

Cover Story



Measles: eliminated in Sri Lanka amidst the global re-emergence

Deepa Gamage

Epidemiology Unit, Ministry of Health, Sri Lanka

Correspondence: deepagamage@gmail.com  <https://orcid.org/0000-0002-7131-7932>

DOI: <https://doi.org/10.4038/jccpsl.v25i4.8236>

Received on 8 December 2019

Accepted on 10 December 2019

Measles is a highly infectious disease with fatal and serious complications. After eradication of smallpox and heading for eradicating polio, the next disease considered for eradication in the world would be measles, through vaccination as a preventive strategy. The global experts are reviewing the feasibility of formulating eradication strategies, while measles elimination strategies are on track throughout the world (1).

Sri Lanka has set targets for measles elimination to be achieved by 2020 (2) but received certification of indigenous measles virus elimination one year ahead of its target. This achievement is a collective effort of all preventive, laboratory and curative health care staff at all levels, as coordinated by the National Measles Elimination Programme, Epidemiology Unit, Ministry of Health.

South East Asia (SEA) Region is immensely involved in eliminating measles, in line with the regional and global strategies for achieving and maintaining a 'measles free status'. At present, none of the WHO-Regions remains as measles eliminated. The Region of Americas, which was declared measles eliminated in 2016 could not remain so, with the resurgence of measles in some countries for more than one year with continued transmission. In 2018-2019, measles transmission

was experienced globally in outbreak proportions, with the main reason identified as non-vaccination due to several contributing factors.

The Measles Containing Vaccine (MCV) at 9 months of age was introduced to Sri Lanka in 1984. The country experienced an unexpected measles outbreak in 1999-2000 (3), which suggested the introduction of a 2nd dose (MCV-2) to all 3-year old children from 2001. As catch-up campaign, the adult age cohorts were vaccinated with MCV-2 at 10-14 years in 2003 with high coverage (95%) and at 16-20 years in 2004 with relatively low coverage (72%). As per the National Immunization Schedule, all age cohorts born after 1998 received MCV-2 to ensure high population immunity against measles transmission among younger population, along with high vaccination coverage maintained for nearly two decades.



In 2011, a national policy decision taken to replace MCV at 9 months and MCV at 3 years with Measles-Mumps-Rubella (MMR) vaccine, advanced the 1st MMR dose to 1 year of age for better zero-conversion. On the verge of elimination in 2013, another unexpected outbreak which continued till 2015 with declining intensity, was experienced with high incidence among infants with evidence of inadequate serum immunity received as maternal antibodies. This led to the decision of reverting back to MMR 1st dose at 9 months, and this 2-dose schedule at 9 months and at 3 years has continued to date.

After the outbreak situation in 2013-2015, with gradual decline of the transmission, the last case detected has been in April 2016 of indigenous measles viral strain type B3. There onwards, few measles cases have been identified from time to time as ‘imported cases’ with different measles strains. The genotyping revealed differences in the indigenously transmitted measles virus types. These cases however were contained successfully without transmission continued for a year, conforming to the framework for satisfactory elimination of measles in the country.

As effective case response, a more sensitive case definition of “fever and maculopapular rash” used during surveillance detects cases early. The strategy of achieving high laboratory investigation is identified as an essential component in heading for elimination and sustaining post elimination status, ensuring the detection of imported cases. Effective outbreak response includes the initial response in detecting all possible contact cases infected and outbreak response immunization in further preventing cycles of transmission in affected locality. Maintaining high population immunity is essential for measles elimination. Serological evaluations have been done in 2015 at different ages, which demonstrated high population level immunity from 1-40 years. Field level vaccine effectiveness carried out during outbreak situation in 2014-2015 also showed very high vaccine effectiveness among vaccinated age groups, ensuring the quality of vaccine potency maintenance, administration success and effectiveness of vaccination

schedule. All these applied epidemiological aspects, including the routine vaccination coverage, standards of reference laboratory at the Medical Research Institute and surveillance standards including effective outbreak responses have been evaluated by the SEA Measles Regional Verification Committee (RVC). Country experts in the National Measles Verification Committee together with the National Centre for Measles Elimination, Epidemiology Unit of the Ministry of Health are responsible for advising, monitoring and reporting the measles elimination situation to RVC annually. The RVC is an independent expert committee which had certified Sri Lanka as successfully eliminated endogenous measles transmission in July 2019.

However, challenges are ahead for the country in maintaining the measles elimination status. The early reporting of all possible cases conforming to the case definition is essential with laboratory confirmation. Continuation of the 2-doses of MMR vaccination in the National Immunization Schedule (4) with created high demand to maintain high coverage at all levels would successfully maintain measles immunity in the population. Capacity of the public health care staff for effectively responding to highly contagious measles cases has to be a priority in curtailing outbreaks. Adhering successfully to all these would help Sri Lanka to sustain the achieved measles elimination status during the currently existing global outbreak scenario.

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Citation

The WHO South-East Asia Regional Verification Commission for Measles Elimination and Rubella/Congenital Rubella Syndrome Control, at its fourth meeting in April 2019, concluded from the evidence provided by the National Verification Committee of Sri Lanka that the transmission of endemic measles virus has been interrupted in that country.

This commendable achievement was made possible by the strong leadership and commitment of the government, sustained collaboration with the World Health Organization and partners, and active support of the health-care workers, volunteers and communities at all levels of the health services.

The Democratic Socialist Republic of Sri Lanka, endemic for measles disease for several decades, included the measles-containing vaccine in its Expanded Programme for Immunization in 1984. It also increased access to immunization services to its population and maintained very high coverage of measles-containing vaccination despite various challenges. Over the last few years, Sri Lanka also established a strong laboratory-supported epidemiological surveillance for the disease.

The World Health Organization's Regional Office for South-East Asia deems it a great honour to recognize this achievement of the Government of the Democratic Socialist Republic of Sri Lanka, and especially its Ministry of Health, Nutrition and Indigenous Medicine, and congratulates the country for this remarkable public health success.

3 September 2019


Dr Poonam Khetrapal Singh
Regional Director