



KNOWLEDGE AND PRACTICE TOWARDS IMMUNIZATION AMONG MOTHERS OF CHILDREN UNDER 5 YEARS AGE ADMITTED IN TERTIARY CARE HOSPITAL IN NORTH DELHI.

Dr. Mayank Pahuja*	Assistant Professor, Department Of Pediatrics ,MM Institute Of Medical Sciences And Research , Deemed To Be University ,Mullana ,Ambala. *Corresponding Author
Dr. Bansi Manvar	Senior Resident, Department Of Pediatrics , NDMC Medical College And Hindu Rao Hospital, New Delhi
Dr. Veena Devgan	Professor, Department Of Pediatrics, NDMC Medical College And Hindu Rao Hospital, New Delhi

ABSTRACT **INTRODUCTION:** In present era, India has become self sufficient in production of most of the vaccines. So, availability of vaccine is not major issue in attaining better immunization coverage. There is also need to improve immunization practice at fixed sites along with better monitoring and supervision. As mothers' knowledge and attitude has significant impact on children's vaccination status.

METHODOLOGY: The Cross-sectional study was conducted on mothers of children aged 2 months to 5 years admitted in pediatric wards of Hindu Rao Hospital. Total 475 mother of children included in study as per consent form. Evaluate Data were as percentages or proportions mean, median, mode. Tests of proportions and Chi-square test applied.

RESULT : half of mothers belonged to age group 20-25 years and 26-30 years (44% and 42.7%) respectively. More than half children (57.5%) in study were institutionally delivered.

Doctors and paramedical workers remained as major source of vaccination information in 90.95% of mothers.

CONCLUSION: In our study, we concluded that better maternal education and socio-economic status lead to possession of better knowledge towards immunization.

KEYWORDS : Immunization, Children, Mother

INTRODUCTION:

In developing countries like India, where communicable diseases are the major cause of morbidity as well as mortality, one effective way of controlling spread of infection is by strengthening the host defenses. Under certain circumstances, this may be accomplished by active immunization, which is one of the most powerful and cost effective weapons of the modern medicine.^[1]

The vaccination coverage at present with EPI vaccines is far from complete despite the long-standing commitment to universal coverage. Estimates from the NFHS-4 (2015-16) indicate that in INDIA only 62% of children aged 12–23 months were fully vaccinated (received BCG, measles, and 3 doses of DPT and polio vaccines) and in NCT DELHI 66.2% of children aged 12–23 months were fully vaccinated and 5.4% had received no vaccinations at all.^[2] Given an annual birth cohort of 26.6 million, and an under 5 year child mortality rate of 59/1000, this results in over 9.5 million under-immunized children each year.^[3]

In present era, India has become self sufficient in production of most of the vaccines. So, availability of vaccine is not major issue in attaining better immunization coverage. For getting success in achieving full immunization coverage, immunization needs to be brought closer to the community. There is also need to improve immunization practice at fixed sites along with better monitoring and supervision. As mothers' knowledge and attitude has significant impact on children's vaccination status, effective behavior change in communication would increase demand for vaccination.^[2]

Expanding coverage with these present vaccines and introducing new vaccines which are cost effective in the Indian scenario are requirement of present era.^[3]

Coverage Evaluation Survey of UNICEF stated that lack of awareness is one of the greatest barrier to achieve good immunization coverage.^[4] Such social factors have major impact on immunization service utilization. Factors affecting vaccination service utilization have been evaluated in many studies. Currently, in era of better availability of optional vaccine and WHO's resolution to introduce more and more newer vaccine in national immunization schedule, it is essential to evaluate knowledge and attitude of parents towards immunization. For better utilization of vaccination service with newly available antigens, it became essential to eradicate these gaps in Knowledge Attitude Practices (KAP) by health promotion & health education.

MATERIALS AND METHODS:

The Cross-sectional study was conducted after getting clearance from the Institutional Ethics Committee of Hindu Rao Hospital. Subject of study was mothers of children aged 2 months to 5 years admitted in pediatric wards of Hindu Rao Hospital. study duration was from July 2017 to April 2018. Total 893 children admitted in pediatric wards of Hindu Rao Hospital in study duration. Exclusion criteria of study was critically ill children, age of child less than 2 month and more than 5 year. Consent given by mother of 475 children admitted in pediatric wards as per the consent form.

Mothers were interviewed by researcher in a single sitting. They were interviewed with the help of carefully prepared customized and pretested questionnaires, to know their knowledge and practice towards the currently available and routinely administered immunization measures. The participants were briefed about proforma. Any query regarding understanding of question was solved during interview only. The data was collected via formal and informal discussions, direct observations, crosschecks with health records. Information regarding the administration of vaccines was obtained from documents available or on the basis of recall by the respondents in case of unavailability of supporting documents. The relevant information was recorded in proforma immediately thereafter. All data stored in MS excel 2007 version in computer. and data analysis done by SPSS 20 software. Evaluate Data were as percentages or proportions mean, median, mode. Tests of proportions were done with Chi-square and a p is less than 0.05 considered as statistical significant.

RESULTS:

In table 1 show that half of mothers belonged to age group 20-25 years and 26-30 years (44% and 42.7%) respectively. Mean age of mothers was 26.82 years with range from 20 to 42 years (SD=3.5 year). Extended family system slightly (53.7%) dominated in our study. Mean numbers of family member per family (Household size) was 6.0 with range = 2-12 (SD=2.78). Exception being only one family with family members 25. According to study, very few parents (1%) belonged to class II SES. Majority belonged to class III (65.5%). Remaining respondents belonged to class occupying 31.5% and 1.91% of total respectively. None of family belonged to class I. As per our study almost half (52.2%) of the mothers were illiterate. Only some had completed graduation or post-graduation (6.5% and 0.2% respectively). Percentage of mothers who had completed their primary, senior secondary and higher secondary schooling and diploma were 13%, 15.6%, 12.2% and 0.2% respectively. 54.5% of mothers were housewives. Mean maternal age at delivery of the child

was 24.5 years with range of 17-37 years (SD=3.7 years) with, 12.6% and 51.7% mothers delivered the child in our study at age group of <20 years and 21-25 years. Only 7.3% mother delivered the child at age of >30 years. Among parents, majority were Hindus (84.4%) followed by Muslims (14.7%) and Christians were only 0.8%.

Table 1: Socio demographic profile of Mother (N=475)

Sl.No.	Characteristic	Category	Frequency	Percentage
1.	Age of Mothers	20-25	209	44
		26-30	203	42.7
		31-35	57	12
		>35	6	1.3
		Total	475	100%
2	Type of Family	Nuclear	220	46.3
		Extended	255	53.7
		Total	475	100
3.	Socio-Economic Class (As per Updated Kuppuswami Scale Jan 2018)⁽⁵⁾	Class I (upper)	0	0
		Class II (upper middle)	5	0.1
		Class III (lower middle)	311	65.5
		Class IV (upper lower)	150	31.6
		Class V (lower)	9	1.9
4.	Mother's Education	Illiterate	248	52.2
		Primary Schooling	62	13.05
		Senior Secondary Schooling	74	15.6
		Higher Secondary	58	12.2
		Graduation	33	6.9
		Total	475	100.0
5.	Mother's Occupation	Working	216	45.5
		House wife	259	54.5
		Total	475	100
6.	Religion	Christian	4	0.8
		Hindu	401	84.42
		Muslim	70	14.7
		Total	475	100

From Table 2, 78.3% of the children were >1 year of age. Mean age of children in study is 27.8 month with range from 2month to 5 years (SD= 18 months). 62.3% were male child in study. Percentage of children with birth order 1st, 2nd, 3rd, 4th and 5th were 44.4%, 34.1%, 18.7%, 2.5% and 0.2% respectively. More than half children (57.5%) in study were institutionally delivered. Majority of children were delivered in government institution (87.42%). 33.99% children had missed one or more dose of vaccine from recommended in national immunization schedule followed in Delhi.

As per our study, among the children who were not vaccinated with one or more age appropriate vaccine (n=161), question regarding cause of incomplete vaccination status was asked. 27.95% of mothers do not perceive the need for vaccine. Fear of side effects, cannot travel alone, time not convenient, child was not well and cannot afford the cost of transportation were also mentioned as another important reasons. Only 11.1% respondents stated supply side issue as the reason. This reflect large knowledge practice gap among general population.

Table 2.: Socio demographic profile of children and immunization status.

Sl.No.	Characteristic	Category	Frequency	Percentage
1.	Gender of Child	Female	179	37.7
		Male	296	62.3
2.	Age of Child	<1 year	100	21.1
		1-5 years	375	78.9
3.	Birth Order of Child	1 st	211	44.4
		2 nd	162	34.1
		3 rd	89	18.7
		4 th	12	2.5
		5 th	1	0.2
4.	Place of Delivery	Institutional (Govt./ Private)	273	57.5
		Non institutional	202	42.5

5.	Immunization Status	Complete	314	66.1
		Partial	110	23.2
		Not immunized	51	10.7

As per Table 3, Doctors and paramedical workers remained as major source of vaccination information in 90.95% of mothers. The study also shows that family members or relatives contribute to significant level (18.95%) as source of vaccination information. In approximately one quarter cases Anganwadi worker/ local dai/ASHA highlighted as significant contributor as source of information. Media (Television/ Radio/ Internet) and printed material (Poster) played minor role. Out of total 475 mothers, majority of mothers (62.32%) had good knowledge score (9-16). Only 6.11% were having very good knowledge score (17-23). 31.58% of the parents had poor knowledge score (<8).

Table 3: Distribution according knowledge and immunization status

Sl. No.	Charecteristic	Category	Frequency	Percentage
1.	Reason of Partial immunization	Problem in individual	143	88.81
		Problem in health system	18	11.19
		total	161	100
2.	Knowledge	Poor (0-8)	150	31.58
		Good (9-16)	296	62.32
		Very Good (17-23)	29	6.11
		Total	475	100.0
3.	Source of information	Doctor/ Paramedical worker	432	90.95
		Anganwadi Worker/ local dai/ASHA	72	15.18
		Television / Radio / Internet	16	3.37
		Poster /Symposium	9	1.89
		Family / Relatives	90	18.95
		Books /Study	9	1.89

In Table 4, show association sociodemographic variable in knowledge of mother, socio economic status of parents, mothers' age, child's gender, birth order, place of delivery and maternal education had statistically significant association with knowledge of mothers (p<0.05).).

It was seen in our study that mothers whose children delivered by institutional deliveries had better knowledge and better immunization coverage. Also mothers who had vaccination card with them had better knowledge and better immunization coverage. Study found very strong positive, statistically highly significant correlation between knowledge of mothers & immunization status of children. (p value <0.001)

Table-4: Association between Demographic Variables and their Knowledge

Sl. No.	Charecteristic	Category	Total Knowledge score			P value
			1) Poor	2) Good	3) Very good	
1.	Age(year)	20-25	85 (40.67%)	116 (55.50%)	8 (3.83%)	0.004
		26-30	52 (25.62%)	137 (67.49%)	14 (6.90%)	
		31-35	12 (21.05%)	38 (66.67%)	7 (12.28%)	
		>35	1 (16.67%)	5 (83.33%)	0 (0.00%)	
2.	Socio-Economic Class	1	0 (0.00%)	0 (0.00%)	0 (0.00%)	<.0001
		2	0 (0.00%)	4 (80.00%)	1 (20.00%)	
		3	57 (18.33%)	228 (73.31%)	26 (8.36%)	
		4	87 (58.00%)	61 (40.67%)	2 (1.33%)	
		5	6 (66.67%)	3 (33.33%)	0 (0.00%)	
3.	Mother's Education	Illiterate	129 (52.02%)	107 (43.15%)	12 (4.84%)	<.0001
		Primary	10 (16.13%)	48 (77.42%)	4 (6.45%)	
		Senior secondary	6 (8.11%)	61 (82.43%)	7 (9.46%)	
		Higher secondary	3 (5.17%)	53 (91.38%)	2 (3.45%)	
		Graduation	2 (6.06%)	27 (81.8%)	4(12.1%)	

4	Religion	Christian	0 (0.00%)	4 (100.00%)	0 (0.00%)	0.623
		Hindu	129 (32.17%)	247 (61.60%)	25 (6.23%)	
		Muslim	21 (30.00%)	45 (64.29%)	4 (5.71%)	
5.	Birth Order	1 st	109 (51.66%)	96 (45.50%)	6 (2.84%)	<.0001
		2 nd	35 (21.60%)	118 (72.84%)	9 (5.56%)	
		3 rd	6 (6.74%)	72 (80.90%)	11 (12.36%)	
		4 th	0 (0.00%)	9 (75.00%)	3 (25.00%)	
		5 th	0 (0.00%)	1 (100.00%)	0 (0.00%)	
6	Institutional Delivery	No	77 (38.12%)	116 (57.43%)	9 (4.46%)	0.022
		Yes	73 (26.74%)	180 (65.93%)	20 (7.33%)	

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DISCUSSION:

In a study of Rachna et al^[6], the Mean-age of the mothers were 28.4 years and 73 % were in age group of 21-30 years but in our study, half of mothers belonged to age group 20-25 years and 26-30 years (44% and 42.7%) respectively. Mean age of mothers was 26.82 years with range from 20 to 42 years (SD=3.5 year). In Dharmalingam et al^[7] study, the mean age of the mother whose child undergoing vaccination is 25.88+4 years.

In this study, among parents, majority were Hindus (84.4%) followed by Muslims (14.7%) and Christians were only 0.8%.and similar finding in study conducted by Avinash.^[8] Regarding the source of knowledge of respondents about VPD's, Anganwadi Worker was the main source of information (47%).^[6] in this study Doctors and paramedical workers remained as major source of vaccination information in 90.95% of mothers. And similar finding found in study conducted by Shamila hamid.^[9] Another study done by Rabbanie^[10] found good knowledge regarding the importance of vaccines and the correct age to start vaccination.

In study of Dharmalingam,^[7] educated mother showed high degree of significance (p value = 0.0001). Also found in our Study found very strong positive, statistically highly significant correlation between knowledge of mothers & immunization status of children. (p value <0.001).

In a study by Singh et al,^[11] 52.5% children were fully immunized and 45.1% were partially immunized in Wardha district. But in our study 33.99% children had missed one or more dose of vaccine from recommended in national immunization schedule followed in Delhi.

CONCLUSION:

In our study, we concluded that better maternal education and socio-economic status lead to possession of better knowledge towards immunization, which was ultimately reflected in better immunization coverage. Thus, improving female literacy and socioeconomic status at national level is need of time.

It was seen in our study that mothers whose children delivered by institutional deliveries had better knowledge and better immunization coverage. Also, mothers who had vaccination card available with them had better knowledge and better immunization coverage.

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