

Immunization Coverage Amongst Children Aged 12-23 Months Attending Opd At Urban Health Training Centre of Lucknow, India



Medical Science

KEYWORDS : Immunization coverage, Children, vaccination, Dropout rates

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ABSTRACT

Back ground: Roughly three million children die each year of vaccine preventable diseases (VPDs) with a significant number of these children residing in developing countries. Recent estimates suggest that approximately 34 million children are not completely immunized, with almost 98% of them residing in developing countries. Objectives: To find out the extent of coverage of immunization and to suggest suitable measures to improve the coverage of immunization amongst children aged 12-23 months attending OPD at urban health training centre of Lucknow, India.

Materials and Methods: A cross sectional study was conducted during July 20 12 –December 2012. A total of 198 children aged 12-23 months attending out patient department(OPD) at Urban Health and Training Centre (UHTC), Era's Lucknow Medical College , Lucknow were included in the study. Questions regarding biosocial characteristics and immunization status of the children were asked from the mother accompanying the Child. In case where the mother was not present then any other person accompanying the child was interviewed regarding biosocial characteristics and immunization status.

Statistical Analysis: Data were collected, compiled and tabulated using Microsoft Excel and analysed using SPSS 17.0 version for calculation of percentages.

Results: In present study 74.7% of children were fully immunized, 11.1% partially immunized and 14.1% were not immunized at all. Immunization coverage due to specific vaccines coverage was highest for DPT-1 and DPT-2 doses(85.9%) and lowest for DPT-3 and OPV-3 doses(77.8%). 82.3% children were immunized with BCG vaccine. Dropout rates from the first to third dose of OPV were 8.3% and from first to third dose of DPT were 9.4%.

Conclusion: Utilization of immunization services in the slums of Lucknow is low compared with other studies 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 vaccine.

Introduction:

Roughly three million children die each year of vaccine preventable diseases (VPDs) with a significant number of these children residing in developing countries¹. Recent estimates suggest that approximately 34 million children are not completely immunized, with almost 98% of them residing in developing countries.²

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 diseases³ that mean most of these deaths could be prevented by immunization. UNICEF report ranks India 49th in

child mortality. 2.4 million Indian children perished due to pneumonia, diarrhea, measles and tetanus and whooping cough. Rajasthan, Uttar Pradesh, Madhya Pradesh accounts for more than 50 percent of infant deaths in India⁴.

The current scenario depicts that immunization coverage has been steadily increasing but the average levels remain far less than desired. Still only 44% of infants in India are fully immunized (NFHS III), which is much less than the desired goal of achieving 85% coverage⁵ Slums are high-risk areas where there is a communicable disease transmission and about 25% of the Indian urban poor currently live in slums. Maternal and child health indicators among slum people

show that their health is 2-3 times worse than those of people living in other urban areas. 3 Of the 10 million children who died during 2004, over 2.5 million children

(25%) died from vaccine preventable diseases⁶. This means that most of these child deaths could have been prevented by immunization. Immunization is a proven cost-effective and relatively inexpensive public health intervention for improving child survival. Under the National Immunization Programme, infants are immunized against six vaccine preventable diseases namely tuberculosis, diphtheria, pertusis, poliomyelitis, measles and tetanus.

Objectives: To find out the extent of coverage of immunization and to suggest suitable measures to improve the coverage of immunization amongst children aged 12-23 months attending OPD at urban health training centre of Lucknow, India.

Materials and Method:

Study Design : Cross Sectional Study

Study Population : Children aged 12-23 months

Study Area: Urban Health and Training Centre (UHTC), Era's Lucknow Medical College , Lucknow.

Study Period : July 2012- December 2012

Sample Size : A total of 198 children aged 12-23 months.

Sampling Technique: The present study was conducted during July 2012 –December 2012. A total of 198 children aged 12-23 months attending outpatient department (OPD) at Urban Health and Training Centre (UHTC), Era's Lucknow Medical College , Lucknow. This study was conducted after the ethical clearance from the ethical committee of Era's Lucknow Medical College , Lucknow.

Tools of data collection: The investigating tool so used is pre-formed, pretested questionnaire. Questions regarding biosocial characteristics and immunization status of the children were asked from the mother accompanying the Child. In case where the mother was not present then any other person accompanying the child was interviewed regarding biosocial characteristics and immunization status.

Statistical Analysis : Data were collected, compiled and tabulated using Microsoft Excel and analysed using SPSS 17.0 version for calculation of percentages.

Results: A total of 198 children of age 12-23 months age were included in this study. Out of which 100 were male and 98 were

female. Immunization status was ascertained by mother's recall accompanying the child. In present study 74.7% of children were fully immunized, 11.1% partially immunized and 14.1% were not immunized at all. The percentage of non immunized children were more among female child (20%). (Table-1)

Immunization coverage due to specific vaccines was highest for DPT-1 and DPT-2 doses(85.9%) and lowest for DPT-3 and OPV-3 doses(77.8%). 82.3% children were immunized with BCG vaccine, measles vaccine was received by about 78.8% children and vitamin A supplementation was received by 77.8% children. (Table-2)

A consistent decline in coverage rates was found from first to third dose of DPT as well as OPV. Dropout rates from the first to third dose of OPV were 8.3% and from first to third dose of DPT were 9.4%. Dropout rates for measles as compared with BCG and DPT-1 were 4.9% and 8.2 %. (Table-3)

Discussion:

In present study 74.7% of children were fully immunized, 11.1% partially immunized and 14.1% were not immunized. In a study by H. S. Joshi et. al.(2011)7 in District Bareilly, only 50% were fully immunized and 22.5% were non-immunized. In Contrast to our findings As per NFHS-III5 only 23% children were fully immunized in UP and 33.6% was not immunized at all. Kar M et al (2001)8 in their study in a slum of Delhi and R J Yadav et al (2004)9 in the State of MP reported a higher percentage (above 60%) of fully immunized children which is similar to our study.. In this study Immunization coverage due to specific vaccines was highest for DPT-1 and DPT-2 doses(85.9%). In a study by H. S. Joshi et. al.(2011)7 in District Bareilly this coverage was 59.2% and 52.5% which is less than our study.

In present study 82.3% children were immunized with BCG vaccine. Similar finding was also reported by Sharma R et al (2009)10 for BCG coverage which was 75.1%. As per NFHS III5, BCG coverage in UP was 61% (Urban 66.6% Rural 59.6%). In a study by H. S. Joshi et. al.(2011)7 BCG coverage was observed 62.5% (Urban 84.8% and Rural 51.6%).As per NFHS III1, DPT3 and OPV3 were given to 30% and 87.6% children of age group of 12-23 months respectively in UP. In present study it is given to 77.8% children. In a study by H. S. Joshi et. al.(2011)7 it is given to 47.5% (67.1% Urban and 37.9% Rural) 48.8% (68.4% Urban and 39.1% Rural) children, while Sharma R et al (2009)10 reported DPT3 and OPV3 48.6% and 47.9% respectively in slums of Surat. Both the findings were lower than in our study. In present study measles vaccine was received by about 78.8% children. H S Joshi et al(2011)7 in their study observed that measles coverage was 39.2% (64.6% in Urban and 26.7% in Rural areas) and Sharma R et al (2009)10 reported 29.9% measles coverage. It shows that coverage for measles vaccine is higher in present study.

In present study Dropout rates from OPV1 to OPV3 were 8.3% and from DPT1 to DPT3 were 9.4%. Dropout rates for measles as compared with BCG and DPT1 were 4.9% and 8.2 %. Dropout rates observed by H S Joshi et al7 study were 37.3%, 19.7% and 18.2% for BCG to measles, DPT1 to DPT3 and OPV1 to OPV3 respectively, it was reported by Sharma R et al (2009)10 60.2%, 31.9%, and 31.5% for BCG to measles, DPT1 to DPT3 , and OPV1

to OPV3 respectively. Dropout rates were much lower in present study than in other studies.

Conclusion:

Immunization coverage was higher in present study which may be due to the population residing nearby the urban health and training centre. Dropout rates were also lower in present study than in other studies.Utilization of immunization services in the slums of Lucknow is low compared with other studies. 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. The RCH program for immunization should revise its strategy to increase the utilization of services by all segments of the population. Improvement should focus on bottlenecks by reducing the dropout rate from DPT 2 /OPV 2 to DPT3 / OPV 3 and improving coverage of measles (and also Vitamin A). The remaining deficiency may be overcome by generating awareness among the community by holding mother's meetings and extensive IEC programs, inviting opinions and suggestions from them, and enhancing community participation. Revitalize and strengthen routine immunization services with particular reference to urban areas, Muslims, illiterate parents, populations residing in the plains, and population groups or areas hitherto not reached. Ensure regular immunization services on a fixed day and fixed place basis.

Table no. 1: Immunization status of Children between 12-23 months

Immunization status	Male(100) No. (%)	Female(98) No. (%)	Total(198) No. (%)
Fully Immunized	78 (78)	70(71.4)	148(74.7)
Partially Immunized	14(14)	8(8.1)	22(11.1)
Not immunized	8(8)	20(20.4)	28(14.1)

Table no. 2: Immunization status of Children between 12-23 months to specific vaccines

Vaccination	Total (198) No. (%)
BCG	164(82.8)
DPT-1	170(85.9)
DPT-2	170(85.9)
DPT-3	154(77.8)
OPV-1	168(84.8)
OPV-2	166(83.8)
OPV-3	154(77.8)
MEASLES	156(78.8)
Vitamin A	154(77.8)

Table no. 3: Dropout rates for different vaccines

Vaccines	Percentage (%)
DPT1-DPT3	9.4
OPV1-OPV3	8.3
BCG-Measles	4.9
DPT1-Measles	8.2

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