

ORIGINAL ARTICLE

ASSESSMENT OF IMMUNIZATION STATUS OF CHILDREN BETWEEN 12-23 MONTHS IN ALLAHABAD DISTRICT

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ABSTRACT

Objectives: This study was carried out to assess the immunization status of children in the age group 12-23 months and to know the reasons for non-immunization of children

Methods: This was a cross-sectional study. We included 228 children (156 in rural and 72 in urban areas) in 12-23 months of age group by stratified cluster sampling design from Rural and Urban areas of Allahabad. Mothers of the children were interviewed using a predesigned schedule.

Result and Conclusion: Only around 31 percent of children were found to be fully immunized while around 24 percent were partially and 45 percent were not immunized at all. Vitamin A prophylaxis showed a decline from 27.2 percent to 2.2 percent from first to third dose Amongst the various reasons for not immunizing the child, the most common in both rural (70.2%) and urban areas (72.7%) was unawareness for the need of vaccination, however in rural areas lack of availability of services (80.2%) was the major cause for not immunizing the child. Thus the present study shows a low coverage of immunization and Vitamin A prophylaxis in both the areas.

Key Words: Immunization Status, Children between 12-23months, Vitamin A Prophylaxis, Allahabad

INTRODUCTION

Immunization is highly cost-effective and relatively inexpensive health intervention. Of the 10 million children who died during 2004, over 2.5 million children (25%) died from vaccine preventable diseases¹ that mean most of these deaths could be prevented by immunization. Immunization is a highly cost-effective and relatively inexpensive health intervention. UNICEF report ranks India 49th in child mortality². 2.4 million Indian children perished due to pneumonia, diarrhea, measles and tetanus and whooping cough² Rajasthan, Uttar Pradesh, Madhya Pradesh accounts for more than 50 percent of infant deaths in India².

Vitamin A deficiency (VAD) remains major public health problem for children under six years of age. More over there are indications that even subclinical VAD is associated with measles, respiratory tract infection and diarrhoea.³

Under the National Immunization Programme, infants are immunized against six vaccine preventable diseases viz. tuberculosis, diphtheria, pertussis, poliomyelitis, measles and tetanus and five doses of vitamin A prophylaxis is given. Though immunization is one of the most powerful tools for saving children's lives, statistics shows an alarming trend. Immunization has been declining for last two

decades. The reported coverage has been above 80 percent since 1990⁴. However UNICEF Report (2004) revealed that only 57 percent of children aged 12-23 months were fully immunized in India⁴. The present study was carried out in Allahabad district, situated in the eastern part of the Uttar Pradesh with the following aims and objectives

- (1) To assess the immunization status of children in the age group of 12-23 months
- (2) To know the reasons for non-immunization of children

MATERIALS AND METHOD:

This was a cross-sectional study using thirty cluster sampling technique. Twenty one clusters were from rural and nine were urban areas of Allahabad to give proportionate allocation to rural and urban population of Allahabad district. Rural areas were divided into blocks and blocks were divided into villages. Urban areas were divided into wards. Villages and wards were taken as clusters.

Within selected clusters, households were surveyed till the target i.e. seven children in the age bracket of 12-23 months was achieved. Immunization status of children between 1-2 years gives a better picture of immunization as per UIP norms. There were 156 children in rural and 72 children in urban areas. A total of 228 mothers having children in the age group of 12-

23 months were surveyed to provide information regarding immunization status of their children. The desired information was collected on a predesigned, precoded and pretested schedule, which was based on a pilot survey for its validity.

RESULTS

Table 1: Immunization Status of Children between 12 to 23 months of Age

| Vaccination | Rural (N=156) (%) | Urban (N=72) (%) | Total (n=228) (%) |
|---------------------|-------------------------|------------------------|-------------------------|
| BCG | 68 (43.6) | 46 (63.9) | 114 (50) |
| Polio-0 | 12 (07.7) | 35 (48.6) | 47 (20.6) |
| DPT-1 | 68 (43.6) | 43 (59.7) | 111 (48.7) |
| DPT-2 | 63 (40.4) | 40 (55.6) | 103 (45.2) |
| DPT-3 | 52 (33.3) | 38 (52.8) | 90 (39.5) |
| Polio-1 | 66 (42.3) | 43 (59.7) | 109 (47.8) |
| Polio-2 | 63 (40.4) | 40 (55.6) | 103 (45.2) |
| Polio-3 | 52 (33.3) | 38 (52.8) | 90 (39.5) |
| Measles | 39 (25.0) | 34 (47.2) | 73 (32.0) |
| VitA-1 | 33 (21.2) | 29 (40.3) | 62 (27.2) |
| VitA-2 | 13 (8.3) | 13 (18.1) | 26 (11.4) |
| VitA-3 | 01 (0.6) | 04 (5.6) | 05 (2.2) |
| Fully immunized | 38 (24.4) | 34 (47.2) | 72 (31.6) |
| Partially immunized | 38 (24.4) | 16 (22.2) | 54 (23.7) |
| Not immunized | 80 (51.3) | 22 (30.6) | 102 (44.7) |
| PPI | 155 (99.4) | 68 (94.4) | 223 (97.8) |

Table 2: Details Pertaining to Immunization of Children 12-23 months of age

| Reason for not immunizing the Child | Rural (N=81) (%) | Urban (N=22) (%) | Total (N=103) (%) |
|--|---------------------|---------------------|----------------------|
| Child too young for immunization | 6 (7.4) | 0 (0.0) | 6 (5.8) |
| Unaware for need of immunization | 57 (70.4) | 16 (72.7) | 73 (70.9) |
| Place and time of immunization not known | 19 (23.5) | 1 (4.5) | 20 (19.4) |
| Fear of side effects | 15 (18.5) | 1 (4.5) | 16 (15.5) |
| No faith in immunization | 0 (0.0) | 1 (4.5) | 01 (0.97) |
| Services not within reach | 65 (80.2) | 2 (9.0) | 67 (65) |
| Family problems including mother's illness | 2 (2.5) | 1 (4.5) | 3 (2.9) |
| Child was ill | 2 (2.5) | 1 (4.5) | 3 (2.9) |
| Do not remember | 7 (8.6) | 1 (4.5) | 8 (7.8) |

*Multiple choices

Table 1 reveals that only 50 percent children were immunized with BCG. The immunization status of children in urban areas had a clear edge (20% higher) over rural areas. Polio-0 was given to 7.7 percent in rural and 48.6 percent in

urban areas. Regarding three doses of DPT and OPV, a decline was seen from first to third dose in both the areas, ranging from around 44 percent to 33 percent in rural and 60 percent to 53 percent in urban areas. Only a quarter of

children in rural areas received measles vaccines as compared to around 47 percent in urban areas. The three doses of Vitamin A prophylaxis showed a decline from 21.0 percent to 0.6 percent in rural and 40.3 to 5.6 percent in urban areas.

Only around 31 percent children (23.7% in rural and 47.2% in urban areas) were fully immunized against six vaccine preventable diseases. Around 45 percent children (51.9% in rural and 30.6% in urban areas) were not immunized at all. PPI coverage was around 98 percent (99.4% in rural and 94.4% in urban areas).

As per Table 2 amongst the various reasons for not immunizing the child, the most common in both rural (70.2%) and urban areas (72.7%) was unawareness for the need of vaccination, however in rural areas lack of availability of services was reported to be the major cause for not immunizing the child.

DISCUSSION

As per NFHS III⁶, in the age group of 12-23 months, only 44 percent children were fully immunized in India and 23 percent in UP. This study shows a higher percentage of fully immunized (31.1%) than in UP. As per a Report of Govt. of India UP (2007)⁷, around 39.44 percent children aged 12-23 months are found to be fully immunized and 33.41 percent partially immunized.

NFHS III⁶ shows 76 percent BCG coverage. This study shows a lower percentage in both the areas (43.6 percent in rural and 63.9 percent in urban areas). The difference between the percentage of children (11-23 months) receiving first and third dose of DPT is 21 percentage points and 15 percentage points for OPV in NFHS III. The same in our study is 9.2 percentage points and 8.3 percentage points for DPT and OPV respectively.

NFHS III⁶ report reveals 59 percent measles vaccination against 32 percent in our study areas. Only 13.8 percent (12.9% and 15.4% in rural and urban areas respectively) children have received first dose of vitamin-A along with measles in some study⁸. This study shows a higher percentage (21% in rural and 40.3% in urban areas) of the same in both the areas.

Important reasons for non-immunization are lack of awareness in both the areas

(around 70%) and lack of availability of services in rural areas (80.2%). Non-availability of services was reported to be the single commonest reason for non-immunization in some studies^{8,9}.

CONCLUSION AND RECOMMENDATIONS

The present study shows a low coverage of immunization and Vitamin A prophylaxis in both rural and urban areas. Important reasons for non-immunization were lack of awareness in both the areas and lack of availability of services in rural areas. Millions of lives can be saved if all the families are empowered with essential health information. This again emphasizes the need to strengthen IEC activities along with regular supply of vaccines.

Although the health care infrastructure was there, but it appears that health care personnel were not working properly, so accountability of staff at various levels for services they provide should be ensured by effective supervision and monitoring system. PPI coverage was above 90 percent. It indicates that inter-sectoral co-ordination can bring forth good results.

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