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ORIGINAL ARTICLE

A Cross Sectional Study On The Coverage Of Immunization In The Slums Of Western Uttar Pradesh, India

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ABSTRACT

Context: A growing focus on the growing urban slums and the worsening health problems among the slum dwellers. No current information is available on the status of immunization coverage in the slums of Meerut.

Aims: To determine the immunization coverage in the slums of Meerut, and to study the awareness and utilization of the immunization services.

Settings and Design: The entire slums of Urban Meerut, a cross-sectional study

Methods and Material: By the WHO 30 cluster sampling technique, 30 slums were selected from the list of all the slums in Meerut. 216 mothers with children in the age group of 12-23 months were selected, with 7 mothers from each slum. Interviews were held with the selected mothers by using a pretested questionnaire.

Statistical Analysis: Descriptive statistics

Results: More than half of the children (51.9%) were un-immunized. One third of the mothers (34.7%) had no idea about the place of immunization. Among the children who were either partially or fully immunized, 77.9% had received immunization from the government health facility. The most common reason for partial or no immunization was the lack of information (77.2%). The dropout rate for complete immunization was found to be 32.7%

Conclusions: The immunization coverage was very poor and the most common reason was the lack of information about the need of immunization, which indicates the importance of Information Education and Communication (IEC) activities in the slums.

Keywords: slums, immunization, drop-out rate.

Key Messages:

- The immunization status in the slums is far behind that of the state and the national average.
- The government should strengthen health infrastructure so that it can serve the recommended population.
- Information Education and Communication (IEC) activities should be stepped up in the slums, focusing on the importance of immunization.

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Introduction

The rapid growth of slums in the recent decades has vastly outpaced the civil infrastructure. In India, nearly 100 million people live in the urban slums [1]. The urban slums lack basic health infrastructure and outreach services and thus, ill health and premature deaths are the rule, rather than the exception and the most severely affected people are the women and the children, who together comprise a majority of the population [2].

The present study was planned to study the status of immunization in the slums of Meerut and to study the awareness of the availability and the utilization of immunization services.

Material and method:

The present study was conducted in the slum population of Meerut city, among the mothers of children in the age group of 12-23 months. The WHO standard 30 cluster sampling technique was used. All the slum areas of Meerut city were listed and tabulated with their population. The sampling interval was determined by dividing the total cumulative population by 30 ($527469/30=17583$). The selection of the first cluster was done by drawing a currency note. Subsequent clusters were selected by adding random numbers with the sampling interval. The first house in a cluster was selected by going to the center of a cluster, spinning a pencil, and selecting the first house in the direction of the pencil. The selection of the subsequent households was done by following the lanes and the sub lanes, so as to avoid omission of the families living away from the lane or the sub-lane.

From each cluster, a minimum of 7 mothers who had children in the age group of 12-23

months were studied. A total of 216 mothers were interviewed by using a pretested questionnaire.

Period of study: April 2004 to Feb. 2005

The data was coded and transferred to a master chart in MS Excel. Statistical analysis was done by using the statistical software, SPSS Version 10.0.

Results:

In the Meerut slums, more than half the children (51.9%) were unimmunized. Only less than one third of the children (31%) were fully immunized, while 17.1% children were partially immunized. Almost one third of the mothers (34.7%) had no idea where the immunization services were available in their community. Among the others, 49% commented that immunization was available in the government health post, 14.4% said it that it was available in the private sector and only 1.9% were aware that immunization was available at the Anganwadi centers. The immunization card was available with only 13.4% of the children. Among the children who were either partially or fully immunized, 77.9% had received it from the government health facility, while 22.1% had received it from private doctors. The most common reason for partial or no immunization was the lack of information (77.2%), followed by obstacles (18.8%) and lack of motivation (4%) [Table/Figure1]. DPT1 and OPV1 had the highest coverage (46.8%), while Measles had the lowest coverage (31.5%). Besides these, 42.1% children got immunized with BCG, 41.2% with DPT2/ OPV2 and 35.2% with DPT3/ OPV3. Only 9.3% children were found to be covered with the first dose of Vitamin A. The drop-out rate for DPT/ OPV was found to be 24.8%. The drop-out rate for full immunization was found to be 32.7% [Table/Fig 1].

[Table/Fig 1]Reasons for Partial or Unimmunization

Reasons	No. of children	Percentage
Lack of information	115	77.2
Unaware of need for immunization	77	51.7
Unaware of need to return for 2 nd or 3 rd dose	12	8.1
Place/time of immunization unknown	18	12.1
Fear of adverse reactions	8	5.4
Lack of motivation	6	4.0
Postponed till another time	5	3.3
No faith in immunization	1	0.7
Obstacles	28	18.8
Place too far	3	2.0
Time inconvenient	6	4.0
Vaccinator absent	1	0.7
Vaccine not available	1	0.7
Mother too busy	6	4.0

[Table/Fig2]:Distribution of children according to vaccine antigen coverage

Vaccine	No. of children	Percentage
BCG	91/ 216	42.1
DPT1/ OPV1	101/ 216	46.8
DPT2/ OPV2	89/ 216	41.2
DPT3/ OPV3	76/ 216	35.2
Measles	68/ 216	31.5
Vitamin A (1 st dose)	20/ 216	9.3

Discussion

In our study, we found that more than half of the children (51.9%) in the Meerut slums were unimmunized. These figures were remarkably higher than the figures reported by the National Family Health Survey 3, wherein only 3% of the children in UP and 5% of the children in India were un-immunized. We found that 17.1% of the children were partially immunized while NFHS 3 reported that 51% of the children were partially immunized, largely because of a high percentage (89%) of children who had reportedly received the first dose of OPV.

Only 31% of the children were fully immunized, which was lesser than the national coverage (44%), but more than that of the U.P. status (23%) according to NFHS-3 [3]. The Coverage Evaluation Survey of routine immunization [4] at the national level (1999) reported that 71.7% of the children among the urban children were fully immunized, while Salhotra et al [5] and Kar et al [6] reported 58.3% and 69.3% coverage in the slums of

Delhi. A World Bank report by Ramana et al [7] reported a complete immunization coverage of the slums of Bangalore, Delhi, Hyderabad and Kolkatta at 50%, 62%, 50% and 57% respectively. However, Chandra et al [8] had reported a very low complete coverage of immunization of 16.2% and 10.9% in the Urban Basic Services and the non-Urban Basic Services slums of northern India.

The most common reason for partial immunization or unimmunization was the lack of information (77.2%), followed by obstacles (18.8%) and the lack of motivation (4%). Kar et al⁶ and Chandra et al [8] also reported lack of information to be the main reason for non-immunization (64% and 43.3%) in the slums of Delhi and in the non-Urban Basic Services slums of Northern India respectively. Salhotra et al [5] and Chandra et al [8] reported that the main reason for coverage failure was obstacles in 44.3% and 46.6% of the children in the resettlement colonies of Delhi and the UBS slums of Northern India respectively.

In the present study, DPT1 and OPV1 had the highest coverage (46.8%), while Measles had the lowest coverage (31.5%). Similarly, Salhotra et al [5] reported that DPT1 and OPV1 had the highest coverage (82.6%) and that Measles the lowest coverage (66.3%). The dropout rate for DPT/ OPV and for full immunization in the present study was found to be 24.8% and 32.7% respectively. However, Garg et al [9] reported a much less dropout rate for DPT/OPV (6.1%) in the slums of Ghaziabad city, but the dropout rate for full immunization was comparable with it (36.4%). The measles coverage in the present study was found to be comparable to the UP³ average of 38%.

In the present study, only 9.3% of the children were covered with the first dose of Vitamin A. This was found to be less than the NFHS-2 U.P. and the India data (14% and 30% respectively) [10]. Yadav and Singh [11], Taneja et al [12] and Kar et al [6] had reported a much higher coverage of Vitamin A (55.2%, 37.8% and 75.9%) respectively.

Conclusion

The study reveals the appalling status of immunization in the slum areas of Meerut, which is reflected by low immunization coverage, high drop-out rates, lack of information about the need of immunization services, and poor health care utilization practices. Information, Education and Communication (IEC) activities should be stepped up in the slums, focusing on the importance of immunization. It was found during the study, that though a majority of the people were aware about polio immunization which was done during the pulse polio programme, they were not aware about the routine immunization.

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