



A CROSS SECTIONAL STUDY TO DETERMINE KNOWLEDGE OF MOTHERS OF UNDER-FIVE CHILDREN REGARDING COMPLETE IMMUNIZATION ATTENDING IMMUNIZATION CLINIC AT RURAL HEALTH TRAINING CENTRE (RHTC) IN THE FIELD PRACTICE AREA OF A TERTIARY CARE HOSPITAL

Community Medicine

Dr. Dhanashree Khade* Assistant Professor, Department of Community Medicine, LTMMC & GH, Sion, Mumbai-22.*Corresponding Author

Dr. Seema S. Bansode-Gokhe Professor and Head, Department of Community Medicine, LTMMC & GH, Sion, Mumbai-22

Dr. Swati Chavhan Assistant Professor, Department of Community Medicine, LTMMC & GH, Sion, Mumbai-22

ABSTRACT

Background: Immunization is one of the most effective, safest & efficient Public Health Interventions. It is found that, knowledge of Mothers of Under-Five Children regarding Complete Immunization plays an important role in reducing Morbidities produced by Vaccine Preventable Diseases of Under-Five Children by keeping the Child completely immunized. **Objective:** To study the knowledge of Mothers of Under-Five Children regarding Complete Immunization as well as proper practices done after the Immunization and to access the sources of Information regarding Complete Immunization. **Methods:** A cross-sectional study conducted on Mothers of Under-Five Children attending Immunization Clinic at RHTC over a period of 1 month. 133 Mothers selected by convenience sampling. The average attendance of beneficiaries on each session of Immunization was 50 Children. The respondents were tested by exit interviews with a pretested predesigned Case Record Form. **Results:** Mean age was 27.6 years. 41.35 % mothers could tell at least the age of vaccinations from birth to 5 years. Knowledge of Mothers about Complete vaccination schedule from birth to 5 years of age was significant with the age group of mothers. 96.24% mothers could tell at least one importance of immunization card. 67.66% mothers could not differentiate between OPV and Vitamin A, among them only 9.02% mothers knew about total doses of Vitamin A. ASHA was main source of information for Complete Schedule of Immunization 61(45.86%). **Conclusions:** There is need to arrange for health education program sessions for mothers with main emphasis on importance of vaccination & Vaccine Preventable Diseases (VPDs).

KEYWORDS

Immunization, Under five Children, Vaccine Preventable Diseases.

INTRODUCTION

Immunization is one of the most effective, safest & efficient Public Health Interventions. The impact of Immunization on childhood morbidity & mortality is big. The Under-five mortality rate of India in year 2020 was 33 deaths per 1000 live births as compared to global under-5 mortality rate (U5MR) of 37 deaths per 1000 live births.(1) In India, Routine immunization is one of the most cost effective public health Interventions for Under-five mortality. Yet despite the concrete efforts of government & other health agencies, a large proportion of vulnerable infants & children in India remain unimmunized and thus increasing the load of Under-five morbidity and mortality.(2) This is because of the poor coverage of complete immunization in India. As per Coverage Evaluation Survey (2009), 89.8% of vaccination in India is provided through Public sector (53% from outreach session held at Anganwadi centre (25.6%), sub centre (18.9%) etc.) while private sector contributed to only 8.7%. According to the survey only 61% of children in the country were Fully Immunized with all vaccines in year 2009. (3) In year 2016, full immunization coverage in rural India was 61.72%. (4) This low coverage of complete immunization of children in rural India is maybe because of lack of knowledge of mothers or parents as they are the main decision makers in child's vaccination. To be specific, lack of information regarding complete routine Immunization was considered as the main reason for parents' choice to postpone or avoid vaccination. (5) Mother plays a very important role in Indian families as she is the main care-giver of her child and many families depends upon her for their children's vaccination. It is found that, knowledge of Mothers of Under-Five Children regarding Complete Immunization plays an important role in reducing Morbidities produced by Vaccine Preventable Diseases of Under Five Children by keeping the Child completely Immunized. (2)

Therefore this study was carried out to access the Knowledge of Mothers of Under-5 Children regarding Complete Immunization in rural India and also to access the lacunae in their knowledge and to motivate them to achieve complete immunization of their child.

METHODS

A cross-sectional observational study was conducted upon 133 mothers of Under-five children coming to Immunization clinic at Primary Health Centre under Rural Health Training Centre of a Tertiary Care Hospital of Mumbai, India. Samples were taken using

convenient method of sampling. Total study period was 1 month. A structured pre-tested questionnaire interview sheet was given to study subjects after taking their written consent and providing them patient information sheet in a language that they best understand. The responses were fed into a computer-based spreadsheet. Proportions of responses to various questions regarding routine immunization were calculated. Chi-square tests were used to analyze the association between knowledge status and various socio-demographic variables.

RESULTS

A total out of 133 mothers, 76.69 % were in age group of 20-29 years and 23.30 % were >30 years. Mean age was 27.6 + 3.88 years. Table no.1 shows demographic details of study subjects. Out of 133 mothers, 102 (76.69 %) were housewives and 109 (81.95 %) were Hindus. 38 (28.57%) out of 133 mothers were graduated whereas only 8(6%) mothers were illiterate. 41.35% were migrated from other places.

Table 1: Socio-demographic distribution of study subjects.

Parameter (N = 133)	Mean $\pm$ S.D./ Frequency (%)
Age in Years	27.6 $\pm$ 3.88 (20-37)
Religion	Hindu 109 (81.95%) Non- Hindu 24 (18.05%)
Education	Illiterate 8 (6 %) Primary (1 st -4 th) 4 (3 %) Preparatory (5 th -7 th) 20 (15.03%) Secondary (8 th -10 th) 39 (29.32%) Higher secondary (11 th -12 th) 24 (18.04%) Graduation 38 (28.57%)
Occupation	Housewife 102 (76.69%) Regular salaried 20 (15.03%) Self employed 11 (8.27%)
Migration	Yes 55 (41.35%) No 78 (58.65%)

Table No.2 shows Knowledge of various parameters related to Immunization among mothers. It was seen that, only 55 (41.35%) mothers had knowledge regarding complete schedule of

Immunization, 20 (15.03%) mothers had knowledge regarding availability of optional vaccines, 15 (11.27%) mothers had knowledge regarding schedule of booster vaccines. 41.35 % mothers could tell at least the age for vaccinations from birth to 5 years. (88.7%) mothers had knowledge about contraindications before giving vaccine of which 57% mothers told fever as the main contraindication, 91.72% mothers had knowledge regarding adverse events after immunization of which (60%) mothers told fever as the main AEFI. 93.70% mothers were using cold fomentation to prevent local adverse effects of immunization. Though 96.24% of mothers carried Immunization Card, many mothers didn't know its content. Only 32.35% mothers had knowledge regarding difference between vaccines given orally and from them only 9.02% mothers could tell the exact schedule & total number of doses of vitamin A.

Table 2: Knowledge of various parameters related to Immunization among mothers.

Sr.No.	Parameter of Knowledge regarding	Number of Mothers (n)	Percentage (%)
1	Complete schedule of vaccination	55	41.35
2	Availability of optional vaccines other than routine vaccine	20	15.03
3	Booster doses schedule	15	11.27%
4	Contraindications to live vaccines	118	88.7%
5	Adverse Events Following Immunization	122	91.72
6	Difference between Oral polio vaccine and Vitamin A given orally	43	32.35
7	Schedule & total number of doses Vitamin A	12	9.02
8	Importance of Immunization card	128	96.24

Table No.3 shows different sources of information related to immunization of children among mothers. ASHA was the most common source (44.36%) of information for mothers, followed by ANM(18.04%), Government doctors(16.54%) and Anganwadi workers(10.52%).

Table No.3: Sources of information related to immunization of children among mothers.

Source of Knowledge	Number of Mothers (n)	Percentage (%)
ASHA	59	44.36
ANM	24	18.04
Anganwadi Workers	14	10.52
Govt. Doctor	22	16.54
Relatives	05	3.74
Self	06	4.51
Friends	03	2.25
Total	133	99.99

It is seen from table no.4 that, mostly those mothers who were graduated or educated till secondary and higher secondary school were having knowledge about schedule of Immunization. The association between mother's education and their knowledge regarding schedule of immunization was statistically highly significant ($p=0.000027$)

Table No.4: Association between mother's education and their knowledge regarding schedule of immunization

Mother's Education	Knowledge about schedule of Immunization			
	Yes		No	
	No.	%	No.	%
Illiterate	0	0	8	6.01
Primary (1 st -4 th)	1	0.75	3	2.25
Preparatory (5 th -7 th)	1	0.75	19	14.28
Secondary (8 th -10 th)	16	12.03	23	17.29
Higher secondary (11 th -12 th)	11	8.27	13	9.77
Graduation	26	19.54	12	9.02
$\chi^2=28.66$ P-value=0.000027 (significant)				

It was seen from table no.5 that, out of 102(76.69%) Housewives, 36(35.29%) were having knowledge about Schedule of Immunization followed by 4(36.36%) out of 11 self-employed mothers followed by 15(75%) out of 20 Regular salaried mothers. Association between mother's occupation mode and knowledge about schedule of Immunization was statistically significant ($p=0.004$).

Table No.5: Association between mother's occupation and their knowledge regarding schedule of immunization

Mother's Occupation	Knowledge about schedule of Immunization			
	Yes		No	
	No.	%	No.	%
Housewives (102)	36	35.29	66	64.70
Self Employed (11)	4	36.36	7	63.63
Regular Salaried (20)	15	75	5	25
$\chi^2=10.99$ P-value=0.004 (significant)				

DISCUSSION

In present study 76.69 % mothers were in age group of 20-29 years and 23.30 % were >30 years. Mean age was 27.6 ± 3.88 years. Rahul Sharma et.al.(2008) ⁽⁶⁾ conducted a study in which age of 682 respondents ranged between 11 and 77 years, the median age being 30 years. Nearly two-thirds (67.0%) of them belonged to the age group of 21-40 years, while 13.3% were below 21 years and 19.6% were above 40 years. Rachana Kapoor et.al.(2010) ⁽²⁾ conducted a study in which 73 % were in age group of 21-30 years. Mean age of the respondents was 28.4 years. In the present study, out of 133 mothers, 102 (76.69 %) were housewives and 109 (81.95 %) were Hindus in the present study. In a study conducted by Rachana Kapoor et.al.(2010) ⁽²⁾, 72% of the respondents were housewives and 65% of them were Hindus. Rubleen Kaur et.al.(2018) ⁽⁷⁾ conducted a study in which 85.3% mothers were housewives and rest were working. These findings are similar to present study. In the present study 38 (28.57%) mothers were graduated whereas only 8(6%) mothers were illiterate and 4(3%) mothers had finished primary school. In a study conducted by Rahul Sharma et.al.(2008) ⁽⁶⁾ 95 (13.9%) mothers were illiterate, 15.8% had finished primary school, 39.6% had done middle or high schooling, and 209 (30.6%) were graduates. These findings are similar to present study. In the present study it is seen that, only 55 (41.35%) mothers had knowledge regarding complete schedule of Immunization, 20 (15.03%) mothers had knowledge regarding availability of optional vaccines, 15 (11.27%) mothers had knowledge regarding schedule of booster vaccines. Rahul Sharma et.al.(2008) ⁽⁶⁾ conducted a study in which 252 (37.0%) respondents correctly knew the day of Routine Immunization whereas 176 (25.8%) gave a wrong answer while the remaining 37.2% gave no answer. In the present study, ASHA was the most common source (44.36%) of information related to Routine Immunization for mothers, followed by ANM(18.04%), Government doctors(16.54%) and Anganwadi workers(10.52%). In a study conducted by Rachana Kapoor et.al.(2010) ⁽²⁾, Anganwadi Worker was the main source of information 47 (47%) of knowledge of respondents about VPD's. Rubleen Kaur et.al.(2018) ⁽⁷⁾ conducted a study in which all the women had heard about vaccination either from dispensary/hospital (80.7%) or from TV(19.3%). Dr. Sanaa M. Ahmed et.al. (2013) ⁽⁸⁾ conducted a study in which more than half of mother's sources of information for vaccination were T.V (54.6%) followed by nurses of the MCH (32%) whereas (45.4 %) mothers gained information for time of vaccination from street advertise and (31.9%) from birth certification. In the present study it is seen that, mostly those mothers who were graduated or educated till secondary and higher secondary school were having knowledge or information about schedule of Immunization in children. The association between mother's education and their knowledge regarding schedule of immunization is statistically highly significant ($p=0.000027$). M.M.Angadi.et.al. ⁽⁹⁾ conducted a study in which it was found that the effect of mother's educational status on the immunization status of child was not statistically significant. These findings are different from present study. In the present study, out of 102(76.69%) Housewives, 36(35.29%) were having knowledge about Schedule of Immunization. Out 11 self-employed mothers only 4(36.36%) had knowledge regarding schedule of Immunization whereas out of 20 Regular salaried mothers, 15(75%) had knowledge regarding complete schedule of Immunization. Association between mother's work mode and knowledge about schedule of Immunization was statistically significant ($p=0.004$). Dr. Sanaa M. Ahmed et.al. (2013) ⁽⁸⁾ conducted a study in which the majority of not working mothers 84.6% didn't give

their infants vaccinations at time, with high statistically differences. ($p = 0.01$). Nath et al. (2008)⁽¹⁰⁾ found that the mother's job didn't affect the child's immunization. These findings are different from present study.

CONCLUSION

Most of the Childhood diseases can be prevented by vaccination and Mothers play a pivotal role in it. Therefore, mother's knowledge is very important in preventing those diseases. It is seen from present study that most of mothers were not having knowledge regarding complete schedule of vaccination and it was directly associated with mothers level of education and occupation. Health workers like ASHA play important role in spreading awareness regarding importance of vaccination in Under-five children mothers.

LIMITATIONS

The study included only those mothers who came to Immunization clinic of a Rural Health Training Centre and not mothers attending other public or private centers because of time limitations and feasibility. Hence level of knowledge, awareness and practice can vary in other mothers of under-five children.

RECOMMENDATIONS

There is emerging need to arrange for health education program sessions for mothers of under five Children with main emphasis on importance of vaccination & Vaccine Preventable Diseases (VPDs). The role of RCH clinics and health workers like ASHA, Anganwadi workers as a source of awareness should further be strengthened by giving proper training and capacity building. Audio visual and mass media importance for spreading awareness regarding immunization should be increased. Outreach awareness sessions for mothers for Vaccine preventable diseases and importance of vaccination in children should be conducted as most of the mothers who fall under self-employed category or are housewives can benefit with constant awareness sessions at the doorstep.

REFERENCES:

- [1] World Health Organization. Child Mortality (Under Five years). 28 January 2022
- [2] Rachna Kapoor, Sheetal Vyas. Awareness and knowledge of mothers of under five children regarding immunization in Ahmedabad. Healthline. Volume 1 Issue 1 July-December 2010
- [3] Universal Immunization PDF. Ministry of Health and Family Welfare India. <https://main.mohfw.gov.in/sites/default/files/5628564789562315.pdf>
- [4] Sanyukta Kanwal. Immunization coverage in India - statistics & facts. Statista Journal. Sep 9, 2021.
- [5] Maria Kyprianidou, Eleana Tzira, Petros Galanis, Konstantinos Giannakou. Knowledge of mothers regarding children's vaccinations in Cyprus: A cross-sectional study. Plos one. September 20, 2021 Rehabil Med. 1991;123:127-33.
- [6] Rahul Sharma, Sanjiv K Bhasin. Routine immunization - do people know about it? A study among caretakers of children attending pulse polio immunization in east Delhi. Indian Journal of Community Medicine. Year : 2008 | Volume : 33 | Issue : 1 | Page : 31-34
- [7] Rubleen Kaur, Diksha Jassal, Naveenta Sharma, Kamaljeet Kaur, Sukhjot Kaur, Manjula Thakur, Sushma K. Saini, Madhu Gupta, and Anjali Sharma. Knowledge, attitude, and practice of mothers regarding immunization. Indian J Pharmacol. 2021 Jul-Aug; 53(4): 336-338.
- [8] Dr. Sanaa M. Ahmed, Dr. Tarek A. Abd-El Rahman and Dr. Eman S. Masoed. Mothers' awareness and knowledge of under five years children regarding immunization in Minia city Egypt. Life Science Journal · October 2013
- [9] M.M. Angadi, Arun Pulikkottil Jose, Rekha Udgiri, K.A. Masali, and Vijaya Sorganvi. A Study of Knowledge, Attitude and Practices on Immunization of Children in Urban Slums of Bijapur City, Karnataka, India. 2013 Dec 15. doi: 10.7860/JCDR/2013/6565.3763.
- [10] Nath B, Singh JV, Awasthi S, Bhushan, V, Kumar V, Singh SK. KAP Study on immunization of Children in a City of North India- A 30 Cluster Survey. OJHAS 2008; 7(1): 2-10