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Knowledge, attitudes, and practices of mothers towards vaccination of new-borns in a rural community of Ghaziabad

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ABSTRACT

Background: Immunization is one of the most cost-effective public health interventions that reduce morbidity and mortality from vaccine preventable diseases. Commitment from health care workers and care givers of children is absolutely essential to achieve100% immunization in India.

Objective: To assess the knowledge, attitude and practices of the mothers about vaccination of new-borns in a rural community of Ghaziabad.

Methodology: This community-based cross-sectional study was conducted on mothers in a rural community of Ghaziabad to assess the Knowledge, Attitudes and Practices about vaccination in Santosh Medical College, Ghaziabad. For data collection a semi-structured study schedule for in-depth interview of the mother of the children was used as the tool. The respondents were interviewed to record the various socioeconomic variables and the knowledge and practice of the mothers of the children regarding vaccination of new-born.

Result: All findings of this study pertain to the 300 mothers surveyed in the selected villages of Muradnagar block, Ghaziabad district. Most 251 (83.7%) mothers had knowledge that vaccines are necessary to protect the new-born from infection or disease. 267 (89%) children received BCG, 263 (87.7%) received OPV0 and 189 (63%) children received Hepatitis B-first dose at birth.

Conclusion: The study concluded most of the mothers had knowledge that vaccines are necessary to protect the new-born from infection or disease but more than half of the mothers were unaware of

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the national immunisation programme. At birth BCG, OPV zero dose and Hepatitis B should be given as per Universal Immunisation Programme.

Keywords: Immunization, Trimester, Vaccination, Hepatitis, Malnourished.

INTRODUCTION

Vaccines are one of the most successful health interventions that bring about significant reductions in infectious diseases and adverse health consequences and improve quality of life in the population. Vaccination is one of the most cost-effective interventions to prevent major illnesses that contribute to child mortality in the country, particularly in environments where malnourished children, overcrowding, poverty and illiteracy reign. Knowledge, positive attitudes and appropriate perceptions about vaccination hence childhood immunization has been an important part of maternal and child health services since the 1940s. [1]

In India too, at the time of delivery, the women were kept in the dirtiest room of the house for the delivery of the baby. The delivery was conducted by an elderly female, the 'dai'. The placenta was cut unhygienically and in the absence of tetanus vaccination, many neonates died of neonatal tetanus within the first week of life.

Universal Immunisation Programme (UIP) became a part of the Child Survival and Safe Motherhood (CSSM) Programme in 1992. The CSSM was implemented in a phased manner covering all the districts of the country by the year 1996-97. The objectives of the programme were to improve the health status of new-born. The programme strengthened the immunisation services of poor performing areas under the UIP. The CSSM Programme brought notable success in improving the health status of new-borns& also reducing NMR and incidence of vaccine preventable diseases. [2]

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Immunization is one of the most cost-effective public health interventions that reduce morbidity and mortality from vaccine preventable diseases. Commitment from healthcare workers and caregivers of children is absolutely essential to achieve 100% immunization in India by 2020. Intensified Mission Indradhanush was launched in 2017 to accelerate the progress and it targets areas with higher rates of unimmunised children and immunisation dropouts. Ghaziabad district comes under these areas.At birth BCG, OPV zero dose and Hepatitis B should be given as per Universal Immunisation Programme. [1]

MATERIALS AND METHODS

The study was carried out in district Ghaziabad. The study was community-based cross-sectional study, undertaken to assess the knowledge, attitude and practices of the mothers about vaccination of new-borns in a rural community.

All the households in the study area with mothers of infant of one month to six months of age in the rural area of Ghaziabad district. This age group of children were selected because they have completed their neonatal period and secondly to avoid any recall bias. Mother whose child was admitted in the new born unit or pediatric ward immediately after delivery and critically sick mother or mother with mental illnesses were excluded from study.

RESULTS

The study entitled “the knowledge attitude & practice of mother on new born vaccination” conducted in the rural area of district Ghaziabad. All findings of this study pertain to the 300 mothers surveyed in the selected villages of Muradnagar block, Ghaziabad district. Mothers were aware that vaccines are important for a child. 83.7% mothers had knowledge that vaccines are necessary to protect the newborn from infection or disease and 16.3% were unaware of vaccines protect from diseases. 58.3%

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mothers were unaware of the national immunization programme while remaining 41.7% mothers were aware of this government-run programme.

Table 1 shows the distribution of the mothers of the children who were interviewed according to age, literacy status, occupation and shows that majority of the mothers were Hindu 224 (74.7%) and 76 (25.3%) were Muslims.It shows 186 (62%) mothers belonged O.B.C. caste, 63 (21%) belonged to general caste and 51 (17%) were SC/ST. Majority of the mothers belonged to the joint family 164 (54.7%) followed by nuclear family 99 (33%). Least number of mothers belonged to a three-generation family 12.3 (12.3%).

Shows that 112 (37.3%) families belonged to Social Class IV followed by 88 (29.3%) belonging to Class II. None of the families belonged to Class I and 17% belonged to Class V and 16.3% belonged to Class III. It shows that majority of the mothers were of second parity 124 (41.3%) followed by 100 (33.3%) of mothers having parity of three or more. Only 76 (25.3%) mothers were primi. It shows 223 (74.3%) of the mothers had done antenatal registration during the first trimester of the last pregnancy and 77 (25.7%) mothers had not done antenatal registration.

Table 2 (a) shows all the 300 mothers were aware that vaccines are important for a child. Most of the 251 (83.7%) mothers had knowledge that vaccines are necessary to protect the new-born from infection or disease and 49 (16.3%) were unaware of vaccines protect from diseases. More than half of the mothers were unaware of the national immunisation programme 175 (58.3%) while remaining 125 (41.7%) mothers were aware of this government-run programme.

Table 2 (b) shows that 267 (89%) children received BCG, 263 (87.7%) received OPV0 and 189 (63%) children received Hepatitis B-first dose at birth.

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Table 3 shows significant association between age of the mothers and knowledge regarding significance of vaccination (p=0.011). It shows significant association between literacy status and religion of the mothers and knowledge regarding significance of vaccination (p=0.001). It shows significant association between occupation of the mothers and knowledge regarding significance of vaccination (p=0.019). It shows significant association between caste of the mothers and knowledge regarding significance of vaccination (p=0.047). It shows significant association between type of family of the mothers and knowledge regarding significance of vaccination (p=0.003). There is no association between socioeconomic class of the mother and knowledge regarding significance of vaccination (p=0.065).

It also shows significant association between age, type of family and socioeconomic status of the mothers and knowledge regarding Universal Immunisation Programme (p=0.001). It also shows significant association between literacy status and occupation of the mothers and knowledge regarding Universal Immunisation Programme (p=0.012). There is no association between religion of the mother and knowledge regarding Universal Immunisation Programme (p=0.073).There is no association between caste of the mother and knowledge regarding Universal Immunisation Programme (p=0.334).

DISCUSSION

This study shows that majority of the mothers fell under the age group of 21 to 25 years (45.3%) followed by age group of the 26 to 30 years (37.7%) and only 4.3% mothers were of less than 20 years of age.Majority of the mothers did schooling up till middle school (45.7%) followed by 25% of mothers completed intermediate and only 4.3% mothers were illiterate. Majority of the mothers were home-maker (95.7%). The population were Hindus (74.7%) followed by Muslims.37.3% families belonged to Social Class IV followed by 29.3% belonging to Class II. None of the families

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belonged to Class I and 17% belonged to Class V and 16.3% belonged to Class III.Majority of the mothers were of second parity 124 (41.3%) followed by 100 (33.3%) of mothers having parity of three or more. Only 76 (25.3%) mothers were primi.It also shows that out of 300 mothers there is 223 (74.3%) had done antenatal registration during the first trimester of the last pregnancy and 77 (25.7%) mothers had not done antenatal registration.

All the 300 mothers were aware that vaccines are important for a child. Most of the mothers, 83.7% had knowledge that vaccines are necessary to protect the new-born from infection or disease. More than half of the mothers were unaware of the national immunisation programme (58.3%). Similarly in study by Dhir et al. (2015), 91% mothers had awareness about vaccination in new-born. [3] It also shows that 63% children received B.C.G., O.P.V.-zero dose and Hepatitis B-first dose at birth. In a study by Kuruvilla (2009) carried out in rural and urban area of Tamil Nadu, it was revealed that the BCG, OPV0 and Hepatitis B-Birth Dose (BD) coverage rate at birth was 3%, 7.9% and 3.5% respectively [4].Thepresent study shows that 89% children received BCG, 87.7% received OPV0 and 63% children received Hepatitis B-first dose at birth.

CONCLUSION

This study indicated that most of the socio-demographic factors were associated with the knowledge and practices regarding various aspects of vaccination of new-born.All of mothers in rural areas were aware about the vaccination and its implications.All of the respondents knew vaccination are necessary for children. Write all 3 findings, Out of all the children in the present study, 63% received all three vaccines at birth (B.C.G., O.P.V.0 and Hepatitis B).Proportion of children receiving hepatitis B vaccine at birth was lower than those receiving OPV or BCG at birth. It is recommended that as per Universal Immunisation Programme BCG, OPV zero dose and Hepatitis B should be given at birth.

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Table 1:Distribution of mother and father of the children according to the demographic, social variables, socioeconomic status and distribution of the mothers according to the parity and antenatal registration during first trimester of the last pregnancy. (n=300)

Demographic variables		Mother (%)	Father (%)
Age(in years)	<20	13(4.3)	0
	21-25	136(45.3)	75(25.0)
	26-30	113(37.7)	100(33.3)
	>30	38(12.7)	125(41.3)
Literacy Status	Illiterate	13(4.3)	13(4.3)
	Primary	25(8.3)	50(16.7)
	Middle	137(45.7)	113(37.7)
	High School	13(4.33)	25(8.3)
	Intermediate	75(25.0)	60(20.0)

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	Graduate	37(12.3)	39(13.0)
Occupation	Homemaker	287(95.7)	0
	Labourer	7(2.3)	113(37.7)
	Farmer	0	13(4.3)
	Business	0	50(16.7)
	Semi-Skilled	0	49(16.3)
	Skilled	0	36(12.0)
	Semi-profession or profession	6(2.0)	39(13.0)
Religion	Hindu	224	74.7
	Muslim	76	25.3
Caste	General	63	21.0
	O.B.C.	186	62.0
	SC/ST	51	17.0
Type of family	Nuclear	99	33.0
	Joint	164	54.7
	3 generation	37	12.3
Social Class	II	88	29.3
	III	49	16.3
	IV	112	37.3
	V	51	17.0
Parity	Primi	76	25.3
	Second	124	41.3
	Three or more	100	33.3
Antenatal registration	Registered	223	74.3
	Not registered	77	25.7

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Table 2(a): Distribution of the children according to the time of birth vaccines administration (B.C.G., O.P.V.-zero dose and Hepatitis B-first dose). (n=300)

Sl. No.	Knowledge on vaccination	Number	Percentage (%)
1	**Vaccination for a new born is Necessary**	300	100
2	**Significance of vaccines for a new born**		
	Protection from diseases	251	83.7
	Do not know	49	16.3
3	**Immunization programme**		
	Aware of the programme	125	41.7
	Did not know	175	58.3

Table 2(b): Distribution of mothers according to their knowledge on vaccination and Distribution of the children according to the time of birth vaccines. (n=300)

Sl. No.	Time of vaccine Administration	B.C.G. (%)	O.P.V. (%)	Hepatitis B (1st dose) (%)
1	At birth	267 (89.0)	263 (87.7)	189 (63.0)
2	24 hours after Birth	33(11.0)	37(12.3)	111(37.0)

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Table 3: Association between socio-demographic factors and knowledge regarding significance of vaccination, Universal Immunisation Programme.

Socio Demographic variables		Significance of vaccination		P-value	Awareness Regarding UIP*		P-value
		No	Yes		No	Yes	
Age(in years)	<20	4	9	0.011	13	0	0.001
	21-25	21	115		75	65	
	26-30	12	101		58	55	
	>30	12	26		33	5	
Literacy Status	Illiterate	9	4	0.001	9	4	0.012
	Primary	0	25		12	13	
	Middle	28	109		82	55	
	High School	0	13		13	0	
	Intermediate	4	71		43	32	
	Graduate	8	29		16	21	
Occupation	Homemaker	45	241	0.019	171	115	0.012
	Laborer	4	4		4	4	
	Professional	0	6		0	6	
Religion	Hindu	49	175	0.001	124	100	0.073
	Muslim	0	76		51	25	
Caste	General	13	50	0.047	38	25	0.334
	O.B.C.	23	163		112	74	
	SC/ST	13	38		25	26	
Type of family	Nuclear	13	86		49	50	

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	Joint	36	128	0.003	114	50	0.001
	3generation	0	37		12	25	
Socio-economic status	II	13	75	0.065	50	38	0.001
	III	11	38		36	13	
	IV	12	100		76	36	
	V	13	38		13	38	