half of the cases. In Africa, hospital-based studies highlight the importance of the problem but the real scenario is obscure given the lack of population-based studies.

Particular challenges of dealing with heart failure in Africa

Distinctive antecedents, presentation, and weight

The sub-Saharan Africa Survey of Heart Failure (THESUS-HF), conducted a decade ago, raised for the first time evidence regarding aetiology, treatment, and outcomes of acute HF in African populations, unveiling surprising features: patients were very young (mean age of 52 years); women were slightly more affected than men; causes were diverse and predominantly non-ischaemic, mainly hypertensive (45.4%) and rheumatic heart disease (RHD, 14.3%). Endemic cardiomyopathies (i.e. idiopathic dilated cardiomyopathy, peripartum cardiomyopathy, and endomyocardial fibrosis) and infectious causes were also important. Comorbidities were common, including atrial fibrillation (18.3%), anaemia (15.2%), diabetes mellitus (11.4%), and renal dysfunction (7.7%). These findings have been confirmed in recent studies.

The INTERnational Congestive Heart Failure (INTER-CHF) study, that enrolled 1294 African adult patients, including ambulatory, highlighted regional variations in the antecedents, presentation and treatment of HF and the importance of social inequities as an igniter and booster for this public health problem. Compared with Asia, Middle-East, and South America, African patients were younger, more economically disadvantaged, in worse clinical states and undertreated. Hypertensive heart disease (35%) was the most prevalent cause, but ischaemic heart disease appeared in second (20%), while RHD and infectious causes were less common, depicting the ongoing epidemiologic transition. Nevertheless, the African continent is markedly diverse, and this transition is occurring at different paces between regions. More affluent regions already present considerable proportions of non-communicable causes of HF. Independent of place of residence, socio-economic factors influence behaviour and risk. Without changes, communicable causes will persist alongside the rising non-communicable risks, stretching the weak health systems. Acute HF adds to the burden with prolonged hospital stays, readmissions, and mortality and lays a huge economic weight for families as it affects young man and woman that instead of providing, bring additional expenditures to their families.

Struggles for diagnosing and managing

RHD and endomyocardial fibrosis may remain asymptomatic until later stages or be unmasked by pregnancy. Echocardiography is fundamental for diagnosis and management, particularly at early stages of RHD, when it is possible to prevent progression. Unfortunately, access to diagnostic tools for cardiovascular disease (CVD) is scarce in most African countries, particularly in the poorer communities. This was shown by Jessen et al. in the capital city of Mozambique, a low-income country, where availability of CVD diagnostic tests and tools was much lower in public (below 60%) than in private sector (around 90%) where prices are high. Other factors that hamper HF diagnosis are low financial power, poor health literacy, low coverage of health services, and lack of in-job training.

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Managing HF is equally challenging in many African countries, both from the health professionals and from the patient and caregivers’ perspective. Access to guideline-directed medical therapy, crucial for improving survival in HF—particularly with reduced ejection fraction—is usually low. Dramatic cases are common, such as young woman with peripartum cardiomyopathy, a major contributor to mortality (5%–25% at 1 year).8

In the study conducted in Maputo city,7 data on availability and price of 14 World Health Organization (WHO) core essential medicines (EMs) and 35 CVD EMs were collected from all six public and six private hospitals and 30 private-retail pharmacies (Figure 1). Overall, mean availability of cardiovascular EMs was low (20.7% in public sector, 21.5% in private-retail pharmacies, 22.2% in private hospitals), while availability of other EMs of the WHO core list was better (52.6% in public, 59.8% in private-retail pharmacies, and 50.0% in private hospitals). The median price of the lowest priced and most sold generic versions of cardiovascular medicines was 4.51 and 5.37 times the international reference price, respectively, much higher than the median price of WHO core EMs (2.93). A lowest paid government worker would spend in average 2–15 days’ wage monthly to undergo private-sector interventions for primary prevention and 14.0–17.8 days’ wage monthly to undergo clinical CVD interventions for secondary prevention.

**Opportunities for improving heart failure care in Africa**

Heart failure prevention and management should be a priority in National agendas. Contrarily, investment in research is scarce and consequently, there is a lack of data in most African countries. There is a need to characterize the HF syndrome and to tackle context-specific barriers for HF care. Improvements should start at primary care level and addressing identified common precursors, such as hypertension.

Key projects have been created and are fostering regional collaboration. One example is the South–South Partnership in Cardiovascular Research in Africa, initiated by Professor Karen Sliwa, Director of the Cape Heart Institute at University of Cape Town and Professor Ana Mocumbi, Vice-President of the Mozambican Institute for Health Education and Research, which

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**Figure 1** Availability of selected essential medicines and diagnostic tests for cardiovascular diseases (CVD) in Maputo city ( ), Mozambique.
aims to build local capacity and promote regional and global partnerships for research. Through various initiatives, this project is empowering the next generation of cardiovascular clinicians and researchers, with particular emphasis on females. In addition, the THESUS II survey is currently on planning—all the Society members of the Pan African Society of Cardiology were contacted, and a positive response was obtained from all regions of Africa. A global network could collaborate in research, facilitate national stakeholder discussions and development of national scorecards. The World Heart Federation has provided a ‘Roadmap for Heart Failure’, a guidance for national NCD programmes to identify and overcome roadblocks in the process of dealing with HF.

Conclusions and way forward

The African continent is characterized by a high socio-economic, demographic and cultural heterogeneity among its different regions and populations. As clearly presented by Professor Karen Sliwa at the European Society of Cardiology’s joint session with JAMA Cardiology: ‘Achieving Global Health Equity: A New Challenge in Heart Failure’, held on the 2023 Congress, Africa faces several challenges that need better understanding by acquisition of proper data that can drive the implementation of effective solutions for prevention and management of HF in the different contexts. Access to affordable medical therapy is crucial to improve survival of the many patients facing HF. The continent needs innovative approaches to address inequalities in education, low access to health care and the profound shortage of health care providers. Development of local capacity by research training and funding of projects is fundamental. Regional and international partnerships are crucial for proper and expedite advancement.

Declarations

Disclosure of Interest

All authors declare no disclosure of interest for this contribution.

References