

A CROSS-SECTIONAL STUDY TO ASSESS VACCINATION COVERAGE OF CHILDREN OF AGE GROUP 12 - 23 MONTH RESIDING IN THE FIELD PRACTICE AREA OF TERTIARY HOSPITAL.



Community Medicine

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ABSTRACT

Background: It is estimated that annually more than 89 lakh children in the country do not receive all vaccines that are available under the UIP – the highest number compared with any other country in the world. **Objective:** This study was carried out to assess vaccination coverage of children of age group 12 - 23 month residing in the field practice area of tertiary hospital. **Material & methods:** This was sectional study conducted at field practice area of tertiary care hospital during January 2017 to July 2018. Study population was children in the age group 12-23 month. As per WHO norm for identification of sample size for vaccination coverage in study area 30 cluster sampling method is preferred. **Results:** In the study 188 (89.52%) children were Fully Immunized. 22 (10.48%) children were partially immunized and none of the child was non immunized. overall coverage of BCG was 98.5, for PENTA 3 was 96.3%, OPV3 was 96.3% and Measles was 89.8%. **Conclusion:** Overall immunization coverage in the area is good and higher than the national coverage level. There is no significant difference in the immunization status of Male and Female children.

KEYWORDS

Immunization, BCG, OPV, Measles, vaccination.

INTRODUCTION

Vaccination forms the major focus of child survival Programme by protecting the children from life threatening diseases, which are avertable throughout the world. Roughly three million children die each year of diseases which are vaccine preventable, with a disproportionate number of these children residing in developing countries (1).

According to WHO, The Global distribution of the 1.4 million annual deaths in children under 5 years of age caused by diseases which are vaccines preventable (2). The target in UIP districts is to achieve universal coverage within one year (1986) and maintain the same in the subsequent years. This scheme has been introduced in every district of the country, and the target now is to achieve 100% vaccination coverage although technically 85% coverage levels would ensure herd immunity (3).

Immunization has been regarded as the greatest public health success story in the last two decades. Protection from preventable diseases, disability and death through immunization is the birth right of every child. Effective control of Diphtheria, Pertussis and Measles had saved annually 3 million lives worldwide. Neonatal Tetanus has been virtually eliminated and eradication of Poliomyelitis is targeted for the year 2005 (4).

Despite being operational for more than 30 years, only 68% children in India receive all vaccines during first year of their life. It is estimated that annually more than 89 lakh children in the country do not receive all vaccines that are available under the UIP – the highest number compared with any other country in the world. So, this study was carried out to assess vaccination coverage of children of age group 12 - 23 month residing in the field practice area of tertiary hospital.

MATERIAL AND METHOD

This was sectional study conducted at field practice area of tertiary care hospital during January 2017 to July 2018. Study population was children in the age group 12-23 month. People of this area belong to different religions and follow different cultural practices and beliefs. Most of the residents belong to middle and lower socio- economic group.

A. INCLUSION CRITERIA

- 1) Those children in the age group of 12–23-month, parental consent given and residing in field practicing area attached to tertiary hospital.

B. EXCLUSION CRITERIA

- 1) Children not residing in Nerul in the last one year.
- 2) Children who were seriously ill.
- 3) Children whose parents did not give consent to participate in the study.
- 4) Children whose parents were absent or could not be contacted.

Sampling method

Survey will be done to obtain the data of the population from both Nerul Phase I and Nerul Phase II Urban Health Post based on different sectors, villages and nagars etc. As per WHO norm for identification of sample size for vaccination coverage in study area 30 cluster sampling method is preferred (5)(6).

As per 30 cluster sampling method – $30 * x = \text{sample size}$
 $x = 7$ (As per WHO norm for identification of sample size for vaccination coverage) (6)(7)

Therefore, $30 * 7 = 210$ (sample size).

METHODOLOGY

After reaching the household, before starting the interview, I will introduce myself and explain the purpose of the visit to the mother or another responsible member of the family. If there is no responsible member present who would answer the question and also if vaccination card is not available then the household will be excluded from the study. Study subjects will be identified as per inclusion and exclusion criteria. Informed written consent will be obtained from the parents. Parents will be taken into confidence before data collection. Parents will be assured that the information they provide would remain confidential and thus will be encouraged to be truthful in their responses. They will be informed that their participation is completely voluntary and they could quit at any time, after explaining the purpose of the study. Information will be recorded in the questionnaire proforma.

STATISTICAL ANALYSIS

The data will be entered using Microsoft Excel 2007. All the response will be tabulated and graphical representation will be made whenever necessary. Appropriate test of significance will be used wherever necessary. Data will be analysis by using SPSS software.

RESULTS AND OBSERVATIONS

Table 1: Distribution of Children as per Sex

Sex	No.	Percentage (%)
Male	112	53.33
Female	98	46.67
Total	210	100.00

In the study group of 210 children 112 were male and 98 were female.

Table 2 Distribution of Immunization Status

Immunization Status	No.	Percentage (%)
Fully Immunized	188	89.52
Partially Immunized	22	10.48
Non-Immunized	0	0.00
Total	210	100.00

In the study 188 (89.52%) children were Fully Immunized. 22 (10.48%) children were partially immunized and none of the child was non-immunized.

Table 3: Immunization Status of Children according to Sex

Immunization Status	Sex				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Fully Immunization	102	91.07	86	87.76	188	89.52
Partial Immunization	10	8.93	12	12.24	22	10.48
Non-Immunization	0	0.00	0	0.00	0	0.00
Total	112	100.00	98	100.00	210	100.00

Chi square value = 0.613 p value = 0.434 (>0.05 Non-Significant)

In the study 188 (89.52%) children were Fully Immunized. 22 (10.48%) children were partially immunized and none of the child was non immunized. 102 (91.07%) male and 86 (87.76%) females were fully immunized. 10 (8.93%) male and 12 (12.24%) females were partially immunized.

Table 4 Vaccine Coverage

Vaccine	Coverage
BCG	98.5
PENTA3	96.3
OPV3	96.3
Measles	89.8
Fully Immunized	89.52

Above table showed that the overall coverage of BCG was 98.5, for PENTA 3 was 96.3%, OPV3 was 96.3% and Measles was 89.8%. In this study 89.52% children were fully immunized.

DISCUSSION

Out of 210 study participants, 53.33% of children were male and 46.67% were female. As observed, gender of the child did not significantly affect the immunization status of the child. Present study reveals that fully immunized status among male child was slightly more than female child but this difference was not statistically significant. Similar results were found by different studies in India viz. Sharma B(8) in Mumbai slums, Gill. K (9) in Amritsar slums. Study conducted by Anandhi et.al (10), found similar findings in which 57% were male and 43% was female. Similar results were found in another study at Delhi by Kar et.al.(11) which reported that the sex of the child did not affect significantly the immunization of the child.

In the study 188 (89.52%) children were fully immunized which is more than the national average 43.5% NFHS-3 and 70% immunization coverage in the state of Maharashtra 73. (10.48%) children were partially immunized and none of the child was non- immunized.

In the study when immunization coverage was compared with sex distribution of study subjects, we got chi square value as 0.613 and p value as 0.434 which was non- significant. 102 (91.07%) male and 86 (87.76%) females were fully immunized, while 10 (8.93%) male and

12 (12.24%) female were partially immunized. Verburgh AP et.al. (12), Singh J. et.al. (13), Jha N et.al.(14), Jotna Sokhey et.al. (15), A.C. Patowar et.al.(16), Shaikh et.al.(17) observed the fully immunized were 70%, 41%, 65.7%, 57.6%, 40%, 48% and 60% respectively. Anandhi c et.al. (10) observed that 56% were fully immunized, 44% were partially immunized or non-immunized.

Study showed that the overall coverage of BCG was 98.5, for PENTA 3 was 96.3%, OPV3 was 96.3% and Measles was 89.8%. In this study 89.52% children were fully immunized. A study conducted by Singh and Yadav P. (18) on immunization status of India showed BCG and measles coverage of 86% and 67% respectively 79. Similar results were found by Yadav S. et.al. (18) in an urban slum of Jamnagar where coverage of BCG was maximum (94.75%), followed by OPV (84.7%) and, DPT (81.4%) and that of measles was the least (75.7% 74)80. In a study Kadri et al (18) in Ahmedabad slums recorded 83.3% coverage for BCG and 71.7% for measles, in this study, only 70.3% children were completely immunized. (18)

CONCLUSION

Overall immunization coverage in the area is good and higher than the national coverage level. There is no significant difference in the immunization status of Male and Female children.

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