Research Article

Immunization status of 1-5 year children and factors affecting it: A hospital based study

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Abstract

Objective: We attempted to determine the immunisation status of children as per national immunisation schedule admitted in paediatric ward. **Design:** Hospital based Descriptive, Cross-sectional study conducted from January 2014 to June 2014. **Setting:** Tertiary referral teaching hospital. **Patients:** All patients admitted in paediatric ward satisfying inclusion criteria were included in the study. Information regarding immunisation status was taken from the primary care giver preferably mother and available medical records of immunisation status were verified. Children were classified as completely immunised as per age and national immunisation schedule or partially immunised or unimmunised. **Results:** Out of total 840 children 520 (61. 91%) were completely immunised, 312 (37.14%) were partially immunised and 8 (0.95%) were unimmunised. Fully immunised percentage of male was 61.40% and that of female was 62.69%. The ratio of fully immunized children was 38.2%, 52.63%, 70.72% and 100% in illiterate, primary educated, HSC educated and graduate mother respectively. **Conclusion:** The observed percentage of fully immunized children 1-5 years of age was 61.91%. Dropping out trend in immunization increases as the age advances. Among the routine vaccines under 1 year of age, OPV/DPT 3rd dose and Measles vaccine were the least to be received. Mother's education significantly influences the immunization coverage among the under-fives. Sex of a child had not significant association with immunization coverage in 1-5 year.

Keywords: Immunisation, 1-5 year children.

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INTRODUCTION

Immunization being one of the most cost effective public health interventions which is directly or indirectly responsible to prevent the bulk of mortalities in under-fives, thus vaccinating the children to the maximum is a great need of the future specially to reduce the child mortality and morbidity. Since, the programme of immunization on the whole was not found satisfactory in some of the states including Maharashtra[1] and Up till now no study was done to evaluate immunization status in hospital setting of rural tertiary hospital, the present study was conducted.

MATERIAL AND METHODS

Hospital based Descriptive, Cross-sectional study conducted from January 2014 to June 2014. After taking permission from college ethical committee, under five patients admitted in Paediatric ward of Medical College, during the period of study were included. Patients 5 years or above and less than one year were excluded from the study. With whom prime care taker was not accompanying to give proper information or who were already included in the study and needed repeat admission/admissions were excluded from the study. The required information was obtained from prime care taker with pre-designed proforma after obtaining informal consent. The accuracy and validity of the information was confirmed by immunization card in possible situations and inspection for the BCG scar. Most common single reason responsible for un-immunization or partial immunization was noted. The data analysis was done by Epi Info software. Children were classified as fully immunised (received all vaccine in proper doses and frequency as per universal immmunisation program), partially immunised (received some vaccine as per universal immmunisation program but not completely immunised) and non immunised (A child who had not yet

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received any vaccine for the age, though eligible except polio drops in the pulse polio drive).

RESULTS

Out of total 840 children 521 (62.02%) were male and 319(37.98%) were female. Children between 12-24 months were 388 (46.19%), 25 -36 months were 184(21.90%), 37-48 months were 74 (8.81%) and 49-60 months were 194 (23.09%). **(Table 1).** Education of the mother was illiterate in 136 (16.19%) cases, primary educated in 285(33.93%) cases, HSC educated in 345(41.07%) cases and graduate in 74(8.81%) cases. **(Table 2).** Out of total 840 children 520 (61. 91%) were completely immunised, 312 (37.14%) were partially immunised and 8 (0.95%) were unimmunised. **(Table 3).** Immunisation coverage for BCG, OPV-0, OPV+DPT 1, OPV+DPT 2, OPV+DPT 3 and measles vaccine was found to be 823 (97.98%), 840 (100%), 791 (94.16%), 776 (92.36%), 727 (86.52%) and 676 (80.45%) respectively. **(Table 4).** Fully immunised percentage of male was 61.40% and that of female was 62.69%. **(Table 5).** The ratio of fully immunized children was 38.2%, 52.63%, 70.72% and 100% in illiterate, primary educated, HSC educated and graduate mother respectively**. (Table 5).** Lack of motivation was the most common factor found to be associated with partial or un immunization 142(44.38%). (**Table 6**)

Table 1: Demographic Data of Children

Factors		Number Of Children	Percentage
Sex	Male	521	62.02
	Female	319	37.98
Age	12 To 23 Months	388	46.19
	24 To 35 Months	184	21.90
	36 To 47 Months	74	08.81
	48 To 59 Months	194	23.09
Total		**840**	**100**

Table 2: Education of mother

Factors		No. of children	Percentage
Education of Mother	Illiterate	136	16.19
	Up to primary	285	33.93
	Up to HSC	345	41.07
	Graduate	74	08.81
	Postgraduate	00	00.00
	Total	**840**	**100**

Table 3: Immunisation Status of Children

Immunisation status	Number Of Children	Percentage
Completely immunised	520	61.91
Partially immunised	312	37.14
Un-immunised	8	0.95
Total	**840**	**100**

Table 4: Vaccine Wise Immunisation Status of Children

Name Of Vaccine	Number Of Children Immunised	Percentage
BCG	823	97.98
OPV- 0	840	100
OPV-1+DPT-1+HEP-1	791	94.16
OPV-2+DPT-2+HEP-2	776	92.34
OPV-3+DPT-3+HEP-3	727	86.52
MEASLES	676	80.45

BCG- Bacillus Calmette Guerin, OPV- Oral Polio Vaccine, DPT- Diphtheria Pertussis Tetanus Vaccine, HEP- Hepatitis B Vaccine.

Table 5: Immunisation Status According To Demographic Factors

Factor		Number Of Fully Immunised Children	Number Of Not Fully Immunised Children
Sex	Male	320 (61.40%)	201 (38.60%)
	Female	200 (62.69%)	119 (37.30%)
	Total	520	320
Education Of Mother	Illiterate	52 (38.24%)	84 (61.76%)

Primary	150 (52.63%)	135 (47.36%)
HSC	244 (70.72%)	101 (29.27%)
Graduate	74 (100%)	0 (00%)
Total	**520**	**320**

Table 6: Reason for Immunisation Failure

Reason		Number Of Children	Percentage
Lack Of Motivation		142	44.38
Lack Of Information		17	5.31
Others	Fever	93	29.06
	Loose Motions	9	2.81
	Respiratory Infection	33	10.31
	Low Birth Weight	26	8.13
Total		**320**	**100**

DISCUSSION

In the present study the percentage of fully immunized children was 61.91%. Similar findings were noted in NFHS - 3 for Maharashtra state[2] and studies done by Wadgave *et al*[3] (64.28%) and Yadhav *et al*[4] (60.8%). But Prabhakaran Nair *et al*[5] found that 77.5% children were fully immunized. While, Bhola Nath *et al*[6] Mathew *et al*[7] Kumar *et al*[8] Manjunath *et al*[9] Bhandari *et al*[10] and Nirupam *et al*[11] noted very low percentage of fully immunized children (i.e. 44.1%, 25%, 17.84%, 50%, 44.65% and 34.5%) respectively. The difference in the findings underlines demographic variations and the need of effective and uniform implementation strategy of UIP to cover the every individual child. Immunization coverage excluding children less than 1 year of age showed dropout percentage of 7.64% between 1st and 3rd doses of OPV/DPT/HEP B. There was decreasing trend of immunization as the age progressed. (from 97.98% of BCG to 80.45% of Measles). Surprisingly the percentage of fully immunized children was more in female (i.e. 62.69% vs. 61.4%) under-fives as compared to male but the relation was not statistically significant ($p>0.05$). Similar findings of non significant association of immunization status with sex of child were also noted by Kumar *et al*,[12] Tiwari *et al*[13], Malini Kar *et al*[14], Yadhav *et al*[4] Bhandari *et al*[10] and Nirupam *et al.* [11] Children whose mothers had higher education level (primary and below primary against above primary) showed higher percentage for full immunisation, which was also clinically significant ($p < 0.05$). Dropping out trend in immunization increases as the age advances. Among the routine vaccines under 1 year of age, OPV/DPT 3rd dose and Measles vaccine were the least to be received. We tried to enquire regarding the cause of dropout in vaccination and lack of motivation followed by sickness at the time of vaccination was found to be the commonest cause. Care takers were enquired regarding the vaccines and diseases prevented by it, most of them were aware of polio, hepatitis and measles but not DPT and BCG. Thus we can say that strengthening of health education activities and proper motivation can definitely improve the awareness and thereby improve the immunization coverage.

REFERENCES

1. National Family Health Survey. (NFHS-3) 2005–06 India Volume I September.
2. Wadgave HV, Pore PD, Missed opportunities of immunization in under-fives in adopted area of Urban Health Centre Centre. Ann Trop Med Public Health 2012; 5:436-40.
3. Yadhav RJ, Singh P. Immunization status of children and mothers in the state of Madhya Pradesh, Indian J Community Med 2004;29:147-8.
4. Prabhakaran Nair TN, Varughese E. Immunization coverage of infants-Rural-Urban difference in Kerala. Indian Pediatr 1994; 31:139-43.
5. Nath B, Singh JV, Awasthi S, Bhushan V, Kumar V, Singh SK. A study on determinants of immunization coverage among 12-23 months old children in urban slums of Lucknow district, India. Indian J Med Sci, 2007; 61:598-606.
6. Mathew JL, Babbar H, Yadav S. Reasons for non-immunization of children in an urban, low income group in North India. Trop Doct 2002; 32:135-8.
7. Kumar D, Aggarwal A, Gomber S. Immunization status of children admitted to a tertiary-care hospital of north India: Reasons for partial immunization or non-immunization. J Health Popul Nutr 2010; 28:300-4.
8. Manjunath U, Pareek RP. Maternal knowledge and perceptions about the routine immunization programme - a study in a semiurban area in Rajasthan. Indian J Med Sci 2003; 57:158-63.
9. Bhandari B, Mandowasa SL, Gupta GK. Evaluation of vaccination Coverage. Indian J Pediatr 1990; 57:197-201.
10. Nirupam S, Chandra R, Srivastava VK. Sex bias in immunization coverage in the urban area of U.P. Indian Pediatr 1990; 27:338-41.

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