

Editorial

Rheumatic Heart Disease in India: Declining, but not fast enough

The publication from the Global Burden of Disease (GBD) study, describing the trends and current estimates of rheumatic heart disease (RHD) worldwide went largely unnoticed in India.¹ This editorial highlights some key findings relevant to India that we presented in the paper,¹ and discusses their implications for control of RHD in the country.

At the outset, as a note of caution, there are several limitations to the GBD approach to disease burden estimation. These particularly apply to India and other resource-poor countries, where paucity of data sources necessitates reliance on epidemiological modelling to arrive at figures for mortality and prevalence. Nevertheless, these data do allow examination of temporal trends within, and comparisons between countries. The main findings are that though the age-standardized mortality due to RHD has halved over the past 25 years worldwide, the reduction is not consistent across geographical regions. The data for India are alarming.

India is the RHD capital of the world

India is home to 40% of all people living with RHD. Of the estimated 33 million people with RHD, 13.2 million live in India. Likewise, in the year 2015, of the 347 000 deaths due to RHD worldwide, nearly 120 000 (over a third) are estimated to have occurred in India. The other disconcerting finding is the below average pace of reduction in prevalence and mortality. During the 25-year period from 1990 to 2015, the age-standardized mortality due to RHD worldwide fell from 9.2 to 4.8 per 100 000 population, a reduction of nearly 48%. However, the reduction for India is a mere 18% (from 15.5 to 12.7 per 100 000 population). By contrast, China showed a 71% reduction from 18.8 to 5.4 per 100 000 population over this period. North Africa and Southeast Asia have now achieved age-standardized mortality rates due to RHD that are similar to those in non-endemic countries (about 2 per 100 000 population).

Emphasis on treating established valve disease is needed to reduce RHD-related mortality

The WHO and the World Heart Federation have called for a 25% relative reduction in mortality due to non-communicable diseases including RHD by the year 2025.^{2,3} This target is not achievable with the current rate of decline in mortality due to RHD. A reduction in age-standardized mortality due to RHD can be achieved through a reduction in RHD prevalence, and a reduction in mortality by treatment of established valve disease. The latter assumes greater importance when disease prevalence is declining, as it seems to be, at least in some parts of India.⁴

So far, the focus of RHD control programmes has been restricted to interventions targeted primarily at preventing disease (which may reduce prevalence and progression) while ignoring treatment of patients with established valve disease. Secondary penicillin prophylaxis programmes, which do target people with established disease, are aimed at reducing disease progression. However, there is little evidence on the ground to suggest that they work, even in countries where secondary prophylaxis has been the principal focus of interventions.⁵ Moreover, secondary prophylaxis is unlikely to be effective in patients with established valve disease, where the haemodynamic consequences of severe valve lesions are more important for prognosis than any rheumatic activity that may be prevented.⁶ Thus, the reduction in mortality due to RHD will need to necessarily come from better care of patients with established valve disease.

We have shown that patients with established rheumatic valve disease, including those in India, suffer high mortality and morbidity.⁶ The 2-year mortality of patients seen at treating hospitals in 14 endemic countries was 16.7%. Many patients had advanced disease and sequelae (such as heart failure) at presentation. One of the factors associated with reduced mortality was living in an upper middle-income country (compared to a lower-income country). Much of this reduction could be attributed to the increased use of interventional and surgical procedures in these countries.⁶ Therefore, given the large number of patients with RHD in India, ensuring adequate and timely treatment of established valve disease needs to be an important priority of RHD control programmes. In parallel, the research agenda for RHD should shift towards investigation (and delivery) of treatments directed against the key causes of morbidity and mortality in RHD, such as heart failure and stroke.

One important step in this direction would be to optimize utilization of the interventional and surgical expertise available in India. The large majority of balloon valvuloplasties and valve surgeries are performed at few tertiary care public hospitals leading to long waiting lists and delay in providing much needed care. Government insurance schemes (some states already do have these) should encourage poor patients to utilize the services of private hospitals for RHD-related procedures. Additionally, much needs to be done to tackle morbidity due to advanced RHD. There are little available data, of patients with RHD, to inform critical patient-care decisions such as optimal drug therapy for heart failure or stroke prevention, and timing of surgery in patients with regurgitant lesions. Generation of evidence for patient care requires high-quality research. But funding for RHD research is a small fraction of that available for other developing world diseases causing comparable morbidity.⁷ Public and philanthropic organizations should step in to fill this gap.

As in the case of developed countries several decades ago, where the prevalence of RHD declined largely due to improvement in socioeconomic conditions, there are signs of reduced burden in some of the affluent states in India. While it is unrealistic to hope to eradicate RHD, sustained socioeconomic development coupled with prevention and treatment programmes have the potential to reduce disease burden to levels seen in high-income countries in the coming decades.

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GANESAN KARTHIKEYAN
Department of Cardiology
All India Institute of Medical Sciences
New Delhi
karthik2010@gmail.com