

Research Article

Immunization status of children in the age group 0-5 years in urban slum area of Pratiksha nagar, Sion, Mumbai

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ABSTRACT

Background: In India, immunization services are being provided through existing healthcare delivery system. In spite of services being available, it is observed that many children are not immunized till date. This study was carried out with the aim to find the immunisation status of the children in the urban slum areas of Pratiksha nagar, Sion which is the field practice area of Department of Community Medicine, K. J. Somaiya Medical College and Research Centre. Objectives of the study was to assess the proportion of children fully immunized, to assess the proportion of children partially immunized, to assess the proportion of children not at all immunized and to explore the reasons for partial immunization.

Methods: It is a cross-sectional study. This study was carried out in urban slum areas of Pratiksha nagar, in Sion namely Almeda compound, Shastrinagar B wing, Panchsheel nagar which are the field practice areas of Department of Community Medicine located in F north ward of Mumbai city.

Results: 148 (76.29%) children were fully immunized and 46 (23.71%) were partially immunized. Out of the 46 children who were partially immunized, 23.91% respondents reported that child was ill when immunisation was due, so they did not take the child to health care facility for immunisation, followed by the other common reason that family was out of town (17.39%).

Conclusions: The study highlights the need for educating parents that minor illnesses are not a contraindication for immunisation and that the child may receive the vaccine due in any health centre when they are out of town so as to avoid delay between the doses therein not interrupting the immunisation schedule.

Keywords: Immunisation, Fully immunised, Partially immunised

INTRODUCTION

Universal Immunization programme was started in India in 1985. It is a cost effective method against vaccine preventable diseases.¹ According to the National Family Health Survey conducted in 2005-2006, only 57.6% of children in the urban area were fully immunised.² The Government of India launched Mission Indradhanush in December 2014 to cover children who are unvaccinated or partially vaccinated against the seven vaccine preventable diseases, i.e. diphtheria, whooping cough,

tetanus, polio, tuberculosis, measles, and hepatitis B. The goal is to vaccinate all under-fives by the year 2020.³ Immunization services are being provided through existing healthcare delivery system through Maternal and child health centres, urban health centres, and primary health centres, and sub centres, hospitals dispensaries. In spite of services being available it is observed that many children are not immunized till date. This study was carried out with the aim to find the immunisation status of the children in the urban slum areas of Almeda compound, Shastrinagar B wing and Panchsheel nagar

which are the field practice areas of Department of Community Medicine, K. J. Somaiya Medical College.

Objectives of the study was to assess the proportion of children fully immunized, to assess the proportion of children partially immunized and to assess the proportion of children not at all immunized and to explore the reasons for partial immunization.

METHODS

Study design: Cross-sectional

Study subjects: Children in the age group 0-5 years

Study period: 6 months July 2015-December 2015.

Sampling technique: Convenient sampling

This study was carried out in urban slum areas of Pratiksha nagar, in Sion namely Almeda compound, Shastrinagar B wing, Panchsheel nagar which are the field practice areas of Department of Community Medicine located in F north ward of Mumbai city. Data collection was carried out by social work students of Nirmala Niketan College and students of sociology of S.K.Somaiya College, the sister Institute of K.J.Somaiya Medical College. These students underwent a training programme for a day wherein they were oriented about immunization, its importance, the national immunization schedule, elicitation of details to be filled in the questionnaire form. The students were divided into groups. Each group covered approximately 10 houses per day.

Home visits were done with the help of maps of the areas (Figure 1). Enquiry was made if there was a child in the age group of 0-5 years. If the answer was yes, that particular home was indicated with yellow colour in the map and details of the child like name, age, date of birth, sex, the immunization details like the vaccines received, place of immunization were noted. Education and occupation details of the respondent giving information of the immunization of the child were also noted. Preferably the mother of the child was interviewed. In case the mother was not available, details were elicited from any of the member of the family. If there was more than 1 child in the house, immunization details of all the children were noted. The validity and accuracy of the data was ensured with the help of records in the immunization card of the child. In cases where the card was not available, then details given by the respondent were considered as reliable. Houses found to be locked during the first visit were subsequently visited after one week.

If a child was found to be partially immunized or not at all immunized, reasons for not giving the vaccine were explored. The reasons for partial immunization were grouped into three main categories namely lack of

information, lack of motivation and obstacles.⁴ At the end of the interview if child was found to be fully immunized; reminder was given for the next vaccine which was due. If a child was found to be partially immunized or not at all immunized, then the respondent was informed about the vaccines which need to be given and the importance of giving them at the earliest. The respondent was advised to bring the child to the Urban Health Centre of the department or to take the child to facility of their own choice at the earliest.

To ensure follow up of partially immunized children, phone calls and or home visits were given.

Operational definitions

Fully immunized: Child who had received all doses of vaccine for which he/she was eligible by age as per the National Immunisation Schedule, India.¹

Partially immunized

Child who was not fully immunized but received only one or two doses of vaccine for his/her age as per the National Immunisation Schedule, India.¹

Un-immunized

A child who had not yet received any vaccine for the age, though eligible.

Statistical analysis

- Percentages
- Chi-square test

RESULTS

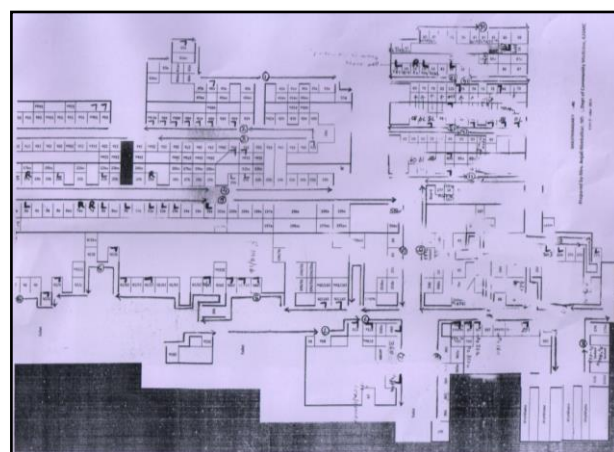


Figure 1: Map of one of the urban slum area.

According to field survey carried out by the department previously in the area, the no of children in the age group 0-5 years was 325. Only 194 (59.69%) children could be contacted. The rest could not be contacted as the houses

were locked or families had shifted to another place or refusal to give interview.

Information regarding immunization of 194 children could be obtained. 107 (55.14%) were males and 87 (44.85%) females. Table 1 shows the distribution of children according to age and sex. 90 (46.39%) of the respondents were in the age group of 25-29 years (Table 2). Only few 25 (12.89) were illiterate (Table 2). Immunization cards of 149 (76.80%) children were available. Majority of the respondents were mothers of the children (Figure 2).

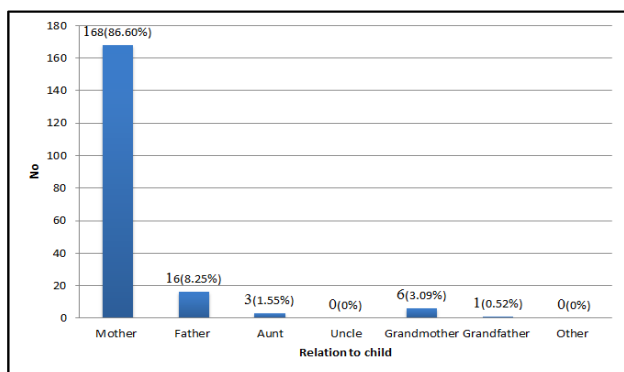


Figure 2: Bar diagram showing distribution of respondents according to relation with the child.

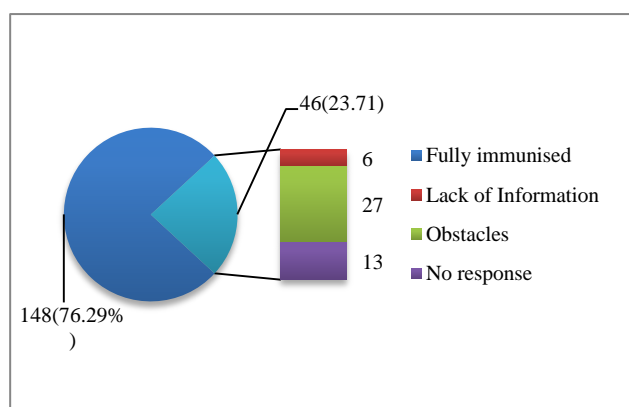


Figure 3: Bar of pie diagram showing distribution of children according to immunization status and main reason for partial immunization.

148 (76.29%) children were fully immunized and 46 (23.71%) were partially immunized (Figure 3). Reasons for partial immunization were grouped into three main categories namely Lack of Information, motivation and obstacles. The exact factor for partial immunisation in each category was explored in the interview and noted (Table 3).

Majority of children 107 (55.15%) received immunization at Municipal Hospital 37 (19.07%) at Urban health centre and 34 (17.53%) at private hospital (Figure 4).

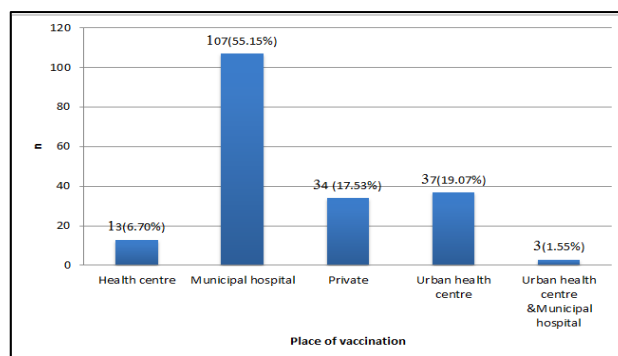
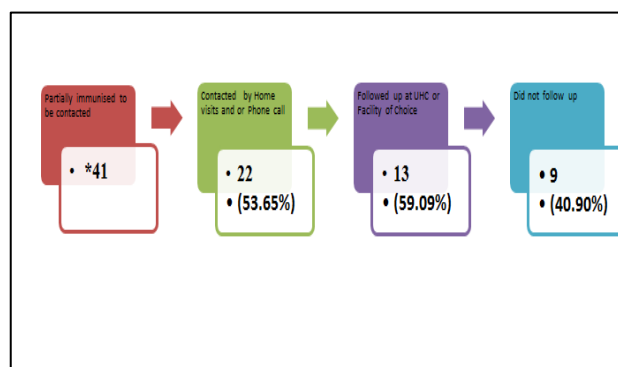


Figure 4: Bar diagram showing distribution of children according to place of vaccination.



*out of 46, 5 children had not received only hep b0 vaccine at birth. They had received the subsequent vaccines at appropriate age. So they were not contacted.

Figure 5: Follow up of partially immunized children.

Table 1: Distribution of children according to age and sex.

Age in months	male		F Female	
	n	%	N	%
<12	25	23.36	16	18.39
12-23	19	17.76	20	22.99
24-35	21	19.63	18	20.69
36-47	29	27.1	15	17.24
48≤60	13	12.15	18	20.69
Total	107	100	87	100

Out of the 46 children who were partially immunized, 5 children had not received only Hepatitis B zero dose at birth. They had received the subsequent vaccines at appropriate age. So they were not contacted. Thus out of the remaining 41 children, 22 (53.65%) could be contacted through home visits and or phone calls.

Out of these 22, 13 (59.09%) respondents followed up with the children for receiving the respective vaccine not taken previously at the center or facility of their choice (Figure 5).

Table 2: Distribution of respondents according to age in years, education and occupation.

Age in years	n	%
20-24	39	20.1
25-29	90	46.39
30-34	42	21.65
35-39	13	6.7
≥40	9	4.64
No response	1	0.52
Education	n	%
Illiterate	25	12.89
Upto 5 th std	13	6.7
6-10 th std	98	50.52
>10 th std	57	29.38
No response	1	0
Total	194	100
Occupation	n	%
Unemployed	163	84.02
Daily labour	3	1.55
Govt service	2	1.03
Self employed	10	5.15
Business	2	1.03
Private sector	13	6.7
Refused to answer	1	0.52
Total	194	100

Table 3: Distribution of responses as mentioned by the respondent in each main category.

Response in each category	Number	Percentage
Lack of Information		
Unaware of the need to return for the next dose	4	8.70
Place and or time of immunisation not known	2	4.35
Vaccine not available	1	2.17
Mother too busy	1	2.17
Child ill not brought	11	23.91
Child ill brought hence not given immunization by staff	3	6.52
Mother forgot	2	4.35
Went to native place	8	17.39
Went back home during waiting period and returned to immunisation centre late	1	2.17
No response	13	28.26
Total	46	100%

Out of the 41 children, 19 children were lost to follow up. 5 of them had shifted, could not be followed up as there were no contact numbers too. 14 houses could not be found. Out of these 14, follow up of 5 respondents was tried with the help of contact numbers available, but there was no response. The rest 9 respondents could not be followed up as contact numbers were not available.

Table 4: Distribution of children according to immunization status and education status of respondent.

Education status of the respondent	Fully immunised	Partially immunised
Illiterate	12(8.22%)	13(27.66%)
Upto 10 th std	90(61.64%)	214(46.68%)
> 10 th std	44(30.14%)	13(27.66%)
Total	*146(100%)	47(100%)

Data regarding 1 participant missing, so excluded from analysis; Chi-square value: 12.226 df: 2 p value: 0.0022.

Table 5: Distribution of children according to immunization status and sex of the child.

Sex of child	Fully immunised		Partially immunised	
	n	%	n	%
Male	79	73.83	28	26.17
Female	69	78.93	18	20.69

Chi-square value 0.796 df: 1 p value: 0.372.

DISCUSSION

In this present study 148 (76.29%) children were fully immunized and 46 (23.71%) were partially immunized. This % was less as compared to study conducted in rural area of Pune where 86.67% of children were fully immunized and in urban slums of Ahmadabad where in 70.3 per cent of the children were fully immunized.^{5,6} This % is more as compared to 44.1% found in study conducted by Bhola Nath et al in urban slums of Lucknow district and 64.28% in study conducted by Wadgave HV et al.^{7,8}

It is also more as compared to 41.4%, found in study conducted in a teaching hospital in Uttarakhand by Agrawal SC et al.⁹ It is also more as compared to the NFHS-3 survey which reported that 57.6% of urban children were fully vaccinated.² When compared between two genders, 79.31% of females were fully immunized as compared to 73.83% of males in this study but it was not statistically significant (Table 5). This finding was different from that found in study by Pankaj Kumar Gupta et al in Pune where the proportion of fully immunized children was higher in males (87.61%) than in females (85.57%).⁵

Out of the 46 children who were partially immunized, 23.91% respondents reported that child was ill so they did not take the child to health care facility for immunisation, followed by the other common reason that family had been to native place (Table 3). This finding was different from the study conducted by Pankaj Kumar Gupta et al in Pune by wherein the main reason for partial immunization was timing of immunization was inconvenient.⁵ It is also different from the finding in study conducted by Wadgave HV et al in Solapur where lack of knowledge of immunization, ignorance about immunization of child and revisits for the immunization

sessions were two main reasons (36.67% each) responsible for partial immunization.⁸. The % of children fully immunized was more where respondents were educated (Table 4). This finding is similar to that found in study conducted by Wadgave HV et al.⁸

The area being an urban slum population, majority of the people stay on rental basis and frequently shift to another area as well as if the family is nuclear and working on a daily wage basis the houses are found to be locked during the day time period when the interviews are conducted. As a result only 59.69% of the children could be contacted out of the baseline survey and out of 41 partially immunised children to be followed up, 19 were lost to follow up. This was the limitation of the study.

From the study it was seen, that parent did not take the child for immunisation if the child was ill. This highlights the need for educating the parents that minor illnesses are not a contraindication for immunisation. The other common reason was that the family had been to native place when immunisation for the child was due.

The parents need to be informed the importance of taking the immunisation card of the child along and that the child can receive the vaccine due, in the health centre located in the native place.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee/ IRB of K.J.Somaiya Medical College and hospital, Mumbai

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