

Evaluation of Pulse-Polio Immunisation in Rural Area of Maharashtra

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Abstract. An evaluation survey on Pulse-polio Immunisation (PPI) in January 2000 was carried out in rural areas of Maharashtra to assess the immunisation coverage, the knowledge regarding pulse-polio and the routine immunisation schedule. House-to-house survey was carried out and information was collected by interviewing the parents of 778 children. It was observed that PPI coverage was excellent i.e., 98%. Majority of informants were female. Knowledge about pulse-polio had a direct relationship with literacy. But knowledge regarding routine immunisation and the polio disease was not found satisfactory.

Excellent coverage of pulse-polio Immunisation was found because of an organised and extensive campaign, use of mass media like T.V., radio, and home visits of peripheral health staff (as told by the informants). The distance of approach to a polio booth was less than a kilometre in almost all cases. Behaviour of health staff was satisfactory everywhere. The time-period required for getting vaccinated after arrival at the polio booth was less than 5 minutes.

Thus it was a worthwhile attempt to evaluate PPI coverage in rural areas of Maharashtra. Excellent coverage of pulse-polio immunisation gives us the picture that poliomyelitis is on the verge of being eradicated from India, if the excellent coverage of PPI is followed by effective surveillance. [*Indian J Pediatr* 2000; 67 (9) : 647-649]

Key words : Pulse-polio; Informants; Defaulters

The target for immunisation of children under 'Health for All' by 2000 A.D. is 100%. The first pulse-Polio Immunisation Schedule (PPIS) conducted in India targeted all children under three years of age (irrespective of their immunisation status). The Government of India has recently decided to increase the age group for the next PPI phase from three years to under five years as recommended by the WHO¹. Due to the implementation of universal immunisation programme since 1985 and extensive immunisation campaign during the last two decades, polio appears to be on the verge of eradication from India². pulse-polio Jan '2000 was the last mop-up round for the year 1999-2000.

Keeping this in mind, the present evaluation of PPI January 2000 was carried out in rural as well as urban areas to see whether the immunisation coverage was really high or whether there are too many defaulters and also to gauge the knowledge about pulse-polio and the routine immunisation schedule.

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MATERIALS AND METHODS

The evaluation of pulse-polio January 2000 was carried out in rural as well as urban areas of Talegaon Dabhade situated on Pune-Mumbai highway, 34 kms away from Pune.

The study was conducted from 23 January to 10 February 2000. A pre-tested questionnaire which consisted of questions relating to (a) age, sex, routine immunisation; (b) pulse-polio doses on all four occasions; (c) reason for missing the pulse-polio dose; (d) knowledge regarding PPI from informants, and (e) literacy status of the informants.

A house-to-house survey was carried out in certain rural as well as urban areas of Talegaon. Total population covered was 5682.

RESULTS

pulse-polio immunisation programme which took place on 23 January 2000 was evaluated to find out the number of defaulters. PPI coverage was excellent in rural as well as urban areas of Talegaon, i.e., 98%. Majority of the informants were female. Though the

TABLE 1. PPI Coverage in Rural and Urban Areas

Received dose	Oct 1999		Nov 1999		Dec 1999		Jan 2000	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Yes	546	234	548	234	544	234	540	233
No	04	04	02	04	06	04	10	05

TABLE 2. PPI Coverage in January 2000 According to Age and Sex

Age in completed years	Urban			Rural		
	Male	Female	Total	Male	Female	Total
0-	40	31	71	05	14	19
1-	58	42	100	18	17	35
2-	67	53	120	25	12	37
3-	65	40	105	10	30	40
4-5	73	71	144	67	35	112
Total	303	237	540	125	108	233

TABLE 3. Age, Sex and Literacy of Informants in Urban Area

Age in completed years	Literate			Illiterate		
	Male	Female	Total	Male	Female	Total
19-	00	17	17	00	08	08
20-	05	102	107	01	05	06
25-	28	145	173	03	14	17
30-	34	87	121	02	07	09
35- onwards	29	48	77	04	11	15
Total	96	399	495	10	45	55

TABLE 4. Age, Sex and Literacy of Informants in Rural Area

Age in completed years	Literate			Illiterate		
	Male	Female	Total	Male	Female	Total
10-	07	24	31	01	04	05
20-	14	33	47	02	01	03
25-	09	46	55	02	04	06
30-	13	41	54	03	07	10
35 onwards	04	15	19	00	08	08
Total	47	159	206	08	24	32

literacy status was high in both rural as well as urban areas, knowledge regarding polio and routine immunisation was not that good.

Table 1 shows the PPI coverage in urban and rural areas on all four occasions in the year 1999-2000. PPI coverage was excellent on all four occasions though there was a marginal decrease in January 2000. Table 2 shows the PPI coverage in urban and rural areas of Talegaon in various age groups. Majority of the children were in the age group of 4-5 years. It was

TABLE 5. Knowledge About Polio Disease and Routine Immunisation

Area	Knowledge about polio disease		Knowledge about routine immunisation	
	Yes	No	Yes	No
Urban	334	216	146	404
Rural	135	103	24	214

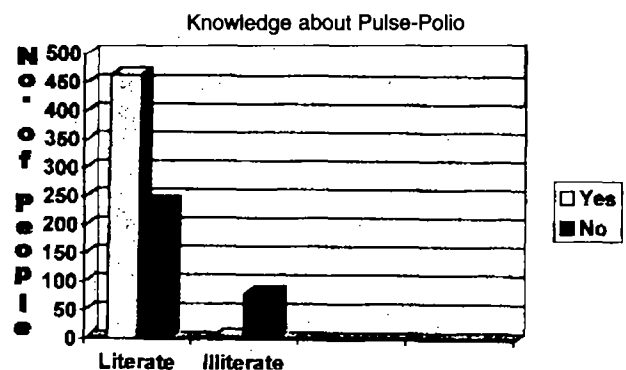


Fig. 1. Literacy of informants and knowledge of Pulse-Polio.

observed that there were 15 cases who did not receive pulse-polio dose on 23 January 2000. The reasons were negligence, fear and unawareness. Some people got fed-up of repeated polio doses. Majority of the informants were females (Table 3). Literacy was more in males as compared to females, though marginally. Majority of informants were in

the age group of 25 to 30 years. Table 4 shows the age, sex and literacy status of informants living in rural areas. As in urban areas, it was observed that majority of informants were females and illiteracy was more in females, though marginally. Table 5 shows the informants' knowledge about the polio disease and routine immunisation in rural and urban areas. Forty percent of the informants in urban as well as rural areas did not know about polio disease. Similar findings were observed regarding knowledge about routine immunisation.

Figure 1 shows the relation between literacy of the informants and knowledge about pulse-polio. A statistically significant difference was observed between the two.

The common sources of information about the pulse-polio were TV, radio, and health staff. Distance travelled to the booth was less than 1 km everywhere. Behaviour of health staff was satisfactory everywhere. The time-period required for giving the vaccine after arrival at the polio booth was less than five minutes in all cases.

DISCUSSION

Though it has been reported that there has been a tendency to report higher coverage³, the present survey showed 98% PPI coverage which is far more than the figure reported by Deokinandan⁴. The reason may be because India has intensified pulse-polio with a focus on high-risk area.

It was observed that the literacy of informants in urban and rural areas was quite high. Majority of the informants were females. It was also observed that majority of the informants do not know about the pulse-polio program. However, Taneja *et al*⁵ in their study reported higher figures regarding the knowledge about pulse-polio vaccination. Regarding routine immuni-

sation schedule, with increasing coverage of routine immunisation, knowledge was expected to increase⁶ but in our study very few people had knowledge regarding this.

The influence of literacy on pulse-polio coverage was found to be statistically significant. Similar findings were reported by Padma Singh⁷. Thus it was a worthwhile attempt to evaluate the PPI coverage, particularly, in rural areas of Maharashtra. We observed that there was an excellent coverage of PPI reflecting the success of the programme and indicating that India might be on the verge of blotting out poliomyelitis. The situation may not be the same in other states. But it is certain that if the PPI programme is implemented sincerely followed by effective surveillance, then definitely we can achieve our goal of eradicating poliomyelitis from India.

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