



SUSTAINING MALARIA ELIMINATION A REGIONAL PERSPECTIVE FROM KURUNEGALA DISTRICT

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Introduction

In 2016, the World Health Organization (WHO) certified Sri Lanka as a malaria-eliminated country. Since then, the country has entered the Prevention of Re-establishment (POR) phase to maintain this status. Although the last Indigenous malaria case was reported in November 2012, Sri Lanka continues to report an average of 50 to 60 imported cases annually. Malaria had been endemic in Sri Lanka for centuries, with periodic epidemics. The most devastating outbreak occurred in 1934–1935, infecting around 1.5 million people and causing approximately 80,000 deaths [1].

Historical Context and Current Surveillance

The first Anti Malaria Centre in Sri Lanka, (known as Ceylon before mid-1972) was established in Kurunegala district in 1911 under British colonial administration. Currently, the Anti Malaria Campaign (AMC) is managed by the Ministry of Health, Sri Lanka. Initially, the AMC operated as a vertical program. In 1989, it decentralized its operations, integrating Regional Malaria Officers into the Provincial Health Authority to locally manage anti-malaria activities. The AMC Headquarters continues to provide technical guidance and financial support as necessary.

Epidemiological Data (2013-2023)

From 2013 to 2023, Kurunegala district reported 14 imported malaria cases: 10 due to *Plasmodium falciparum*, 2 due to *Plasmodium vivax*, and 1 due to *Plasmodium ovale*. In 2023 reported four cases, with three cases each in 2017 and 2018, and two cases each in 2014 and 2019.

All patients were Sri Lankan nationals, predominantly male (12 out of 14), with a mean age of 45 years (range 23 to 64 years). Most diagnoses (11 out of 14) were made within five days of the patients' first contact with healthcare providers. The demographic breakdown included six military personnel, one police officer, five migrant workers, and two pilgrims.

Treatment and Management

All 14 patients received anti-malarial treatment in government hospitals, with two severe cases treated in Intensive Care Units (ICU) in Teaching Hospital Kurunegala and Army Hospital, Colombo 08. The majority (8 out of 14) acquired their infections in South Sudan, with others infected in India, Uganda, the Central African Republic, and Ethiopia. Patients with *P. falciparum* were treated with Artemisinin-based Combination Therapy (ACT) and primaquine, while those with *P. vivax* and *P. ovale* received chloroquine and primaquine.

Severe cases were treated with intravenous artesunate followed by an oral course of ACT. One patient experienced recrudescence and was treated with Dihydroartemisinin-piperaquine (DHAP), in accordance with national treatment guidelines [2]. The other case investigation and response activities were performed according to the national guideline on scope of work to be done when a malaria patient is reported [3].

Vector Surveillance and Challenges

The principal malaria vector in Sri Lanka is *Anopheles culicifacies*, which breeds in streams, rivers, and other surface water collections. Entomological surveillance indicates high receptivity in Kurunegala, a former malaria-endemic area [4,5]. Challenges in managing malaria include the rarity of the disease post-elimination, leading to diagnostic delays as febrile patients are often tested for dengue rather than malaria. Thrombocytopenia, common in malaria, is also a feature of dengue, exacerbating diagnostic confusion [6].

Resource Allocation and Public Health Strategies

Post-COVID-19 economic challenges have further strained resources for malaria control. Despite low morbidity and mortality during the POR phase, Sri Lanka faces a high risk of malaria reintroduction due to increased travel to endemic regions and high vector receptivity. Given the non-immune status of the population, potential malaria outbreaks could result in severe cases and fatalities. Ensuring prompt diagnosis and treatment within two hours is critical, with Public Health Laboratory Technicians (PHLTs) conducting diagnostic microscopy [7]. The district maintains two PHLTs for quality assurance and control. Continuous public health awareness and securing commitment from political leaders and higher authorities are crucial for malaria-elimination status in Sri Lanka. Chemoprophylaxis is given to individuals before



Figure 01- World Malaria Day: Malaria walk in Kurunegala district in 2024.

visiting malaria-endemic countries [8]. Travellers from malaria endemic countries should abstain from blood transfusion for three years since returning to Sri Lanka [9].

Conclusion

Sustained vigilance and active involvement of Regional Malaria Officers (RMOs) are crucial for regional malaria activities. Decentralization to provincial authorities underscores the shared responsibility for maintaining Sri Lanka's malaria-free status. Provincial health authorities play a pivotal role in providing necessary resources, technical guidance, and financial support.

Continued education and awareness among healthcare providers are imperative to ensure malaria is considered in the differential diagnosis of febrile illnesses, despite its reduced prevalence. This vigilance is critical in early detection and prompt treatment, thereby mitigating the risk of severe cases and fatalities [10].

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