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ORIGINAL RESEARCH

Status And Barriers For Primary Immunization Among Children Aged 2 Years To 5 Years In The City Of Koppal: A Cross Sectional Study

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ABSTRACT

Background: Immunization plays an important role for the child survival. It is the process whereby a child is made immune to an infectious disease. As per the recent WHO bulletin these life saving vaccines have been successfully averted around 20 million premature deaths and 500 million disease cases. Objectives: 1. To determine the status of primary immunization among children in Koppal. 2. To study about the Barriers for primary immunization among their parents. Methodology: Study design: Cross sectional study done at Koppal city. Study population: Children 2 years to 5 years of age Koppal city. Study period: Two months, Sampling method: Cluster sampling. Sample size: 221 children. Data analysis: Data entered in Excel Sheet and analyzed using SPPS 21. Results: . Out of 221 children 52.9% were males and 47.05 were females. In our study 75.11% were fully immunized, 24.43 were partially immunized. 80.3% of male children were fully immunized, 69.2% of females were fully immunized. The association between immunization status and literacy of parents found to be significant.

Conclusion: Immunization process will become more successful if the child receives full course of recommended immunization doses.

Key words: Immunization, BCG, Pentavalent, Vaccine Preventable Diseases

INTRODUCTION

Infectious diseases are the major causes of morbidity and mortality in children. One of the most cost effective and easy methods for the healthy well being of a child is immunization.[1]It is the process whereby a child is made immune to an infectious disease. Immunization reduces the spreading of the diseases thus protects the society from harmful diseases. It plays an essential role in the children's lives as a preventive health action because it protects them from most dangerous childhood diseases. [2] Immunization process will become more successful if the child receives full course of recommended immunization doses. [3]As per the recent WHO bulletin these life saving vaccines have been successfully averted around 20 million premature deaths and 500 million disease cases. [4,5]

Around three million children die annually due to Vaccine Preventable Diseases (VPDs), A large number of these coming from developing countries. [6]The Goal of immunizing the children against Tuberculosis, Polio, Diptheria, pertusis, Tetanus, Hepatitis B, H. influenza and Measles, responsible for child mortality and morbidity is indeed a noble

one. [7,8]The most important indicators mentioned in the Millennium Development Goals (MDGs) for which India is signatory, are the under-five mortality rate (U5MR) and Infant mortlity Rate (IMR). About one quarter or 25% of the Under-five mortality is due to vaccine preventable diseases. [9.10]National Immunization Programme in India has primary objective of reducing morbidity and mortality due to vaccine preventable diseases.[11,12]

There are many barriers against immunization, including misinformation about vaccines, adverse effects of vaccines, vaccine-preventable disesases, and disease development after the administration of vaccine. [13-15]Good parental practice regarding immunization will be able to reduce the incidence of infectious diseases. Parental practice regarding vaccination is related to appropriate source of information, the number of sources, the way that vaccine information is received by the parents. The source of information provided by maternity clinics, the media, literature, the internet cover vaccination benefits and risk of vaccine preventable diseases.[16]

Hence this study was conducted to determine the status of primary immunization among children 12-23 months in Koppal and to study about the Barriers for primary immunization among their parents

MATERIALS & METHODS

The present community based cross sectional study was conducted among children 2 years to 5 years of age Koppal city, Department of Community Medicine, Koppal Institute of Medical Sciences, Koppal.Duration of study wastwo months ie. 1st December 2020 to 31st January 2021. Permission for the study was obtained from the College authorities prior to commencement.

Inclusion criteria: Children 2 years to 5 years of age residing in the area

Exclusion criteria: Children below 2 years and above 5 years.

Sampling method: Cluster sampling

Sample size estimation:

- WHO immunization coverage – cluster survey reference manual[4]
- DLHS V carried out in 2015-16 [17]indicates the coverage of primary immunization in Koppal urban 72.8%.
- Based on the above findings expecting atleast 70% immunization coverage, the sample size was estimated with desired precision of $\pm$ 10% and 95% Confidence level
- Total sample = number of children per cluster X total number of clusters
- 7 x 31 = 217 children (we have taken 221 children)

Statistical analysis:

Qualitative variables done in frequency. SPSS for windows, version 17.0 was used to do analysis. For association between variables chi square test can be used. P-value < 0.05 was considered as the level of significance.

RESULTS

Out of 221 children as shown in Table 1: 52.9% were males and 47.05 were females. Majority of them were Hindu by religion 131 (59.3%) followed by 37% muslims. 47.1 % belonged to three generation family and 44.3 belonged to nuclear family. 31.1 % belonged to Class IV according to modified BG Prasad classification. 81.4% of the mothers and 84.1% of the fathers were literate. 55% of the children were delivered in Government hospital and

44.8% in private hospital, there was no home delivery. As shown in Table 2: In our study 75.11% were fully immunized, 24.43 were partially immunized. 80.3% of male children were fully immunized, 69.2% of females were fully immunized Table 3.The Association between the gender and the immunization status was found to be insignificant.The Association between the literacy status and the immunization status was found to be statistically significant.The Association between the Socio Economic Status and the Immunization status was found to be insignificant.61.19 among the partially immunized told that obstacles at home was the barriers for immunization, 17.9% of them told lack of information, 14.9% told lack of motivation.

Table 1: Distribution of study participants based on Socio Demographic Characteristics

Particular		Number	%
Sex	Male	117	52.9
	Female	104	47.05
Religion	Hindu	131	59.3
	Muslim	82	37.0
	Christian	4	1.5
	Others	4	2.1
Type of family	Nuclear	98	44.3
	Three generation	104	47.1
	Joint family	19	8.6%
Socio Economic Status	Class V	57	25.8
	Class IV	71	31.1
	Class III	40	18.0
	Class II	37	16.7
	Class I	16	7.2
Education	**Mother**		
	Literate	180	81.4
	Illiterate	41	18.5
	Father		
	Literate	186	84.1
	Illiterate	35	15.8
Place of delivery	Govt Hospital	122	55.2
	Private Hospital	99	44.8
	Home	0	0

Table 2: Distribution of participants based on Immunization status

Immunization Status	Number	Percentage (%)
Fully Immunized	166	75.11
Partially Immunized	54	24.43
Not Immunized	1	0.45

Table 3: Immunisation status based on the sex of the child

Sex	Total 221	Fully immunized	Partially immunized	Not immunized	Full immunized out of 221 (in %)	Partially immunized 0ut of 221 (in %)
Males	117 52.9%	94 80.3%	23 19.6%		42.5	10.4
Females	104 47.05 %	72 69.2%	31 29.8%	1 0.9%	32.5	14 %

X^2= 2.16, p=0.08 (insignificant)

Table 4: Immunization status based on the literacy of the child's parent

		Total 221	Fully Immunized	Partially Immunized	Unimmunized
Mother	Literate	180 (81.4%)	127 (70.5%)	52 (28.8%)	1 (0.5%)
	Illiterate	41 (18.5%)	24 (58.5%)	17 (41.4%)	
Father	Literate	186 (84.1%)	133 (71.5%)	53 (28.4%)	
	Illiterate	35 (15.8%)	18 (51.4%)	17 (48.5%)	

X^2= 14.12, p<0.05 (significant)

Table 5: Immunization status based on Socio Economic Status

Socio-Economic Status	Fully Immunized (%)	Partially Immunized (%)	Not Immunized
Class I	87	13	0
Class II	86.4	24.3	0

Class III	70	30	0
Class IV	68.5	31.4	1.4
Class V	77.2	22.8	0

X^2= 18.4, p=0.088 (insignificant)

DISCUSSION

The percentage of fully immunized children according to the study done was found to be 75% This indicates the efficiency of our services and also of the government Urban Primary Health Centre in our area in conducting immunization sessions regularly according to the schedule, and also in Anganwadis. Catch-up immunization campaigns like Mission Indradhanush and the Measles Rubella campaign also help in improving the immunization coverage in the country.[5]

Percentage of fully immunized children with illiterate mothers was 58.5% and 70.5% in literate mothers.

The association between Immunization and mother's Literacy was found to be significant. There was no significant association found between Immunization coverage and Place of Delivery, there was significant association found between immunization coverage and birth Order, Socio-economic class.

The major reason for failure of immunization was found to be unavailability of vaccine followed by lack of awareness regarding vaccination. Many were aware of the importance of vaccination in general, specific information on importance of completing the schedule and knowledge on vaccine preventable diseases other than poliomyelitis were very limited.

Since the majority of the mothers are the main caregivers and informants regarding immunization, Information Education and Communication activities and media must be harnessed in creating awareness and knowledge about vaccines and vaccine preventable diseases. Hence if steps are taken to ensure good education to the girl child and knowledge about vaccination integrated into the antenatal care of mothers, the vaccination coverage will be near complete and the goals of decreasing morbidity and mortality may be achieved.

CONCLUSION

The percentage of children fully Immunized was found to be 75%. The main reason for failure of immunization was found to be the unavailability of the vaccine followed by lack of awareness of the immunization schedule and the child being sick. Though immunization coverage in the study population is relatively high compared to that of other areas of the Country, there are still opportunities for improving its coverage by regular awareness campaigns.

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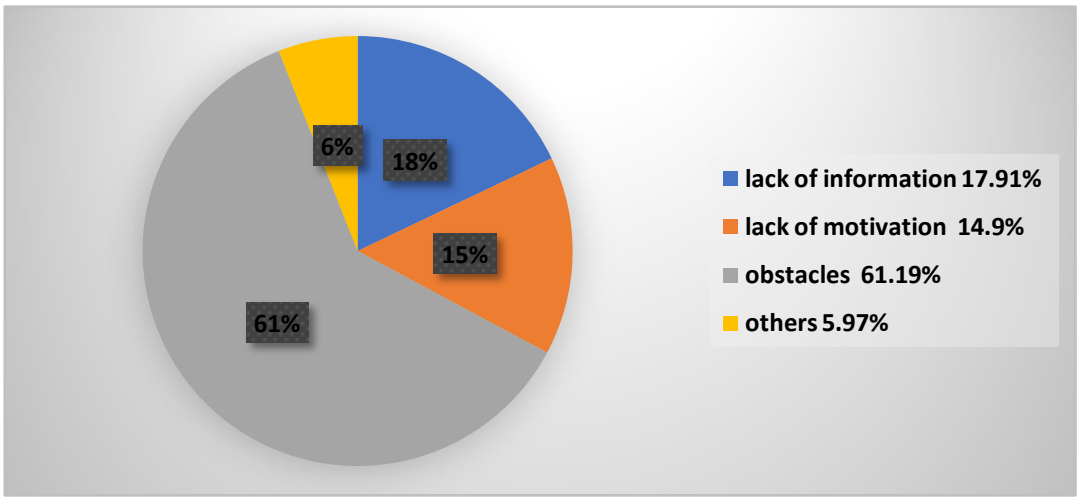

Fig 1: Barriers of immunization coverage