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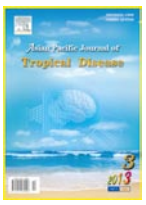

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Poliomyelitis eradication: Rhetoric or reality

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ABSTRACT

Since the launch of Global Polio Eradication Initiative in 1988, disease burden has been reduced by more than 99% globally. Lately, India has witnessed a year without a case of poliomyelitis. It no longer stands endemic and is being regarded as a model for polio eradication efforts in other low income endemic countries: Pakistan, Nigeria and Afghanistan. The near elimination of wild polio virus in India has set forth new challenges of vaccine derived polio virus and need for newer strategies in oral poliomyelitis vaccine cessation preparatory phase. Stricter surveillance measures are needed to check for importations, any spread of virus in migratory populations and rapid containment of newly found virus. No stone should be left unturned in this last ditch effort for extermination of polio virus form environmental circulation. India´s battle against polio will be cited as the biggest public health achievement or the most expensive public health failure.

Since the launch of Global Polio Eradication Initiative in 1988, disease has vanished in most corners and the burden has been reduced by more than 99% globally. Yet polio continued to be a public health problem mainly in four endemic countries: Afghanistan, India, Nigeria and Pakistan[1]. However, India, having witnessed a year without a case of poliomyelitis, no longer stands endemic. The last child to suffer from Poliomyelitis was an 18 months old girl named Rukhsar Khatoon, who developed acute flaccid paralysis (AFP) due to wild polio virus (WPV) on 13th January, 2011 in Howrah district of West Bengal[2]. Besides, none of sewage samples collected from some major cities during this period has been reported positive for WPV[3]. This achievement comes at a time when all the other endemic countries have witnessed a rise in the number of polio cases as compared to the previous year. The reported poliomyelitis cases during the year 2011 from Pakistan, Afghanistan and Nigeria were 197, 80 and 57 respectively[4].

History of polio eradication initiative began in 1988, when along with all 192 member nations of the World Health Organization, the Government of India committed to the goal of global polio eradication. The regions of the WHO declared polio free are the Americas (certified polio-free in 1994), the Western Pacific Region (certified polio free in 2000), and the European Region (certified in 2001)[5].

The core strategies that were used to achieve the goals were attaining high routine immunization, observing national and sub-national immunization days, enhanced surveillance of AFP cases and mopping up activities. These major strategies have proven effective for achieving the polio eradication[6]. The National Polio Surveillance Project (NPSP) of WHO supports the government in a major way by providing technical assistance and monitoring of supplemental immunization activities and AFP surveillance. Good inter-sectoral coordination has been observed between WHO, UNICEF, government of India, state governments, Rotary international, NGOs, and health practitioners.

India has emerged a success despite facing several odds of poverty, illiteracy, rising population, migration, poor sanitation and cultural barriers. But, many lessons have been learnt, strategies revised and achievements made. The major keys to success were introduction of bivalent oral polio vaccine in the year 2010, the best weapon for any type of our existing enemy polio virus. Improvement in routine immunization rates was observed in high risk states such as UP and Bihar. Well established global integrated virologic

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surveillance network provided greater insight into wild polio virus circulation than that provided solely by epidemiologic tools. Strong network of over 350 intensively trained and efficient surveillance medical officers spread throughout for surveillance and rapid response of polio case has proved an asset. Rise in fervor and enthusiasm evident with nil case detection since last one year is likely to result in stricter surveillance by them.

Now, there is a shift in strategy by WHO to provide a geographic tailored approach depending on the epidemiology and type of polio epidemic in the area. The "107 block plan" has individually targeted each high risk block in UP and Bihar to fill up the vaccination gaps. Besides, a special migrant and underserved strategy, simple sanitation measures, social mobilization strategy, administration of zinc and an optimal mix of vaccines have made this goal realistic and achievable[7].

Boost in international funding is likely with declining polio cases in India. Also, continued political commitment from central and state governments, inter-sectoral coordination between various stakeholders, cooperation by the media and supports of eminent public personalities will help us to sail smoothly to our destination. However, we can't afford to be complacent, since many challenges still remain. The major challenge is the rising number of vaccine derived polio virus (VDPV) cases in 2011. VDPV cases pose a risk of outbreak, especially when they are of circulating type[8].

Another challenge is to maintain AFP surveillance tighter than ever for case detection and rapid containment. Threats of importations from neighboring countries and possibility of persistence and spread of WPV in immune-compromised children loom large. In 2011, WPV-1 from Pakistan was introduced in China where several cases occurred before its transmission was stopped[9]. Poor surveillance in migratory populations, which already have low routine immunization rates, raise possibility of missing polio cases and subsequent outbreaks. Rising internal migration in urban cities with developing economy is a looming threat to our program.

We have entered the oral poliomyelitis vaccine (OPV) cessation preparatory phase, where greater focus should be on enhanced AFP surveillance, improving routine immunization and containment of wild and vaccine virus. In order to move forward, there is a need to have clarity in perspective and decisions to carry the flag-post of nil cases till eradication mark. There is difference in opinion among public health policy makers about vaccination strategy to be adopted during this crucial period of polio eradication. Inappropriate immunization strategy used in the year 2006 led to resurgence of cases and should serve a lesson for future. Cuba's synchronized discontinuation of OPV and use of inactivated poliovirus vaccine (IPV) in coordinated eradication strategy in other countries has been cited as model example[10].

It is important to continue with the evidence based approaches and not take decisions based on speculations. NPSP has initiated several studies to generate reliable evidence in our own settings, such as comparing mucosal immunity generated following the use of OPV and IPV[11].

India's efforts for polio eradication have been appreciated in various international forums. It is now considered as role model for other endemic countries. Never again will we be so close to the nil mark. Failure if occurs, may lead to a major resurgence of the disease with many children crippled for life again every single year. At the same time, it would also represent the most expensive public health failure in history, with far-reaching consequences on overall global immunization efforts seriously undermining the credibility of public health efforts, with donors and stakeholders, especially in an era of global economic uncertainty.

Conflict of interest statement

We declare that we have no conflict of interest.

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