

Malaria Free Sri Lanka after 2014: Opportunities and Challenges

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Malaria, a historic disease burden of Sri Lanka, was one of the major causes for shifting the ancient kingdoms of the country to various places. It was a major public health problem in the country, causing severe morbidity and mortality. Consequences of the disease were loss in the labour force, reduction of family income and increased expenditure to the Government to the health sector in order to treating the patients as well as to prevent and control the disease.

Therefore, eliminating the disease from the country is inevitable.

The Anti Malaria Campaign (AMC), an organization under Ministry of Health Care and Nutrition, is responsible for the above endeavor. The AMC has a great history of bringing down the malaria cases to 17 throughout the Island, in 1963. Unfortunately, after the relaxation of the vigilant control activity the situations reverted back in late 1960s (Figure 1).

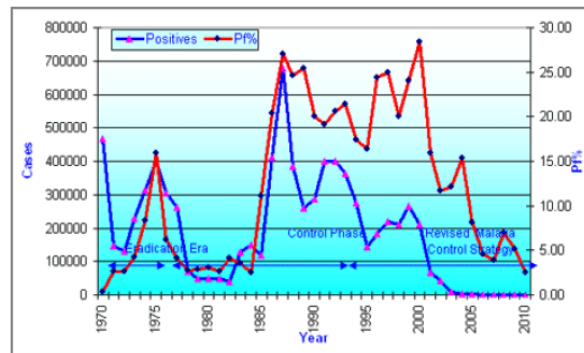


Figure 1: Trends of Malaria Cases in Sri Lanka, 1970-2010
(Source- http://www.searo.who.int/en/Section10/Section21/Section340_4026.htm)

Following the above set back, the AMC concentrated its activity more on drawing up a strategic plan, initially to control the disease and now trying to eliminate the disease from the country.

The AMC was previously close to an elimination era in early 1960s, but, could not sustain it due to very low profile of monitoring system and dismantling of all spraying units. Thereafter, the country faced cyclic outbreaks and deaths, having steep peaks in 1968-70, 1974-76, 1986-88 and 1991-93 followed by few small peaks (Fig.1).

Realizing the fact that continuous vigilant is essential even for sustaining the control of disease, the AMC again strengthened its activity. After a long struggle, the AMC succeeded in bring the malaria under control after 2000.

The following key activities of the AMC helped to achieve the above success.

- i. Elimination of parasites from the population through early detection and complete treatment
- ii. Vector control through indoor residual spraying with insecticides, application of larvicides and releasing predator fish in breeding habitats
- iii. Preventing vector-human contact by issuing insecticide treated bed nets

Having brought down the number of cases as 133 in 2005, it was decided to enter the pre-elimination phase in 2008, hoping to eliminate the disease in 2014. In 2011, only 112 cases were detected microscopically all over the Island (Figure 2).

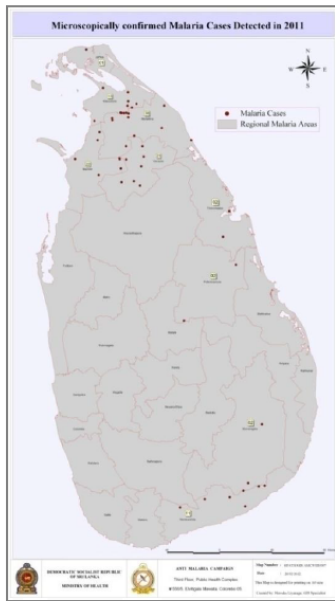


Figure 2: Number of microscopically confirmed cases all over the Island
 (Source: AMC, Ministry of Health Care and Nutrition, Sri Lanka)

Meantime, the entire world is in the process of eradicating malaria from the globe. Sri Lanka is one of the 32 countries align with the above endeavor.

The objective of eradication is completely to eliminate the possibility of the occurrence of a given disease, even in the absence of all preventive measures. This definition, modified by the phrase 'unless reintroduction occurs,' applies also to local area, state, national, and regional eradication.

Eradication is a process that has the following steps

1. Control phase
2. Pre-elimination phase
3. Elimination phase
4. Prevention of reintroduction phase

Control of a disease means “reduction of disease incidence, prevalence, morbidity, or mortality to a locally acceptable level as a result of deliberate efforts”. Continued intervention measures are required to maintain the reduction.

Elimination of a disease can be defined as “reduction to zero of the incidence of locally transmitted malaria infection in a defined geographical area as a result of deliberate efforts” Continued intervention measures are required to prevent reestablishment of transmission.

Eradication is the permanent reduction to zero of the global incidence of malaria as a result of deliberate efforts; intervention measures are no longer needed.

To achieve the above goal, the AMC formulated the objectives as follows

1. To eliminate transmission of indigenous malaria by the end of year 2012
2. To eliminate indigenous malaria by the end of year 2014
3. To maintain zero mortality from malaria in Sri Lanka
4. To prevent the reintroduction of malaria into the country

Past historical experience of AMC is promising that they have the commitment and dedication towards their goal.

At the same time we cannot ignore that the AMC has to face a big challenge in completely eradicating the disease.

A complete absence of locally acquired malaria cases is epidemiologically unlikely: as long as vector mosquitoes are present and in contact with the population, occasional infection of local mosquitoes by gametocyte carriers that visit or pass through a country cannot be prevented.

Infection is mostly encountered among travelers who return from endemic areas such as African countries and from India, or among military personnel serving in the northeast of the country. They may act as potential sources of reintroducing malaria, as elimination of the vector is not feasible. The change in symptomatology, forgetfulness of malaria as a cause of acute febrile illness and deterioration of the competence of microscopists are all likely to contribute to a delay in the diagnosis. A good step-wise surveillance programme to detect all malaria cases either indigenous or imported will help achieving the final goal of eliminating malaria from Sri Lanka.

Very sensitive indicators of transmission are particularly important late in the elimination phase; better training and capacity building, better information systems, and modeling must also be developed. Improved vector control is essential for the elimination/ eradication of malaria. Innovative cross-disciplinary technologies are needed to control outdoor biting and resting mosquito vectors, to measure transmission, and to educate communities.

New or improved tools alone will not be enough; community engagement and good communication between everyone involved in malaria elimination/ eradication is essential.

In conclusion, the AMC has entered into a pre-elimination phase and working hard towards eradicating the malaria from Sri Lanka, in 2014. The success depends on how vigilant the AMC is on preventing the reintroduction of malaria, in terms of imported cases, keeping the vector density very low level, in addition to the community participation.

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