

ORIGINAL RESEARCH

Study Of Factors Affecting The Immunization Status Of The 1-5 Year Child

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ABSTRACT

Background: Immunization is one of the most cost effective public health interventions which directly or indirectly prevents the bulk of mortality in under-fives. Complete vaccination of each and every child is the current need to reduce mortality and morbidity of under five in India. Since, the program of immunization on the whole was not found satisfactory in some of the states including Maharashtra.

Method: Study design: A cross-sectional study. Study setting: UHTC area of tertiary care center. Study population: The study population included all mothers who have one child or more

Sample size: 840

Results: A total of 840 children were included in the study and the male to female ratio was 1.6:1. As per age, 388 (46.2%) children were between 12-24 months of age, 184 (21.9%) were between 25 -36 months, 74 (8.8%) were between 37-48 months and 194 (23.1%) were between 49-60 months. Mother was illiterate in 136 (16.2%) cases, primary educated in 285 (33.9%) cases, HSC educated in 345 (41.1%) cases and graduate in 74 (8.8%) cases. Out of total 840 children, 520 (61.9%) were completely immunized, 312 (37.1%) were partially immunized and 8 (1%) were unimmunized. Immunization coverage for Bacillus Calmette–Guerin (BCG), Oral Polio Vaccine (OPV) zero dose, OPV + Diphtheria Pertussis Tetanus (DPT) first dose, OPV + DPT second dose, OPV + DPT 3rd dose and measles vaccine was found to be 823 (97.9%), 840 (100%), 791 (94.2%), 776 (92.4%), 727 (86.5%) and 676 (80.4%) respectively.

Conclusions: Mother's education significantly influences the immunization coverage among the under-fives. Sex of a child had no significant association with immunization coverage in 1-5 year.

Keywords: Health, Immunization, Knowledge, Under five children, significant factors

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INTRODUCTION

Immunization is one of the key interventions to achieving the Millennium Development Goals (MDGs), especially the goal to reduce deaths among children under five years old [1].

Childhood vaccinations have been shown to be effective in protecting children against vaccine preventable diseases in low- and middle-income countries [2, 3]. Vaccines prevent more than 2.5 million child deaths per year [1]. The Expanded Programme on Immunization (EPI) was initiated by the World Health Organization (WHO) in 1974 to control vaccine preventable diseases worldwide [4]

Social factors like Mother's education, Mother's occupation, Father's education, Wealth index Source of drinking water and Demographic factors like Current of children, Place of delivery, Size of child at birth, No. of living children and No. of household member were found to have significant effect on child health and Immunization under five year's children in uhtc area of tertiary care center.

Immunization is one of the most cost effective public health interventions which directly or indirectly prevents the bulk of mortality in under-fives. Complete vaccination of each and every child is the current need to reduce mortality and morbidity of under five in India. Since, the program of immunization on the whole was not found satisfactory in some of the states including Maharashtra (5) and until now no study was done to evaluate immunization status of children in rural area of Maharashtra, the current study was carried out in a tertiary level teaching hospital in rural area to determine the factors affecting immunization status in under 5 children in rural Maharashtra.

AIM AND OBJECTIVES

- 1. To study Factors affecting immunization status of child 1-5 years**
- 2. Association with various factors.**

MATERIAL AND METHODS

Study design: Cross Sectional study

Study setting: Department of Community Medicine at tertiary care centre

Study population: The study population included all mother with one or more child.

Inclusion criteria:

1. mothers who have one child or more
2. Children aged from birth to five years old.

Exclusion criteria:

1. Not willing to participate in study
2. Incomplete Questioners

Approval for the study:

Written approval from Institutional Ethics committee was obtained beforehand. Written approval of Community medicine department and related department was obtained. After obtaining informed verbal consent from all mothers such study participants were included in the study.

Sample Size: 840

Sampling technique: Using purposive sampling technique a total of 262 mothers included in the study.

Methods of Data Collection and Questionnaire:

Pre-designed and pretested questionnaire was used to record the necessary information. Questionnaires included general information, such as age, sex, residential address, Education, occupation, immunization status etc.

STUDY PROCEDURE:

This study was conducted in Community Medicine Department of tertiary care center, in mothers who satisfied the above said inclusion and exclusion criteria and this study conducted from

Data entry and analysis:

The data were entered in Microsoft Excel and data analysis was done by using SPSS demo version no 21 for windows. The analysis was performed by using percentages in frequency tables, Correlation of with various variable $p < 0.05$ was considered as level of significance using the Chi-square test.

RESULTS AND OBSERVATIONS

The present Cross-sectional study was done among 840 mothers

Table 1: Distributions according to the sociodemographic characteristics of the study's participants

	Fully Immunized Children (n=520)		Not Fully Immunized Children (n=320)		P value
Sex	Male	320(61.4%)	201	(38.6%)	p>0.05
	Female	200(62.7%)	119	(37.3%)	
Education of Mother	illiterate	52 (38.2%)	84	(61.8%)	P<0.001
	Primary	150 (52.6%)	135	(47.4%)	
	HSC	244 (70.7%)	101	(29.3%)	
	Graduate	74 (100%)	0		

Table 1 shows A total of 840 children were included in the study and the male to female ratio was 1.6:1. As per age, 388 (46.2%) children were between 12-24 months of age, 184 (21.9%) were between 25 -36 months, 74 (8.8%) were between 37-48 months and 194 (23.1%) were between 49-60 months. Mother was illiterate in 136 (16.2%) cases, primary educated in 285 (33.9%) cases, HSC educated in 345 (41.1%) cases and graduate in 74 (8.8%) cases. Out of total 840 children, 520 (61.9%) were completely immunized, 312 (37.1%) were partially immunized and 8 (1%) were unimmunized.

Table 2: Factors affecting immunization status

	Fully Immunized Children (n=520)		Not Fully Immunized Children (n=320)	
Mother occupation	Working	201	298	
	Not working	319	22	
Per capita income	APL	520	0	
	BPL	0	320	
Lack of information	Yes	0	320	
	No	520	0	
No of children in family	1 or 2	447	39	
	More than 2	73	281	
Family	Less than	397	48	

member	6		
	More than 6	123	272

The table shows majority of mothers working, APL 520 among fully immunized children and 320 BPL among not fully immunized children, 320 mother reported lack of information in not fully immunized group, majority of family had 1 or 2 child and most of family had a family members less than 6.

DISCUSSION

In the present study the percentage of fully immunized children was 61.9%. Similar findings were noted in National Family Health Survey (NFHS) - 3 for Maharashtra state (5) and studies done by Wadgave et al (64.28%) and Yadhav et al (60.8%). (6,7) But Nair et al (8) found that 77.5% children were fully immunized while, Nath et al (9) Mathew et al (10) Kumar et al (11) Manjunath et al (12) Bhandari et al (13) and Nirupam et al (14) noted very low percentage of fully immunized children (i.e. 44.1%, 25%, 17.8%, 50%, 44.7% and 34.5%) respectively.

There was decreasing trend of immunization as the age progressed. Also there was no gender variation in the immunization status. The reason for decreased immunization with increasing age can be multifactorial such as decreased motivation on the parts of parents, childhood illness resulting in postponement of dose or sometimes completely missing the dose. Similar findings of non-significant association of immunization status with sex of child were also noted by Yadhav et al (7) Bhandari et al (13) and Nirupam et al. (14).

Children whose mothers had higher education level showed higher percentage for full immunization which was also clinically significant. Similar finding showing a positive correlation between maternal education status and complete immunization status of child was reported by Mathwes in a review study. (15)

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. Since our study was conducted in a rural population the accessibility to resources are limited and once the parents were sent back due to child's sickness they were not motivated to come again. This finding was not reported by other authors.

Caretakers 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 specially mothers by health care workers can definitely improve the awareness and thereby improve the immunization coverage. Female education alone can solve this purpose.

CONCLUSION

Among the routine vaccines under 1 year of age, children were least likely to receive OPV/DPT 3rd dose and measles vaccine. Mother's education significantly influences the immunization coverage among the under-fives. Sex of a child had no significant association with immunization coverage in 1-5 year children.

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