

Editorial

Malaria-free Sri Lanka

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Sri Lanka commenced its anti-malaria campaign (AMC) in 1911 in Kurunegala through the establishment of a field unit for malaria control¹. This was followed by the setting up of similar field units in other highly malarial areas of Sri Lanka¹. A very severe malaria epidemic occurred in 1934 in the wet and intermediate zones of Sri Lanka with around 1.5 million patients and 80,000 deaths¹. In 1946, spraying of houses with dichloro diphenyl trichloroethane (DDT) was introduced and with this measure, the incidence of malaria in Sri Lanka was greatly reduced¹. In 1958, a national malaria eradication programme was started in accordance with the recommendations of the World Health Organisation (WHO)¹. In 1963, Sri Lanka nearly achieved malaria elimination, only 17 cases of malaria being detected during that year¹. However, due to relaxation of surveillance, a large malaria epidemic occurred in 1967¹. Factors contributing to this epidemic included persistence of undetected foci of malaria transmission, extensive population migration within Sri Lanka, especially in relation to gem mining, and inadequate governmental support¹. Major malaria epidemics have also occurred in 1987 and 1990¹. Malarial epidemics in Sri Lanka have been associated with the North East monsoon rains, and also with drought which leads to the forming of pools in rivers¹.

Operationally, AMC had a centralized structure until 1989¹. In 1989 the programme was decentralized into 8 provincial programmes supervised by the national AMC directorate¹. The ethnic conflict, affecting chiefly the North and East during the past 30-40 years, changed the epidemiology of malaria in Sri Lanka¹. The North and East, which in the past had hardly any malaria, recorded a marked increase in malaria incidence especially in the nineties¹.

In the 1990s, AMC in Sri Lanka adopted a strategy of intensive targeting of the parasite *Plasmodium* in addition to the *Anopheles* mosquito². Using mobile malaria clinics in high malarial transmission areas, immediate treatment reduced the *Plasmodium* reservoir and the likelihood of further transmission². Simultaneously, efficient surveillance, community engagement and health education, enhanced the ability of authorities to respond². By 2006, Sri Lanka recorded less than 1000 cases of malaria per year². In 2009, after the successful end of the ethnic conflict, the Ministry of Health launched a national

malaria elimination programme¹. This had 4 main objectives³:

1. To eliminate indigenous *Plasmodium falciparum* malaria transmission by the end of 2012.
2. To eliminate indigenous *Plasmodium vivax* malaria transmission by the end of 2014.
3. To maintain zero mortality from malaria.
4. To prevent re-introduction of malaria into Sri Lanka.

The following strategies helped eliminate malaria in Sri Lanka³:

- Ensuring 100% case detection and confirming with the aid of microscopy or rapid diagnostic tests.
- Notifying and investigating all cases to ensure radical cure and prevent secondary transmission.
- Strengthening malaria surveillance.
- Continuing artemisinin-based combination therapy and gametocyte treatment policy for *Plasmodium falciparum* malaria.
- Implementing quality control and quality assurance for diagnostic and treatment services including antimalarial drugs.
- Ensuring total indoor residual spraying around each malaria case and implementing an integrated vector management strategy, including distribution of long-lasting insecticide-treated nets, to control vector densities and eliminate transmission.
- Implementing outbreak preparedness and rapid response strategy for early outbreak containment.
- Preventing malaria in travellers from overseas and preventing re-introduction of malaria acquired abroad.
- Re-orienting public and private health sector staff towards malaria elimination.

Since October 2012, the number of cases of malaria was reduced to zero and no locally transmitted cases have been recorded in Sri Lanka thereafter². To maintain elimination, AMC is working closely with local authorities and international partners to maintain surveillance and response capacity and to screen high-risk populations entering Sri Lanka².

On the 5th of September, 2016, the World Health Organisation (WHO) certified that Sri Lanka was successful in eliminating malaria². Sri Lanka is the second among the 11 countries in the WHO South-East Asia Region to eliminate malaria after Maldives². The biggest challenge today is to ensure monitoring⁴. International funding for Sri Lanka's AMC ends in 2018 and after that the full financial responsibility falls on the government⁴. It is imperative that we learn from our past, especially the mistakes made in the 1960s and ensure that our little island remains as a malaria-free country. With intense commitment, political as well as medical, this is very much an attainable goal.

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