

## ASSESSMENT OF IMMUNIZATION STATUS OF CHILDREN ADMITTED TO A TERTIARY CARE CENTRE

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### ABSTRACT

**Background:** Vaccination has been one of the most huge and practical general wellbeing intercessions to diminish youth bleakness and mortality. The mortality is Approximately 3,000,000 youngsters every year due to vaccine preventable infections. Ongoing assessments suggest that roughly 30 million children having incomplete or partial immunization status, with practically 98% of them living in developing nations. **Material & Methods:** The present prospective study was conducted at department of pediatrics of our tertiary care hospital. The study was an observational study conducted during a period of six months. The sample size of 200 included children of age 12 months to 23 months admitted to Pediatric ward of the hospital. Critically ill patients were excluded from the present study. Clearance from hospital ethics committee was taken before start of study. Written informed consent was taken from each study participant and parents. **Results:** In the present study 112 (56%) were males and 88 (44%) were females. Out of the total 143 (71.5%) children were fully immunized and 57 (28.5%) children were partially immunized. There were not any case of unimmunized child in present study. According to Mothers education 136 (68%) had Primary/secondary education and 64 (32%) had Graduate and above education. Out of the Primary/secondary education group 88 (44%) were completely immunized and 48 (24%) were partially immunized. Out of the Graduate and above education group 55 (27.5%) were completely immunized and 9 (4.5%) were partially immunized. This difference was statistically significant ( $p$  value < 0.05). **Conclusion:** We concluded from the present study that the current study illuminates the vaccination status of children and it had statistically significant association with mother's education. Better correspondence with training of parents/guardians during antenatal visits, and during routine wellbeing visits may help in diminishing the quantity of partially immunized children.

**Keywords:** vaccination status, immunization, partially immunized children.

### INTRODUCTION

Vaccination has been one of the most huge and practical general wellbeing intercessions to diminish youth bleakness and mortality. The mortality is Approximately 3,000,000 youngsters every year due to vaccine preventable infections (1). Ongoing assessments suggest that roughly 30 million children having incomplete or partial immunization status, with practically 98% of them living in developing nations. The World Health Organization (WHO) propelled the Expanded Program on Immunization (EPI) in the year 1974 with center around the

avoidance of six vaccine preventable maladies of the adolescence by the year 2000 (2). This was implemented by the Indian Government in 1978. The Universal Immunization Program was presented in India on 19 November 1985, targeting covering in any event 85% of all newborn children by the year 1990. After that, national sociodemographic objective was decided in the National Population Policy 2000 to accomplish universal vaccination of kids against all immunization preventable ailments of the childhood (3).

The inclusion of vaccines in India is a long way from complete in spite of the dedication for general inclusion of vaccines (4). As indicated by the National Family Health Survey (NFHS) 3, just 43.5% of kids of 12-23 months, were completely immunized—58% in urban regions and 39% in rustic regions. This coverage is increased as per new National Family Health Survey (NFHS-4) (5). Explanations behind absence of inclusion in remaining children are vary for every regions. Various past investigations have stated the explanations behind non-immunization yet none has been completed children survey on children admitted to a tertiary care health centers (6). Consequently, the current study was embraced to evaluate the status of vaccination and to examine the different components answerable for the problematic and suboptimal inclusion of vaccination among conceded patients.

## MATERIALS & METHODS

The present prospective study was conducted at department of pediatrics of our tertiary care hospital. The study was an observational study conducted during a period of six months. The study done at 95% confidence interval at 10% of maximum allowable error. The sample size of 200 patients was calculated by epi info software. All children of age 12 months to 23 months admitted to Pediatric ward of the hospital. Critically ill patients were excluded from the present study. Clearance from hospital ethics committee was taken before start of study. Written informed consent was taken from each study participant and parents.

Data was entered in a proforma arranged to record the subtleties of vaccination just as segment data, sex, birth request, spot and technique for conveyance, spot of vaccination, education and vocation of the mother and father/guardians. For youngsters with partial immunization/no vaccination the potential reasons behind the not finishing the vaccination were recorded. The data were based on vaccines were which are given in the national immunization program, viz., BCG, OPV, DPT and the measles. OPV given on national immunization days was not considered.

Vaccination status was affirmed from the record of immunization cards at whatever point accessible. Without vaccination card, history got from mother/guardians was recorded. A completely immunized child was considered who had received BCG vaccine, all 3 doses of DPT and OPV, and measles vaccine. A kid who had not gotten any

immunization recorded above were considered unimmunized. All between complete vaccination and no vaccination were considered incompletely/partially vaccinated and children were vaccinated for the pending vaccinations before release from the hospital.

All the recorded data was entered in an Excel spread sheet on Microsoft Excel 2016. The statistical analysis was done using the Statistical software package SPSS v22 and Epi Info v7.2. A p-value <0.05 with 95% confidence intervals were considered statistically significant.

## RESULTS

In present study we enrolled a total of 200 children who were 12 months to 23 months of age and admitted to Pediatric ward of the hospital. In the present study 112 (56%) were males and 88 (44%) were females. Out of the total 143 (71.5%) children were fully immunized and 57 (28.5%) children were partially immunized. There were not any case of unimmunized child in present study. (Table 1)

**Table 1: Distribution of study subjects according to the gender and immunization status.**

parameters		No. of children
<b>Gender</b>	Boys	112 (56%)
	Girls	88 (44%)
<b>Immunization status</b>	Fully immunized	143 (71.5%)
	Partially Immunized	57 (28.5%)
	Unimmunized	0

In the present study 112 (56%) were males and 88 (44%) were females. Out of the boys 84 (42%) were completely immunized and 28 (24%) were partially immunized. Out of the girls 59 (29.5%) were completely immunized and 29 (24.5%) were partially immunized. This difference was statistically non-significant. According to place of birth 192 (96%) had institutional delivery and 8 (4%) had home delivery. Out of the institutional deliveries 139 (69.5%) were completely immunized and 53 (26.5%) were partially immunized. Out of the home delivery 4 (2%) were completely immunized and 4 (2%) were partially immunized. This difference was statistically non-significant. According to birth order 172 (86%) had  $\leq 2$  birth order and 28 (14%) had  $> 2$  birth order. Out of the  $\leq 2$  birth order 126 (63%) were

completely immunized and 46 (42%) were partially immunized. Out of the >2 birth order 17 (8.5%) were completely immunized and 11 (5.5%) were partially immunized. This difference was statistically non-significant. According to Mode of delivery 48 (24%) had Caesarean section Mode of delivery and 152 (76%) had vaginal deliveries. Out of the Caesarean section Mode of delivery 32 (16%) were completely immunized and 16 (8%) were partially immunized. Out of the vaginal deliveries 152 (76%) were completely immunized and 41 (20.5%) were partially immunized. This difference was statistically non-significant.

According to Place of immunization 162 (81%) had immunization at govt setup and 38 (19%) had immunization at private setup. Out of the immunization at govt setup 120 (60%) were completely immunized and 42 (21%) were partially immunized. Out of the immunization at private setup 23 (12.5%) were completely immunized and 15 (7.5%) were partially immunized. This difference was statistically non-significant.

According to Mothers education 136 (68%) had Primary/secondary education and 64 (32%) had Graduate and above education. Out of the

Primary/secondary education group 88 (44%) were completely immunized and 48 (24%) were partially immunized. Out of the Graduate and above education group 55 (27.5%) were completely immunized and 9 (4.5%) were partially immunized. This difference was statistically significant (p value< 0.05).

According to Place of immunization 162 (81%) had immunization at govt setup and 38 (19%) had immunization at private setup. Out of the immunization at govt setup 120 (60%) were completely immunized and 42 (21%) were partially immunized. Out of the immunization at private setup 23 (12.5%) were completely immunized and 15 (7.5%) were partially immunized. This difference was statistically non-significant. According to Mothers employment 172 (86%) mothers are unemployed at govt setup and 28 (14%) mothers are employed. Out of the unemployed mothers group 123 (61.5%) were completely immunized and 49 (24.5%) were partially immunized. Out of the employed mothers group 20 (10%) were completely immunized and 8 (4%) were partially immunized. This difference was statistically non-significant. (Table 2)

**Table 3: symptoms wise distribution of study subjects**

Study parameters		Number of Patients	Completely immunized no. (%)	Partially immunized no. (%)	P value
<b>Gender</b>	Boys	112 (56%)	84 (42%)	28 (24%)	>0.05
	Girls	88 (44%)	59 (29.5%)	29 (24.5%)	
<b>Place of birth</b>	Institutional	192 (96%)	139 (69.5%)	53 (26.5%)	>0.05
	Home	8 (4%)	4 (2%)	4 (2%)	
<b>Birth order</b>	≤2	172 (86%)	126 (63%)	46 (42%)	>0.05
	>2	28 (14%)	17 (8.5%)	11 (5.5%)	
<b>Mode of delivery</b>	Caesarean section	48 (24%)	32 (16%)	16 (8%)	>0.05
	Vaginal delivery	152 (76%)	111 (55.5%)	41 (20.5%)	
<b>Place of immunization</b>	Govt	162 (81%)	120 (60%)	42 (21%)	>0.05
	Private	38 (19%)	23 (12.5%)	15 (7.5%)	
<b>Mothers education</b>	Primary/secondary	136 (68%)	88 (44%)	48 (24%)	<0.05
	Graduate and above	64 (32%)	55 (27.5%)	9 (4.5%)	
<b>Mothers employment</b>	Unemployed	172 (86%)	123 (61.5%)	49 (24.5%)	>0.05
	Employed	28 (14%)	20 (10%)	8 (4%)	

## DISCUSSION

In present study we enrolled a total of 200 children who were 12 months to 23 months of age and admitted to Pediatric ward of the hospital. In the present study 112 (56%) were males and 88 (44%) were females. Out of the total 143 (71.5%) children were fully immunized and 57 (28.5%) children were partially immunized. There were not any case of unimmunized child in present study. Similar results were obtained in a study conducted by Natu SA et al among 418 children who were 12 months to 23 months of age and admitted to Pediatric ward of the hospital. They reported nearly similar results with present study (7).

In the present study 112 (56%) were males and 88 (44%) were females. Out of the boys 84 (42%) were completely immunized and 28 (24%) were partially immunized. Out of the girls 59 (29.5%) were completely immunized and 29 (24.5%) were partially immunized. This difference was statistically non-significant. According to place of birth 192 (96%) had institutional delivery and 8 (4%) had home delivery. Out of the institutional deliveries 139 (69.5%) were completely immunized and 53 (26.5%) were partially immunized. Out of the home delivery 4 (2%) were completely immunized and 4 (2%) were partially immunized. This difference was statistically non-significant. Similar results were obtained in a study conducted by D kumar et al among children to Pediatric ward of the hospital. They reported nearly the vaccination status should be improved by training, expanding mindfulness, and directing of guardians and parental figures seeing vaccinations and related confusions as saw in the investigation (8).

In the present study, according to birth order 172 (86%) had  $\leq 2$  birth order and 28 (14%) had  $> 2$  birth order. Out of the  $\leq 2$  birth order 126 (63%) were completely immunized and 46 (42%) were partially immunized. Out of the  $> 2$  birth order 17 (8.5%) were completely immunized and 11 (5.5%) were partially immunized. This difference was statistically non-significant. According to Mode of delivery 48 (24%) had Caesarean section Mode of delivery and 152 (76%) had vaginal deliveries. Out of the Caesarean section Mode of delivery 32 (16%) were completely immunized and 16 (8%) were partially immunized. Out of the vaginal deliveries 152 (76%) were completely immunized and 41 (20.5%) were partially immunized. This difference was statistically non-significant. Similar results were obtained in a study conducted by S Agarwal et al among children

to Pediatric ward of the hospital. They reported 40.66% youngsters were found totally inoculated, 45.11% were somewhat vaccinated. The elements, which significantly affected vaccination status were gender, family's pay and parental instruction. Birth order, religion and residence were not found to have critical effect on the vaccination status of youngsters (9).

In the present study, according to Place of immunization 162 (81%) had immunization at govt setup and 38 (19%) had immunization at private setup. Out of the immunization at govt setup 120 (60%) were completely immunized and 42 (21%) were partially immunized. Out of the immunization at private setup 23 (12.5%) were completely immunized and 15 (7.5%) were partially immunized. This difference was statistically non-significant. According to Mothers education 136 (68%) had Primary/secondary education and 64 (32%) had Graduate and above education. Out of the Primary/secondary education group 88 (44%) were completely immunized and 48 (24%) were partially immunized. Out of the Graduate and above education group 55 (27.5%) were completely immunized and 9 (4.5%) were partially immunized. This difference was statistically significant (p value  $< 0.05$ ). Similar results were obtained in a study conducted by S Imran et al among children to Pediatric ward of the hospital. They reported vaccination status of the kids was genuinely agreeable and firmly impacted by instructive status of guardians. Immunization rate was high in male kids and connected with the spot of conveyance. The reasons of non and fractional inoculation were unavailability, non-accessibility of vaccine (10)

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by R Vohra et al among children to Pediatric ward of the hospital. They reported different determinants of vaccination status of the youngster the spot of living arrangement, religion, financial status, father's training and father's occupation. More mindfulness ought to be produced among the individuals living in country and urban region, to vaccinate their kids and to keep the dreariness and mortality from six deadly immunization preventable ailments (11).

## CONCLUSION

We concluded from the present study that the current study illuminates the vaccination status of children and it had statistically significant association with mother's education. Better correspondence with training of parents/guardians during antenatal visits, and during routine wellbeing visits may help in diminishing the quantity of partially immunized children. Unique spotlight should be set on finding those partially immunized children to accomplish ideal outcomes with missions like Indradhanush.

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