



“EVALUATION OF REASONS FOR PARTIAL & NON-IMMUNIZATION OF CHILDREN ATTENDING MISSION INDRADHANUSH CAMPS IN A RURAL FIELD PRACTICE AREA OF A TERTIARY CARE HOSPITAL”.

Community Medicine

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ABSTRACT

Aim: To study the factors for partial or non-immunization of children attending Mission Indradhanush camps conducted in the rural field practice area of a tertiary care hospital.

Objectives:

1. To study the socio-demographic profile of the children below 2 years attending the vaccination camps and its influence on their immunization status.

2. To assess the reasons for partial and non-immunization amongst the study subjects.

Methodology: A cross sectional study included children below 2 years attending immunization camps conducted under Indradhanush Mission. Sample sizes of 107 study subjects were interviewed using semi-structured questionnaire

Results: 42% of children completely immunized while 6.5% were unimmunized and 51.5% were partially immunized. Low education status of mother, low family income and migration were found positively associated with low vaccination coverage. The main reason for noncompliance was as unaware about follow up (58%), family busy at work (45%) followed by health facility too far (43.5%).

KEYWORDS:

Under two year's children, Immunization status.

INTRODUCTION:

The Government of India (GoI) is committed to reducing child mortality and morbidity in the country by improving full immunization coverage through universal immunization programme (UIP) and introducing new and efficacious vaccines for vaccine preventable diseases (VPDs). Roughly 3 million children die each year of vaccine preventable diseases (VPDs) with a

disproportionate number of these children residing in developing countries (1). Recent estimates suggest that approximately 34 million children are not completely immunized with almost 98% of them residing in developing countries (2).

India's immunization programme, launched in 1985, is one of the largest health programmes of its kind in the world catering to a birth cohort of 2.7 crore children annually (3). The programme provides vaccination against seven life-threatening diseases (diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis B) in the entire country. In addition, vaccination against Haemophilus influenzae type B (Hib) and Japanese Encephalitis (JE) is provided in selected districts/states of the country.

Despite being operational for the past more than 30 years, only 65% children in India receive all vaccines during their first year of life (3). 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. Evidence shows that unimmunized and partially immunized children are most susceptible to childhood diseases and disability, and run a 3 to 6 times higher risk of death as compared with fully immunized children (3).

As a strategic endeavor, the Ministry of Health & Family Welfare (MoHFW), GoI, launched Mission Indradhanush in December 2014 to achieve more than 90% full immunization coverage in the country. This initiative will eventually close immunity gaps and strengthen immunization coverage.

AIM: To study the factors for partial or non-immunization of children and women attending Mission Indradhanush camps conducted in the rural field practice area of a tertiary care hospital.

OBJECTIVES:

1. To study the socio-demographic profile of the families attending the vaccination camp and its influence on their immunization status.
2. To assess the reasons for partial and non-immunization amongst the study subjects.

METHODOLOGY:

A cross sectional observational study was conducted in the rural field practice area of a tertiary care hospital located in Mumbai. The study was carried out over duration of 3 months. Convenient sampling method was used to arrive at a sample size of 107 study subjects.

Inclusion Criteria: The study subjects included children below 2 years of age and pregnant women attending the catch-up campaigns conducted under Indradhanush Mission organized by the Primary health center located within the study site.

Under Indradhanush mission, catch up campaigns were conducted every year for 7 days in the 2nd week of every month from January to April 2014. The study subjects however were interviewed only in the camps conducted in the month of January 2014. The interviewer attended each of the 7 camps over the 7 days in the month of January. Informed consent to participate in the study was taken from all study participants. They were interviewed with the help of a validated structured questionnaire. Participants were interviewed regarding the information on their socio-demographic profile, immunization status and their reasons for absence in routine immunization sessions. For children below 2 years of age, information was obtained from preferably mother of the child or next of kin who was responsible for the child. Authenticity of information collected by interview was crosschecked from immunization card of child.

Children above 2 years of age attending the vaccination camp were immunized as per their immunization schedule in the vaccination camp. However, they were not included in the study for convenience of the study. The data collected was further compiled in MS Excel 2011 and analyzed using SPSS version 21.

Operational Definitions used in the present study:

- 1. Complete Immunization:** As per 1998 World Health Organization (WHO) guidelines, it is defined as an infant who has received BCG; three doses of DPT or PENTA, OPV and Measles and booster dose of DPT, OPV, MMR or second dose of measles before 12-23 completed months.
- 2. Non-Immunization:** Failure of an infant 12-23 months old to receive even a single dose of the vaccines listed above.
- 3. Partial Immunization:** Children who have received vaccine doses between non-immunization and complete immunization.

RESULTS AND DISCUSSION:

Table no.1. Immunization status amongst study subjects. (N=107)

Category of immunization	Infant (up to 1yr)	1-2 yrs	Total
Completely immunized	9(8.4%)	36(33.6%)	45(42%)
Non immunized	3(2.8%)	4(3.7%)	7(6.5%)
Partially immunized	36(33.6%)	19(17.8%)	55(51.5%)
Total	48(44.8%)	59(55.2%)	107(100%)

Among infants, 33.6% were partially immunized, 2.8% were not immunized and only 8.4% were fully immunized. In children between 1-2 years 33.6% were fully immunized, 17.8% were partially immunized and 3.7% were unimmunized.

These findings are in contrast with study done by Ingale A et al. where they found 62% completely immunized and 38% incompletely immunized (4). This difference may be because of fact that our study area had less coverage and hence selected to be covered by mission indradhanush.

Table no. 2 Association of sociodemographic variables with vaccination status. (N=107)

Variables		Completely Immunized (n=45)	Partial/Unimmunized (n= 62)	P value (X ²)
Gender	Male (n=50)	22 (44%)	28 (56%)	0.7028 (X ² = 0.1455)
	Female (n= 57)	23 (40%)	34 (60%)	
Mothers education	Illiterate (n=34)	9 (26%)	25 (74%)	0.04 (X ² = 6.258)
	Primary (n=53)	24 (45%)	29 (55%)	
	Secondary (n=20)	12 (60%)	8 (40%)	
Family income per month	< Rs 3000 (n= 18)	12 (67%)	6 (33%)	0.003 (X ² = 11.47)
	Rs 3000-5000 (n=28)	8 (29%)	20 (71%)	
	> Rs 5000 (n=68)	15 (22%)	46 (78%)	
Migration History	Local population (n=44)	25 (57%)	19 (43%)	0.009 (X ² = 6.68)
	Migrants (n=63)	20 (32%)	43 (68%)	

In the above table no. 2 partially and unimmunized children have been clubbed together into one common group of incompletely immunized children.

From Table no. 2 it was observed that amongst those who were incompletely immunized, numbers of female children were higher than males. Also amongst the females 60% were incompletely immunized as compared to 40% who were completely immunized. This likely difference is probably due to gender preference given to boy child and the girl child being neglected. However this difference was not found to be statistically significant. (P>0.05)

A significant association was observed between mothers education and immunization status of the children (P=0.04, Table no. 2). The percentage of incompletely immunized was significantly higher

amongst the illiterate (74%) and those with only primary education (55%) and significantly lower in those who had completed secondary education (40%). This reveals that lack of knowledge can hamper the awareness levels of the mother who usually accompanies the children for their immunization.

Monthly family income had a significant role to play in the immunization status of the children attending the immunization camps (P = 0.003, Table no.2). Amongst those families who had a family income between Rs. 3000 to Rs. 5000 had significantly higher percentage of incompletely immunized children (70%).

The number of children from migrant families (n=63) were more in number as compared to the children from the local community (n=44). Also, amongst the migrant children the percentages of incompletely immunized children (68%) were significantly higher than those who were completely immunized (32%).

In our study mother's education was found to be the significantly associated with vaccination status which was similar to the findings of another study by Sharma B et al. (5) this shows that mother's education has a significant role in the maintenance of child health. Whereas gender was not significantly associated with immunisation status in both the studies.

Table no. 3 Reasons Stated for partial and non-Immunization (n=62)

Reasons for Delay in immunization	Number of informants	%
Unaware about follow –up	36	58
Health Facility too far	27	43.5
Family too busy at work	28	45
Inconvenient timing of immunization O.P.D	11	17.7
Fear of side effects	22	35.4
Vaccinator Absent	2	3.2
Long waiting time	6	9.6
Child ill	17	27.4

*Multiple responses. Hence, total percentage may exceed 100%.

From the above table it is seen that 58% of mothers were unaware about follow up, 43.5% said health facility was too far and 45% said that they were busy at work place.

Whereas study done by Sharma B et al. found 56.4% incompliance was due to child illness and 16% were not aware about follow up (5).

Summary:

Study finding revealed that 42% of children completely immunized while 6.5% of children had not received any vaccination and 51.5% of children partially immunized. On assessing various socio-demographic factors, low education status of mother, low family income and migration history were found to be positively associated with low vaccination coverage. The main reason for noncompliance was given as unaware about follow up (58%), family busy at work (45%) followed by health facility too far (43.5%).

Recommendation:

1. Health workers, ASHA, AWW should be encouraged to make at least a monthly visit to brick kilns.
2. IEC activities must be carried out at brick kilns for antenatal and immunization services available at sub center and PHC
3. Conduct supplementary immunization camps at or near the brick kilns.
4. Strengthen outreach immunization services.
5. MCTS linking for migrant ANC mother and children.

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