# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine


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## Rheumatic Heart Disease

### Rheumatic Heart Disease

Rheumatic Heart Disease (RHD) is caused by Rheumatic Fever, an inflammatory disease that can damage the connective tissue in our body. It mainly affects the heart, joints, and skin. The heart valve can be inflamed and scarred over time, consequently, valve dysfunction can be developed. RHD starts as sore throat from a bacteria called *streptococcus pyogens* (Group A streptococcus*)* which causes an immune reaction against the body tissue. This infection can be transmitted from person to person as other upper respiratory tract infections. It is common in children.

It is the most common acquired heart disease under 25 years of age. The majority of the affected are from low-or middle- income countries. It can lead to death or life-long disability. It is preventable by treating streptococcus infections promptly on time and interrupting the spread of streptococcus infection.

### Who is at risk?

Children who live in low- and middle-income countries without easy access to health care services, and children who live in overpopulated areas with poor conditions are at risk of getting Rheumatic fever. RHD is the most frequent heart disease that can be seen in pregnancy in endemic countries. It can result in poor maternal outcomes including heart failure and arrhythmias. It is prevalent in sub-Saharan Africa, the Middle East, South Asia, and the older population in high-income countries.

### Symptoms and signs of rheumatic Fever (John's criteria)

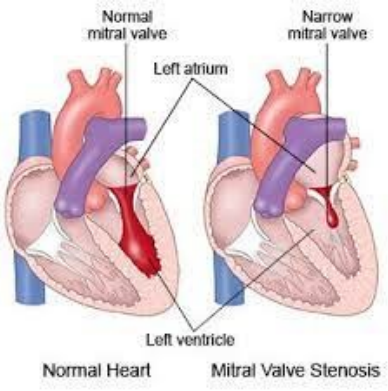
- History of Sore throat
- Fever
- Arthritis
- Carditis
- Sydenham chorea
- Erythema marginatum
- Subcutaneous nodules
- Malaise

### Symptoms of Rheumatic Heart disease

- Shortness of breath particularly increased on exertion
- Chest pain/ Discomfort
- Swelling of the stomach, hands, or feet
- Rapid irregular Heartbeat
- Symptoms of signs due to heart failure in late stages

Rheumatic heart disease is the most common cause of mitral stenosis. Nearly, 60% of patients present with MS have a history of Rheumatic Fever. The survival rate is poor once significant stenosis occurs. (0-15% 10- year survival). Pulmonary artery hypertension is a poor prognostic factor of MS caused by post-inflammatory disease. Mitral insufficiency is not as common as stenosis, only 20% of post-rheumatic patients get it.

Both Aortic stenosis and aortic insufficiency are not commonly caused by Rheumatic fever.




### Complications of Rheumatic Heart Disease

- Heart Failure – occurs when the stenosis or insufficiency is severe
- Bacterial endocarditis – when the RF has damaged the heart valves, bacterial infections can develop on the valves.
- Complications of the pregnancy and the delivery due to damaged valve – it is recommended to get an evaluation by a health care provider before getting pregnant if a woman has RHD.
- Ruptured Heart valves – is a medical emergency, need to get urgent surgical valve replacement done.

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**Treatment**

No cure for RHD. The damage that occurred to the heart valves is permanent. Treatment depends on the extent of the valve damage. Patients with severe rheumatic heart disease need surgical replacement or repair of valves. And need to treat heart failure and cardiac arrhythmia with medications. Since these patients are at risk of developing blood clots, anti-platelets/anticoagulants must be prescribed. The cost for these surgeries is remarkably high. And, may not be available in low-income countries.

**Is rheumatic heart disease preventable?**

Since Rheumatic fever is the root cause of RHD, prevention of Rheumatic Fever is the key to preventing RHD. Therefore, prompt treatment with effective antibiotics for sore throat is an important aspect.
And, once an individual develops Rheumatic fever, we need to interrupt further streptococcal infections. Because recurrent infections can do additional damage to heart valves. Therefore, they should be treated with long-term antibiotics to prevent re-infection with Streptococcal infection according to the strategy. The antibiotic of choice is Benzathine Penicillin G which is given as an intramuscular injection once per 3-4 weeks. Main strategies that should be followed by endemic countries to prevent RHD are,

- Improving the standard of living
- Expanding access to appropriate care
- Ensuring a consistent supply of quality assured antibiotics for primary and secondary prevention
- Adequate monitoring and surveillance of Rheumatic fever and RHD

**Challenges in the prevention of Rheumatic heart disease**

The main factor in preventing rheumatic fever is the optimal treatment of streptococcal infection. But sometimes patients do not present on time to health care providers. So, it is not effectively treated. Lack of time and money, and low awareness about the potential risk of untreated sore throat, are some reasons for that. Even some health care workers do not have enough knowledge about the development of Rheumatic fever when a sore throat is kept untreated.

Sometimes RHD is not diagnosed until severe damage occurs to the heart valves. Sometimes it is diagnosed when women get pregnant. It is the leading cause of maternal cardiac deaths during pregnancy. Also in endemic countries, heart valve replacement surgeries are not well-accessible. Long-term treatment is required to halt the progression of RHD. It is costly and the chance of defaulting by patients is higher due to discomfort and fear of injection and regular visits are troublesome.
Then the availability of benzathine penicillin G is an essential factor in the prevention of RHD. Sometimes it is short at the global level.

In 2018, the World Health Assembly adopted resolution WHA 71.14 calling for WHO to launch a coordinated global response to rheumatic heart disease and rheumatic fever (WHO). WHO keeps preparing clinical guidelines for Rheumatic fever and RHD. And the WHO Road map for access to medicines, vaccines, and other health products 2019-2023 and the WHO benzathine penicillin technical working group are doing their best to address the issues in demand and supply of benzathine penicillin. Their target is the continuous supply of quality assured and safe drugs.

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**Table 1 : Water Quality Surveillance**
**Number of microbiological water samples Februry 2022**

| District | MOH areas | No: Expected * | No: Received |
|---|---|---|---|
| Colombo | 15 | 90 | NR |
| Gampaha | 15 | 90 | NR |
| Kalutara | 12 | 72 | NR |
| Kalutara NIHS | 2 | 12 | NR |
| Kandy | 23 | 138 | NR |
| Matale | 13 | 78 | NR |
| Nuwara Eliya | 13 | 78 | NR |
| Galle | 20 | 120 | NR |
| Matara | 17 | 102 | NR |
| Hambantota | 12 | 72 | 7 |
| Jaffna | 12 | 72 | NR |
| Kilinochchi | 4 | 24 | NR |
| Manner | 5 | 30 | 0 |
| Vavuniya | 4 | 24 | NR |
| Mullatvu | 5 | 30 | NR |
| Batticaloa | 14 | 84 | NR |
| Ampara | 7 | 42 | NR |
| Trincomalee | 11 | 66 | NR |
| Kurunegala | 29 | 174 | 0 |
| Puttalam | 13 | 78 | NR |
| Anuradhapura | 19 | 114 | NR |
| Polonnaruwa | 7 | 42 | 14 |
| Badulla | 16 | 96 | NR |
| Moneragala | 11 | 66 | NR |
| Rathnapura | 18 | 108 | NR |
| Kegalle | 11 | 66 | 0 |
| Kalmunai | 13 | 78 | NR |

* No of samples expected (6 / MOH area / Month)
**NR** = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 12th – 18th Mar 2022 (11th Week)

| RDHS | Dengue Fever | | Dysentery | | Encephaliti | | Enteric Fever | | Food Poi- | | Leptospirosis | | Typhus | | Viral Hep- | | Human | | Chickenpox | | Meningitis | | Leishmania- | | WRCD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | A | B | A | B | A | B | A | B | A | B | A | B | A | B | A | B | A | B | A | B | A | B | T* | C** |
| Colombo | 88 | 2040 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 1 | 0 | 1 | 4 | 100 |
| Gampaha | 56 | 1762 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 21 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 7 | 0 | 2 | 1 | 2 | 3 | 72 |
| Kalutara | 45 | 630 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 5 | 9 | 70 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 14 | 0 | 8 | 0 | 0 | 1 | 100 |
| Kandy | 23 | 484 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 21 | 0 | 5 | 0 | 4 | 0 | 0 | 0 | 7 | 0 | 1 | 0 | 1 | 2 | 96 |
| Matale | 9 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 1 | 8 | 101 | 10 | 100 |
| NuwaraEliya | 2 | 45 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 2 | 6 | 0 | 0 | 0 | 0 | 5 | 8 | 0 | 0 | 0 | 0 | 8 | 100 |
| Galle | 29 | 612 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 96 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 16 | 0 | 8 | 0 | 0 | 1 | 100 |
| Hambantota | 4 | 186 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 35 | 1 | 11 | 0 | 1 | 0 | 0 | 7 | 12 | 1 | 2 | 14 | 114 | 7 | 100 |
| Matara | 9 | 219 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 37 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 2 | 2 | 69 | 10 | 100 |
| Jaffna | 82 | 806 | 2 | 8 | 0 | 1 | 2 | 33 | 0 | 8 | 1 | 14 | 9 | 274 | 0 | 2 | 1 | 1 | 5 | 36 | 0 | 3 | 0 | 0 | 40 | 88 |
| Kilinochchi | 0 | 37 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 27 | 100 |
| Mannar | 0 | 138 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 20 | 82 |
| Vavuniya | 2 | 39 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 85 |
| Mullaitivu | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 20 | 100 |
| Batticaloa | 28 | 255 | 1 | 22 | 1 | 4 | 0 | 0 | 0 | 4 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 12 | 0 | 1 | 25 | 100 |
| Ampara | 1 | 41 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 13 | 1 | 5 | 0 | 6 | 6 | 100 |
| Trincomalee | 23 | 287 | 2 | 11 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 5 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 21 | 92 |
| Kurunegala | 40 | 942 | 1 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 10 | 0 | 0 | 0 | 0 | 1 | 14 | 0 | 9 | 14 | 113 | 3 | 100 |
| Puttalam | 27 | 755 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 10 | 0 | 2 | 12 | 92 |
| Anuradhapur | 4 | 113 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 57 | 2 | 12 | 0 | 1 | 0 | 1 | 0 | 9 | 1 | 9 | 21 | 138 | 3 | 90 |
| Polonnaruwa | 2 | 37 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 22 | 89 | 1 | 88 |
| Badulla | 6 | 328 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 53 | 0 | 9 | 1 | 22 | 0 | 0 | 0 | 9 | 1 | 5 | 0 | 6 | 3 | 100 |
| Monaragala | 3 | 75 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 2 | 2 | 81 | 1 | 6 | 1 | 13 | 0 | 0 | 0 | 12 | 0 | 8 | 5 | 26 | 4 | 100 |
| Ratnapura | 41 | 508 | 1 | 12 | 1 | 4 | 0 | 1 | 0 | 15 | 5 | 175 | 1 | 5 | 1 | 6 | 0 | 0 | 4 | 17 | 0 | 5 | 3 | 53 | 4 | 95 |
| Kegalle | 23 | 330 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 13 | 105 | 1 | 5 | 0 | 2 | 0 | 0 | 2 | 18 | 0 | 9 | 0 | 7 | 2 | 100 |
| Kalmune | 16 | 156 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 9 | 0 | 5 | 0 | 0 | 20 | 100 |
| **SRILANKA** | **56** | **10959** | **7** | **139** | **2** | **12** | **2** | **43** | **0** | **53** | **50** | **936** | **17** | **368** | **3** | **59** | **1** | **4** | **36** | **233** | **6** | **120** | **90** | **731** | **9** | **95** |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 18th Mar , 2022 Total number of reporting units 361 Number of reporting units data provided for the current week: 342 C**-Completeness

## Table 2: Vaccine-Preventable Diseases & AFP

12th – 18th Mar 2022 (11th Week)

| Disease | No. of Cases by Province | | | | | | | | | Number of cases during current week in 2022 | Number of cases during same week in 2021 | Total number of cases to date in 2022 | Total number of cases to date in 2021 | Difference between the number of cases to date in 2022 & 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | W | C | S | N | E | NW | NC | U | Sab | | | | | |
| AFP* | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 00 | 18 | 15 | 20 % |
| Diphtheria | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Mumps | 00 | 00 | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 04 | 08 | 25 | - 68 % |
| Measles | 00 | 00 | 00 | 00 | 00 | 00 | 02 | 00 | 00 | 02 | 01 | 09 | 05 | 80 % |
| Rubella | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| CRS** | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Tetanus | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 0 % |
| Neonatal Tetanus | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Japanese Encephalitis | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 00 | 0 % |
| Whooping Cough | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Tuberculosis | 77 | 24 | 33 | 06 | 09 | 18 | 00 | 01 | 15 | 183 | 159 | 1519 | 1367 | 11.1 % |

### Key to Table 1 & 2

**Provinces:** **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

**RDHS Divisions:** **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

**Data Sources:**

**Weekly Return of Communicable Diseases:** Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

**Special Surveillance: AFP*** (Acute Flaccid Paralysis ), Japanese Encephalitis

**CRS** =**Congenital Rubella Syndrome

**NA** = Not Available

| Influenza Surveillance in Sentinel Hospitals - ILI & SARI | | | | | | | |
|---|---|---|---|---|---|---|---|
| Month | Human | | | | Animal | | |
| | No Total | No Positive | Infl A | Infl B | Pooled samples | Serum Samples | Positives |
| March | | | | | | | |
| Source: Medical Research Institute & Veterinary Research Institute | | | | | | | |

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

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