

# Status Of Routine Immunisation In Chandigarh , India

N Goel, A Abrol, R Pathak, M Sharma, S Gulati, H Swami

## Citation

N Goel, A Abrol, R Pathak, M Sharma, S Gulati, H Swami. *Status Of Routine Immunisation In Chandigarh , India*. The Internet Journal of Health. 2007 Volume 7 Number 1.

## Abstract

**Objective:** To evaluate status of routine immunisation in Chandigarh

**Design:** Cross-sectional study.

**Setting:** Under five children residing in rural, urban and slum of Chandigarh.

**Subjects:** 400 mothers and their 518 under-five children

**Method:** This study was conducted on PPI day in Dec-Jan 2003-2004. A total of 20 booths were selected randomly by random sampling in the proportion of population distribution so that the study covers children in proportion of the area i.e. 10 booths in urban, 8 booths in slums and resettlement colonies and 2 booths in rural areas. 20 mothers were enrolled from each of the selected booths.

**Results:** Out of these 448 (86.4%) children were fully immunized, 60(11.5%) were incompletely immunized and 10(1.9%) were completely unimmunised. Immunization rate was 90% for male children whereas it was 80% for female children. This difference in immunization status of male and females children was found to be statistically significant ( $p < .01$ ). It was observed that for 218 (56.0%) mothers, television was the major source of information, closely followed by ANM/Health workers i.e. 206 (53.0%). 7.0% of mothers felt that immunization was non-beneficial/non-responsive towards importance of vaccination.

**Conclusion:** Immunization status of Chandigarh has improved but there is a room for improvement. Training and reorientation of health workers, supervision of the ongoing UIP, along with timely feedback should be considered as the key component to further improve and sustain routine immunization coverage in order to reach the unreached.

## INTRODUCTION

Immunisation is an important and cost effective public health tool for disease control. It reduces both morbidity and mortality among children due to the six vaccine preventable diseases (VPD's). On 19<sup>th</sup> November 1985, Govt of India launched the Universal immunization programme (UIP) with the objective to bring down the incidence of six killer diseases of childhood. <sup>1</sup> UIP, as an important intervention programme for child survival has brought down the infant mortality rate from 94 per 1000 live births in 1985 to 63 per 1000 live births in 2005. <sup>2</sup> In 2001, the Coverage evaluation surveys (CES) to find the immunisation coverage was undertaken by Institute for Research in Medical Statistics (IRMS), New Delhi in 90 districts of the country. It was observed that 63% of the children had received all the vaccines/doses; in about 27% of the cases there was partial immunization and 10% of children did not receive any immunization. <sup>3</sup>

It is very much disturbing for all public health individuals.

The gains achieved so far might be reverted, if we do not sustain routine immunization coverage for UIP vaccines.

The main reasons identified by CES for poor coverage were manpower attrition, inadequate community participation, inadequate IEC activities, provider's fatigue etc. In the present study, a rapid assessment of immunization status among under five children of urban, rural and slum areas in Chandigarh was done.

## METHOD

Chandigarh is a modern city, covering an area of 114 Km<sup>2</sup> and a population of 9.3lacs. <sup>4</sup> It forms the capital of Punjab and Haryana and is located 250 km from the national capital and boasts of one of the highest literacy rate (81%) in the country as per the census 2001. <sup>5</sup> The distribution of population in Chandigarh is 50% in urban, 40% in resettlement colonies and slums and 10% in rural areas.

This study was conducted on PPI day in Dec-Jan 2003-2004. In Chandigarh PPI was implemented through 460 booths

which were located in urban, rural and slum areas. A total of 20 booths were selected randomly by random sampling in the proportion of population distribution so that the study covers children in proportion of the area i.e. 10 booths in urban, 8 booths in slums and resettlement colonies and 2 booths in rural areas. Information was collected by interviewing the mothers accompanying the children in the specified age group. 20 mothers were enrolled from each of the selected booths. The sample size thus consisted of 400 mothers with 518 under-five children. 12 questionnaires were excluded from analyses as they contained incomplete information. Children not residing in Chandigarh in the last six months were excluded from the study. A child was considered fully immunized if vaccinated against BCG, 3 doses of OPV and DPT and 1 dose of measles as recommended in UIP. The data was analysed according to area, sex, immunization coverage for vaccines given to infants under UIP as well as certain practices associated with immunization.

## RESULTS

In the study population, maximum number of children (62.7% ) were in the age group of 24-59 months followed by 18% in age group of 12-24 months. There were 303(58.8%) males and 215(41.5%) females (Table-1).

**Figure 1**

Table 1: Age And Sex Wise Distribution Of Under-Five Children (N=518)

Age in months	Sex		Total
	Male (%)	Female (%)	
0 – 6 months	37(61.6%)	23(38.2%)	60(11.5%)
6 -12 months	15(37.5%)	25(62.5%)	40(7.7%)
12 -24 months	54(56.8%)	41(43.2%)	95(18.1%)
24 – 59 months	197(60.4%)	126(38.6%)	323(62.3%)
Total	303(58.5%)	215(41.5%)	518(100.0%)

Out of these 448 (86.4%) children were fully immunized, 60(11.5%) were incompletely immunized and 10(1.9%) were completely unimmunised. (Table-2). Immunization rate was 90% for male children whereas it was 80% for female children. This difference in immunization status of male and females children was found to be statistically significant ( $p < .01$ ).

**Figure 2**

Table 2: Immunisation Status Of Under-Five Children

Age in months	Immunisation									Total
	Complete for age			Incomplete for age			Unimmunised			
	M	F	T	M	F	T	M	F	T	
0- 6	33	17	50 (83.3%)	4	6	10 (16.7%)	0	0	0	60
6 – 12	11	20	31 (77.5%)	3	4	07 (17.5%)	1	1	2 (5.0%)	40
12 – 24	47	33	80 (84.2%)	5	7	12 (12.6%)	2	1	3 (3.2%)	95
24 – 59	182	105	287 (88.85%)	13	18	31 (9.59%)	2	3	5 (1.56%)	323
Total	273	175	448 (86.4%)	25	35	60 (11.5%)	5	5	10 (1.9%)	518

It was observed that for 218 (56.0%) mothers, television was the major source of information, closely followed by ANM/Health workers i.e. 206 (53.0%). Doctors/Nurses were responsible for providing information to 47% of mothers, while 87(22.0%) mothers got information through Radio, Newspaper etc.(Table-3)

Side effects due to vaccines given under UIP were observed among 266(51.0%) children. 354 (68.0%) mothers were provided information regarding precautions to be taken during post-vaccination period, out of which 49.7% of mothers were given information for DPT, 31.0% for OPV and 22.3% for BCG. 93.0% of mothers felt that immunization was beneficial for their children.

**Figure 3**

Table 3: Source Of Information Of Mothers Regarding Routine Immunization Of Children

Source of information (multiple choices)	(n =388) No. (%)
Television	218 (56%)
ANM/ Health worker	206(53%)
Doctor/Nurse	188 (47%)
Radio	45 (12%)
Newspaper	17( 4%)
Others (Family/neighbours/friends)	25 (6%)

## DISCUSSION

The present study was conducted among children under-five years of age to make a quick assessment of routine

immunisation coverage in Chandigarh, UT. National immunization days were utilized for carrying out a quick assessment as it is cost-effective and no extra manpower or inputs were needed.

In the present study the number of fully immunized children was higher in comparison to 72.3% (fully immunized) 22.99%(partially immunized) and 4.64%((unimmunized) children observed by Bhatia et al in Dec 2001. <sup>1</sup>

Although the immunisation coverage revealed in the present study is higher than that seen in 2001; it is still low if we consider availability of good health infrastructure, high literacy and easy accessibility of health facility at shorter distances in Chandigarh. This can be largely explained due to migration of population from the states of UP, Bihar and Jharkhand, leading to mushrooming of slums in this city. Slums, which constitutes 12% of total population of Chandigarh forms a big pool of unimmunised /partially immunized children in Chandigarh. <sup>5</sup>

NFHS-2 has reported that the percentage of children who were fully immunized ranges from 11.0% in Bihar to 89.0% in Tamil Nadu with a national average of 42.0%. <sup>7</sup> The results of the present study are comparable with that of Sokhey where fully immunized children <1 year of age were observed to be 81% in Kurukshetra district of Haryana, 66.0% in Mumbai (MH) and 80.0% in Chennai (TN). <sup>8</sup>

In another study by Ray, fully immunized children were observed to be 82.5% in Paschim Medinipur district followed by 71.5% in Kolkata, 65.3% in Malda and 61.8% in 24 Paraganas south districts of west Bengal and Assam. <sup>9</sup> In the present study it was observed that for 56.0% of mothers, TV was the major source of information, closely followed by ANM/Health workers i.e. 53.0% Doctors/Nurses were responsible for providing information to 47% of mothers, while 22.0% of mothers were informed through Radio, Newspaper etc which demonstrated the importance of mass media for community participation and motivation. Similar findings were observed by Sokhey, where 60-80% of the respondents had learnt about UIP from health staff and 38.0% from mass media.

An important finding in this study was that 7.0% of mothers felt that immunisation was non-beneficial/non-responsive towards importance of vaccination indicating greater need to create community awareness regarding UIP.

### CONCLUSION

It may be concluded that National immunization days were used to quickly assess the immunization coverage among children. The findings suggest that the immunisation status of Chandigarh has improved but there is a room for improvement. The main thrust at this stage should be to revitalize IEC activities so as to increase community awareness about UIP. Training and reorientation of health workers, supervision of the ongoing UIP, along with timely feedback should be considered as the key component to further improve and sustain routine immunisation coverage in order to reach the unreached.

### CORRESPONDENCE TO

Dr. Naveen K Goel, Professor, Deptt. of Community Medicine, Govt. Medical College, Chandigarh. Phone : 0172-2665253, Ext. 1043/1042 (O) 0172-2621513 (R) Fax 0172-609360/608488 Mobile 9876521536 e-mail : goelnaveen2003@yahoo.co.in

### References

1. Bhatia V, Swami HM, Rai SR, Gulati S, Verma A, Parashar A, Kumari R. Immunization Status in Children. *Indian Journal of Pediatrics*, 2004; 71:313-315.
2. UNICEF. Childhood under threat. *The State of World's Children*, 2005: 143.
3. Immunization Strengthening Project. Ministry of Health & Family Welfare, New Delhi, 2001.
4. Singh P, Yadav R.J. Immunisation of children in India. *Indian Pediatrics*, 2000;37: 1194-1199.
5. Health Information of India. Director General of Health Services. Ministry of Health & Family Welfare, Govt. of India, New Delhi;2003.
6. Census of India, Series - 1, Registrar General & Census Commissioner, 2001.
7. NFHS-II. International Institute for Population Sciences, Mumbai, 2002.
8. Sokhey J., Mathur YN, Biellik R. Country overview- A report of the International evaluation of the Immunisation programme in India. *Indian Pediatrics*, 1993; 30(2):155-159.
9. Ray SK, Dasgupta S, Dobe M, Biswas R, Mehta P, Baishya A C. An evaluation of routine immunization coverage in some districts of West Bengal and Assam. *Indian Journal of public Health*, 2004;48(2):83-84.

**Author Information**

**Naveen K. Goel, MD**

Reader, Deptt. of Community Medicine, Govt. Medical College & Hospital

**Amrit Abrol, MD**

Demonstrator, Deptt. of Community Medicine, Govt. Medical College & Hospital

**Rambha Pathak, MD**

Demonstrator, Deptt. of Community Medicine, Govt. Medical College & Hospital

**Munish Kumar Sharma, MD, PGDHM**

Senior Lecturer-cum-Epidemiologist, Deptt. of Community Medicine, Govt. Medical College & Hospital

**Sangeeta Gulati, MD**

Ex-Demonstrator, Deptt. of Community Medicine, Govt. Medical College & Hospital

**Hari Mohan Swami, MD, FIAPSM**

Professor and Head of Department, Deptt. of Community Medicine, Govt. Medical College & Hospital