

At the Heart of the Community: Implementation of Echocardiographic Screening for Rheumatic Heart Disease in Primary Care Facilities of Northern Borneo Island

Journal of Primary Care & Community Health
Volume 15: 1–8
© The Author(s) 2024
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/21501319241233178
journals.sagepub.com/home/jpc



Sam Froze Jiee¹ , Lim Kai Joo², Pee Nai Eng², Aini Simon Sumeh², Anisah Jantim², Selvanaayagam Shanmuganathan^{2,3}, and Siva Rao Muniandy⁴

Abstract

Background: Rheumatic heart disease (RHD) is a potentially life-threatening condition that causes long-standing public health concerns. Echocardiography is a reliable diagnostic and screening technique for many cardiovascular conditions, including RHD. It is commonly used in tertiary care facilities worldwide but less so in the community setting. The primary aim of this study was to introduce and elaborate on the echocardiographic screening for RHD that was implemented by a Malaysian primary care clinic in Penampang district, Sabah. We also set out to present the uptake of the service in its initial years of establishment, as well as the challenges faced. **Methods:** In the first part of this study, document reviews were conducted to compile relevant information about the conceptualization and implementation of this service. Following that, we also obtained secondary data on the echocardiographic screening service from its first implementation in April 2020 until May 2021 to examine the uptake and the patient profile. **Results:** From April 2020 to May 2021, a total of 189 echocardiographic screening was conducted by primary care doctors using handheld ultrasound. Of the 189 children screened, 19 (10.1%) were found to have cardiac anomalies and were referred for a formal echocardiogram. Upon follow-up, 8 were detected with mild mitral regurgitation and referred to the nearest tertiary hospital for further management. **Conclusion:** Based on our review, the echocardiographic screening for RHD among children conducted by the Penampang Health Clinic was deemed successful. Echocardiogram service provided by primary care centers located in suburban and rural areas is highly beneficial for patients with poor access to specialized health care services because they stay far away from tertiary care facilities. Tapping into family medicine physicians located closer to communities to conduct echocardiographic screening and review the results can improve the detection of cardiac anomalies requiring further investigation. With the success of this project, echocardiographic services in the primary healthcare setting can be expanded by garnering the necessary collaborative efforts and consistent support from various stakeholders.

Keywords

rheumatic heart disease, echocardiographic screening, primary care, community health, Sabah, Borneo Island

Date received 21 October 2023; revised January 15 2024; revised manuscript accepted 24 January 2024

Background

Rheumatic heart disease (RHD) is a potentially life-threatening condition caused by untreated acute rheumatic fever (ARF) as a result of group A streptococcal infections.¹ RHD is a significant and long-standing public health concern globally, with developing countries bearing the brunt of this disease due to suboptimal healthcare systems and a lower level of awareness about the condition. Between 1990 and

2019, there was a notable increase of 70.5% in the global prevalence of RHD, resulting in 40.5 million individuals with RHD by 2019 with a male preponderance.² According to the World Health Organization (WHO), around 319 400 people die from RHD every year, many of them being young individuals in their productive years. According to a systematic review by Noubiap et al,³ the prevalence of RHD worldwide varies between countries due to the difference in

