



Short Report:

Lessons from Observation of Supplementary Immunization Activity in India

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Abstract: Successful conduction of supplementary immunization activity is vital both for prevention of transmission of Wild Polio Viruses, as well as outbreaks due to importation of infection to India. The present study attempts to identify reasons that restrict parents to bring their children to polio booths on 'Polio Sunday', and highlights the need for concerted house-to-house 'search and vaccinate' activities to ensure near 100% coverage of target children to achieve the aim of Polio Free India.

Key Words: Supplementary immunization; Pulse Polio; India

Introduction:

Supplementary Immunization Activity (SIA) forms one of four pillars of strategy towards elimination of poliomyelitis in India (1), and has been instrumental in India's spectacular progress in achieving cessation of Wild Polio Viruses (WPV) transmission. (2) The objective of SIA, popularly called Pulse Polio Immunization (PPI) in India is to provide additional OPV doses to every child aged below 5 years, at intervals of 4-6 weeks; the aim being to "flood" the community with OPV within a very short period, thereby interrupting transmission of WPV. Complete coverage is accomplished by establishing polio booths all over India/region (in case of sub-national PPI) on two Sundays (4-6 weeks apart). House-to-house "search and vaccinate" component of the SIA is conducted on subsequent two days of each 'Polio Sunday' to ensure that near 100% targeted children receive the immunization.(1)

Success of PPI depends on meticulous programme planning, intensive supervision, monitoring and extensive social mobilization. The significance of a PPI programme in India has gained added significance because of a recent development in the field of polio eradication, namely the evolving epidemiology of polio has demonstrated that the population immunity thresholds needed to interrupt WPV transmission are higher (>95%) in Asia, particularly northern India and parts of Pakistan than Africa (80-85%).(3) The objective of this study is to suggest approaches to further refine activities during SIA to achieve complete or near complete coverage, a milestone that can not be bypassed in march towards goal of 'polio free India'.

Methods:

Children less than 5 years of age, residing in a well-defined urban community in State of Punjab state (India), and had failed to report to polio booths on 19 February 2012, (Polio Sunday) during SAI formed the starting point of the study. Health care workers conducting house-to-house 'search and vaccinate' activities on subsequent two days were instructed to record the home addresses and/or cell phone numbers of these families. Reason for not reporting to polio booth was obtained personally by the author, either through personal visit to their

homes or through interview on cell phones. Statistical test appropriate for nominal data has been used to analyze the data.

Results:

One thousand six hundred and forty-four children below the age of 5 years were immunized with OPV during the first round of SIA conducted in reference population during 19-21 February 2012. Out of these, 155 children (9.43%) from 113 families were not brought to polio booths on 19 February 2012 and were vaccinated during 'search and vaccinate' activities conducted on 20 and 21 February 2012. Ninety seven (85.84%) of these families could be contacted. The reason for 'defaulting' has been presented in Table 1.

Table 1 : Reasons for not reporting to Polio Booth

Reason	Number of families (N=97)	Percentage
Not aware of the 'day'	47	48.45
Head of family not present at home	14	14.43
Not aware of location of the nearest booth	9	9.28
Pressing social engagement on the 'day'	7	7.22
Target child unwell	7	7.22
Child given polio drops recently	5	5.15
Child adequately immunized and no need for further immunization	5	5.15
No need to report as polio drops will be given at home next day	3	3.09
Total	97	100.00

Note: The parent(s) was asked to identify the most important reason, in case of multiple responses.

Discussion:

Percentage of children out of total target children brought to polio booths on 'Polio Sunday' is an indicator of social mobilization. This indicator can be easily computed for a locality, district, State and even at National level and compared temporally and spatially. Although, house-to-house follow-up is an integral part of SIA, the indicator should be utilized to guide corrective measures during second round, and future SIA. In the present study, this figure was 9.43 percent, and is sufficiently high to deserve allotment of additional resources to advertise the observation of the day through mass media. This percentage also reflects the need for a coordinated and concerted house-to-house 'search and vaccinate' activity to ensure near 100 percent coverage.

Another experience of the study worth mentioning was the revelation that parents, especially in urban India are admitting their

children to pre-nursery and nursery schools from the age of three years onwards. On ground, this reflects as non-availability of significant percentage of children for immunization at homes during morning hours on subsequent two days. In the present study, 39 (25.16%) children were immunized at the schools. 'Search and vaccinate' activity at schools is resource-effective as pre-primary schools provide congregation of children < 5 years of age, where non-immunized are easily identified by absence of 'polio mark'. However, the author is of the opinion that vaccination at schools should be avoided, as it does not have the 'implied consent' of the parent(s), and has the potential to bring adverse publicity to the programme, especially if a child develops an adverse reaction due to, or 'perceived to be' due to the vaccine. Immunization of these children should be done by identifying the households during morning visits, and organizing special visits during evening hours. Deployment of special teams or additional incentives to vaccination teams is recommended to ensure compliance.

Conclusions:

India recorded the last case of poliomyelitis on 13 January 2011, and has been polio-free since then. This spectacular success should motivate all stakeholders to further improve quality of polio-related activities, and not lead to any complacency. The success story of India also has lessons for remaining endemic nations especially Pakistan and Afghanistan that also require a herd immunity nearing 100% of children < 5 years of age to interrupt WPV transmission.

Humanity is on the threshold on eradication of a disease that causes disability, disfigurement, de-humanization, discrimination and death. An advertisement by a two wheeler manufacture in India on television says, "turning back is not an option". Nothing could be truer for humanity's march towards polio eradication.

References:

1. NPS India. Eradication Strategy: National Polio Surveillance Project. Available at <http://www.npsindia.org/Eradication%20Strategy.asp>.
2. Denyer S. Polio focus leaves other diseases behind. Washington Post. January 12, 2012. Available at <http://www.washingtonpost.com/world>
3. WHO, UNICEF, CDC. Guiding principles (Chapter 2). Global Polio Eradication Initiative, Strategic Plan 2010-12. WHO, UNICEF, CDC. 2010. Available at http://www.polioeradication.org/Portals/0/Document/StrategicPlan/StratPlan2010_2012_ENG.pdf. Page 15-16