



LETTER TO THE EDITOR

Heart with Mozambique: A Portuguese contribution to the eradication of rheumatic heart disease



Coração com Moçambique: a contribuição Portuguesa para a erradicação da doença cardíaca reumática

Rheumatic heart disease (RHD) is a sequela of acute rheumatic fever. It was almost eradicated during the late 20th century in high-income countries due to improvements in socioeconomic conditions and the widespread use of benzathine penicillin G to treat streptococcal pharyngitis. However, there is still a significant burden of RHD in low- and middle-income regions, particularly Africa, South Asia, and the Pacific islands, associated with social determinants of poor health and with high mortality.¹

The current availability of echocardiography-based screening in areas in which the condition is endemic provides an easy and rapid way to diagnose RHD. The World Health Organization and the World Heart Federation (WHF) have shown an increasing interest in the burden of this disease, calling for a 25% reduction in cardiovascular mortality, including RHD, by 2025.¹

'Heart with Mozambique' was created to address this issue. It is a project arising from collaboration between the Portuguese Society of Cardiology (SPC) and Eduardo Mondlane University in Maputo, Mozambique, organizations in two countries that share a common language and cultural heritage. This was an autonomous program following an initial challenge from the WHF project 'Colors to Save Hearts', which aims to fight RHD through improvements in medical training in the cardiovascular area and in the population's literacy.

The program began in May 2023 with an online course delivered by the Portuguese cardiologists involved in the mission. The objective was to provide Mozambican physicians with initial field training in transthoracic echocardiography and in clinical management of the main cardiovascular diseases.

Subsequently, 10 cardiologists were sent to Maputo to perform large-scale echocardiographic screening. The volunteers were seven adult cardiologists and three pediatric cardiologists. The mission was coordinated by Dr Victor Gil and organized by Dr Fernando Montenegro Sá, Dr Isabel Mon-

teiro and Dr Kevin Domingues. The Camões Institute and the Portuguese Pharmaceutical Industry Association (APIFARMA) supported the mission, as did the SPC, which donated 10 portable ultrasound machines capable of high-quality cardiac screening. Three sites were selected for this purpose: the obstetrics department of Maputo's Central Hospital, a clinic in Eduardo Mondlane University, and the primary school of Matchik-tchik.

Over a period of two weeks in July 2023, a total of 2219 transthoracic echocardiography (TTE) scans were performed, of which 213 were in the hospital on full-term pregnant and postpartum women. Of these, 42 (20%) showed anomalous findings, mainly left ventricular hypertrophy (LVH) in 50%, as well as mild mitral regurgitation (MR) in 17% and mild pericardial effusion in 9.5%. We also encountered more serious situations with repercussions for the acute treatment of pregnant or postpartum women, such as severe rheumatic mitral stenosis and large pericardial effusions.

At the primary school, 1787 children aged 5–15 years were observed. Besides TTE, they also underwent an oral swab for pharyngeal streptococcus screening. Of these TTE scans, 279 (15.6%) presented with mild anomalies, mainly mitral or tricuspid regurgitation. These findings may indicate an early stage of RHD which will merit further follow-up at a specialist clinic.

At the clinic, 219 TTE scans were performed, of which 123 (56%) presented with abnormal findings. The most common was LVH in 68%; followed by mild MR in 29%, rheumatic valve disease in 7%, left ventricular dysfunction in 5% and severe pericardial effusion in 1.6%. At the same time, there was an investment in the theoretical and practical training of 24 health care providers (five specialists in family and community medicine, 18 residents and one general medical doctor) to perform and guide the application of TTE.

Now that the field experience is over, we can consider that our mission was a success. A considerable number of individuals were assessed and important data were obtained. A significant percentage of the observed echocardiographic findings were abnormal, confirming the expected high prevalence of cardiovascular and valvular disease in this population, showing the scope for a larger investment in the medical knowledge of the population and their access to health care. An important contribution to improving medical training was made, particularly in TTE, aiming for specialized and timely provision of medical care to this population. One of the major limitations we encountered was the limited training time available, especially considering the technique

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in question, which is highly dependent on continuous practice, and the at times basic learning needs, leaving us with the feeling that a structured program repeated over time could have a greater impact in this population.

Finally, we hope that this work can continue in the coming years, to improve the diagnosis of cardiovascular disease, aiming to reduce its complications and mortality, and to strengthen ties between Portuguese and Mozambican physicians.

Participants

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Conflicts of interest

The authors have no conflicts of interest to declare.

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