

Evaluation of Intensive Pulse Polio Immunization in District Valsad During 2007

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ABSTRACT

Three rounds of pulse polio immunization in January, February and March, 2007 were evaluated in Valsad and Vapi cities. Randomly selected team members of 50% booths and teams working during house to house activity were interviewed. Approximately 80% of eligible children were immunized on booths whereas remaining eligible were covered during house to house activity. In February, 2007 round, mOPV type 1 was first time introduced in Gujarat. Utilizers of booth services received information about these rounds mainly from television and miking. During house to house activity, few unimmunised children were found. Adequate manpower with proper training and community mobilization can improve the coverage.

Keywords: *India, Pulse polio immunization, Vaccine vial monitor.*

INTRODUCTION

The impact of routine polio immunization and Intensive Pulse Polio Immunization (IPPI) on the incidence of poliomyelitis is well known(1). An important improvement in IPPI during 1998 has been the use of Vaccine Vial Monitor (VVM)(2). This mechanism has been mandatory in all vaccine procurements since 1998. This study was conducted to evaluate various aspects relating to booth activity and house to house activity in Intensive Pulse Polio Immunization program in Valsad district, Gujarat.

METHODS

There are two main cities in Valsad district, Valsad and Vapi. Both were evaluated for two consecutive rounds of IPPI in January, February, 2007 and one round of Supplementary National Immunization Day (SNID) in March, 2007 there-after. Evaluation was done on booth activity day and also for the house to house activity days in urban and urban slum areas of Valsad and Vapi cities. Valsad city has 30 booths and Vapi city has 51 booths. Fifty percent of booths were visited at both places in all the three rounds. Assessment of booth activity, interview of booth workers, and to know the source of information about IPPI round, interview of parents or guardians who brought children to the booth was

made. P and X marking of houses, X to P conversion at the end of the day, false P marking were also analyzed for all the three rounds. Availability of type of vaccine whether tOPV or mOPV type 1 was also checked.

RESULTS

More than seventy percent children were vaccinated at booth during all the three rounds of IPPI in urban areas of Valsad district (**Table I**). Almost all the booths were easily visible with displayed IEC material. Booth workers attended last vaccinator training showed fluctuation between 50-100%. Participation from community members like social worker, local leader or college students was about 50%. Worst part observed was mobilization of children to booth by booth worker (average 18%). VVM in stage 3 or 4 was not found on any booth. In any round, complete knowledge regarding VVM was not found in Valsad and Vapi. Trivalent Oral Polio Vaccine (tOPV) was used in the January round while in next two rounds of February and March, 2007, Monovalent Oral Polio Vaccine (mOPV) type 1 was used.

Little less than 50% of booth service utilizers received information about these rounds from television. Similarly, about one fifth of utilizers

TABLE I OBSERVATIONS ON THE BOOTH ACTIVITY DAY DURING PULSE POLIO IMMUNIZATION AT VALSAD AND VAPI IN 2007*

Observations	January, 2007		February, 2007		March, 2007	
	Valsad	Vapi	Valsad	Vapi	Valsad	Vapi
No. of target children	7319	22606	9029	21540	9029	21544
No. of children immunized	7371 (100.7)	16546 (73.1)	7288 (80.7)	16645 (77.2)	7416 (82.1)	16498 (76.5)
No. of booths visited	15(50.0)	26(50.0)	15(50.0)	26(50.0)	15(50.0)	26(50.0)
Two booth workers attended last training	11(73.3)	22(84.2)	15(100)	23(88.4)	14(93.3)	13(50.0)
One community member	7(46.7)	15(57.7)	12(80.0)	14(53.8)	7(46.7)	10(38.5)
Workers mobilizing children to the booth	2(13.3)	7(26.9)	3(20.0)	6(23.1)	2(13.3)	3(11.5)
Correct finger marking of children	7(46.6)	22(84.6)	15(100)	23(88.4)	15(100)	18(69.2)
Team having correct knowledge of VVM	9(60.0)	12(46.1)	14(93.3)	22(84.6)	13(86.6)	16(61.5)

*Figures in parentheses indicates percentages.

heard about this campaign through miking. Some non utilizers of booth services were sure that the vaccinators will come to their house for polio immunization. Some of these non utilizers forgot about visiting the booths on round day.

At both Valsad and Vapi, teams were found in the field during house to house activity and were immunizing the children but not proactively as a few children were missed playing on street or on road side. No vial was found in VVM stage 3 or 4 during this activity. In March round, 2 newborn infants were immunized who were born after February round. In January round, among those areas visited during house to house activity, one area was found with 2 missed houses having 2 children below age of 2 years at Vapi and again 2 children were found unimmunised at Valsad and at Vapi in March, 2007 round (**Table II**).

DISCUSSION

This evaluation study was done in urban and urban slum areas of Valsad and Vapi cities of Valsad district. Evaluation of three consecutive rounds of pulse polio immunization revealed that the booth coverage is still not much high and it is about 80% only, which really needs to be improved. Lack of community participation, poor community mobilization and untrained vaccinators were responsible for low coverage. Similarly, Aggarwal, *et al.*(3) observed that manpower shortage in form of volunteers from community were responsible for

lower coverage at booths in eastern part of Delhi.

Weekly Epidemiological Record of 2006 from WHO suggested that to improve the quality of Supplementary Immunization Activities in high risk areas of Uttar Pradesh and Bihar, a few recommendations made from India Expert Advisory Group (IEAG) on polio eradication like, deployment of additional personnel to high risk areas, enhanced social mobilization efforts targeted at reaching population groups missed during previous rounds, use of mobile teams to vaccinate children at transit points and on moving trains, and increased engagement and accountability of political leaders and of health staff at all levels required to be implemented(4).

In Gujarat, mOPV type 1 was first time introduced in February, 2007 round. In few districts of UP, Bihar, Mumbai, Thane during Intensified Pulse Polio Immunization in April, 2005 round, mOPV type 1 was introduced for the first time(5). Dobe, *et al.*(6) have reported in their study that television and miking are the main source of information for polio round. In present study among booth service utilizers, television and miking were main source of information for pulse polio round. Similar findings are also observed by Chincholikar and Prayag(7) in their study in rural areas of Maharashtra and in our study also.

During house to house activity, few unimmunised children were found. The reasons are

WHAT THIS STUDY ADDS?

- Study results reveal the deficits in pulse polio program implementation even after many years of campaigning.

TABLE II OBSERVATIONS ON HOUSE TO HOUSE ACTIVITIES DURING PULSE POLIO IMMUNIZATION AT VALSAD AND VAPI IN 2007

Observations	January, 2007		February, 2007		March, 2007	
	Valsad	Vapi	Valsad	Vapi	Valsad	Vapi
No. of areas visited	5	12	7	13	9	13
No. of teams visited	5	12	7	13	9	13
No. of houses visited	50	120	70	130	90	130
Team members attended training	5	12	7	13	9	13
No. of <2 yrs old child received vaccine	23	31	8	36	16	40
No. of <2 yrs old child not received vaccine	0	2	0	0	0	0
No. of 2-5 yrs old child received vaccine	20	57	21	41	27	62
No. of 2-5 yrs old child not received vaccine	0	0	0	0	2	0
Infant born after last round received vaccine	0	0	0	3	0	2

children not at home at time of visit of health team, parents were not at home, not aware of polio round or they were too busy. Similar observations were made by Bandyopadhyay, *et al.*(8) in their study at Delhi. X to P conversion was not observed at all at the end of day in all three rounds. The reason was large number of houses to be covered by each team per day. In Moradabad district of Uttar Pradesh, X marking was improved from 4% in early 2005 to 10% by mid 2005(9).

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