

NURTURING CHILDREN: REDUCING PREVENTABLE DISEASE BURDEN AND MORTALITY FROM RHD

OPPORTUNITIES FOR HEALTH SYSTEM INTEGRATION OF RHEUMATIC HEART DISEASE CONTROL

Rheumatic heart disease (RHD) is a non-communicable disease (NCD) that affects children and young people. RHD is caused by overcrowding, poor hygiene, and inadequate nutrition. In high and middle-income populations, improvements in these measures, as well as universal access to effective primary care, have made new cases of RHD very rare. However, the disease continues to kill, disable, and make pregnancy unsafe for young people living in poverty and isolation.

Advanced RHD requires long-term medical follow-up and frequent hospitalization, imposing a significant burden on the productivity of those affected the community and health care facilities. It has been known for over 50 years, that treatment with low-cost antibiotics can halt the progression of heart valve damage and prevent disability and death in young people. Still, every year, half a million people worldwide die of RHD, including citizens of the Pacific Islands, who also continue to be affected by this preventable disease. By investing in proven measures of prevention and control, RHD can become a story of the past, as it has in many parts of the world.

RHEUMATIC HEART DISEASE IN THE PACIFIC ISLANDS

The Pacific region has one of the highest overall prevalence rates of RHD worldwide; it is the top “hotspot” of the disease, with a definite burden of disease as high as 19.5 children per 1000 in Tuvalu. Echocardiography heart screening in many Pacific countries has shown that early disease can be identified in school children. If not effectively treated, many of the children identified with early stages of the disease will eventually require cardiac surgery and life-long medical care. Sending children with advanced RHD overseas for heart surgery poses a significant financial burden for many small island nations. For example the extent of the financial burden of the disease is highlighted by recent estimates from Fiji that indicate RHD costs the country close to USD \$15.2 million per year. Tonga and Samoa report spending up to 15% of their health budgets on overseas referral for RHD, and Kiribati spends as much sending a single patient overseas for cardiac surgery as is required to run a RHD prevention programme annually. Waiting lists are long, many die waiting and surgical outcomes are often poor, with a lifetime of post-operative follow up required. To address the problem of RHD in the Pacific region, a holistic approach must be taken, to strengthen health systems, empower patients, and promote resource sharing.

OPPORTUNITY TO ACT

The global movement to raise the priority of NCDs offers a unique window of opportunity to end neglect of RHD and integrate RHD prevention and control into national health plans, so that action can be sustained over the long term. We call on Pacific Islands to deliver the services of RHD prevention and control that have worked in other countries around the world by the following:

- **Integrate RHD prevention and control into existing health plans and programs**

Pacific Island countries should include RHD in national NCD control plans and other sectors with potential to mitigate the burden of disease. Although RHD is caused by a bacterial infection, heart valve damage is chronic and can rightly be considered an NCD. Further opportunities for broader integration are identified overleaf; identification of a ‘lead agency’ may help coordination if multiple departments and organizations are contributing to RHD control.

- **Establish RHD registers in Pacific Island States with a high prevalence of the disease**

The development of RHD registers in Fiji, New Caledonia, and American Samoa have proved a vital step to improved understanding and management of the disease. Each Pacific Island country should begin or strengthen an RHD register to record the number of people living with RHD and those receiving regular antibiotic injections.

- **Develop a collaborative regional approach that permits sharing technical and other resources among the Pacific Island States**

RHD is a challenge shared across the Pacific. Development of standardized registers, clinical protocols, policy tools and other resources should be shared to minimize duplication and improve care throughout the region.



5 - 15 year olds with definite RHD on echocardiography screening (WHF Criteria) Rate per 1000 population from 2012-2013

The cause of rheumatic heart disease

Rheumatic fever (RF) is caused by an abnormal immune reaction to bacterial group A streptococcal infection (GAS) of the throat, and possibly the skin. Recurrent episodes of GAS infection and RF during childhood and adolescence cause damage to valves in the heart known as rheumatic heart disease (RHD). Without treatment, RHD progresses to life threatening heart failure and increases the risk of heart rhythm disturbance, stroke and heart valve infections. Women with RHD are at increased risk during pregnancy and childbirth; undiagnosed, catastrophic cardiovascular collapse can lead to sudden maternal death.

Primordial prevention

Improvement of environmental, social and economic conditions of populations at risk of RF and RHD.

Primary prevention

Treatment of acute streptococcal pharyngitis (strep throat) with antibiotics to reduce the incidence of RF.

Secondary prevention

Use of antibiotic prophylaxis with benzathine penicillin G (BPG) to reduce the recurrence of RF in people with a history of RF or RHD.

Tertiary intervention

Medical and surgical treatment of the complications of RF & RHD.

Opportunities for integration of RHD control into other sectors

Non-communicable diseases (NCDs)

RHD control is part of the WHO Package of Essential NCD interventions for primary care in low-income countries, and it is included in the WHO Global Action Plan on prevention and control of NCDs as a policy option for achieving objective 4 (strengthening health systems). Countries where RHD is prevalent should include RHD prevention and control, including health worker training, awareness and access to BPG in their NCD plans and in PEN pilots.

Neglected tropical diseases

Partnerships with control programs for neglected diseases may improve access to medicines; for example, BPG is also used to treat yaws and syphilis. There may be some direct clinical impact on the treatment of scabies. Transfers of institutional knowledge and dedicated funding may also be possible.

Child and Adolescent Health

Primary prevention to treat sore throats with antibiotics can prevent development of RF.

Early diagnosis and management of RF and RHD with regular antibiotic injections can reduce disease progression to RHD. Education and clinical protocols are a relatively cheap way of improving early disease management.

Delivering care through schools provides an important point of contact with children who may not otherwise access health services.

Reproductive health

Improving access to contraception, antenatal care and maternity care can reduce the number of women with RHD who die in childbirth.

Dental care

Good dental care can reduce the number of people with RHD who develop the complication of infective endocarditis.



Pacific Rheumatic Heart Disease Control Programme



Further resources are available from the Tools for Implementing RHD Control Programmes Website www.rheach.org/tips
A full length 'RHD White Paper' for the Pacific Islands is under development. Contributions can be directed to enquiries@rheach.org