

A Study on Knowledge and Attitude Regarding Vaccines among Mothers of Under Five Children attending Pediatric OPD in a Selected Hospital at Mangalore

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Abstract: Immunization has saved the lives of more children than any other medical intervention in the last 50 years. Vaccines are safe, simple and one of the most cost-effective way to save and improve the lives of children. The present study was taken up to evaluate the knowledge and attitude among mothers of underfive, pertaining to immunization coverage. Results of the study revealed that, majority, 289 (96.33%) mothers knew that BCG vaccine prevents Tuberculosis. Only 26(8.66%) mothers were knowledgeable about the measures that can be done if the child has not given DPT. 11 (3.66%) mothers knew that chicken pox can be prevented by varicella vaccine. The study concluded that even though the mothers had good attitude regarding vaccines, but they were unaware of Hib vaccine and rotavirus vaccine.

Key words: Vaccines, knowledge, attitude, mothers, underfive children, pediatric OPD

I. Introduction

“The child is God’s gift to the family. Each child is created in the special image and likeness of God for greater things; to love and to be loved.”

Vaccines work. Immunization has saved the lives of more children than any other medical intervention in the last 50 years. Vaccines are safe, simple and one of the most cost-effective way to save and improve the lives of children worldwide. However, many children in developing countries lack access to vaccines often because they live in hard-to-reach communities and are among the most marginalized members of the community. Vaccines ensure that all children, no matter their circumstances, have a shot at a healthy life

Children in India continue to lose their lives to vaccine-preventable diseases such as measles, which remains the bigger killer. Tetanus in newborn also remains a problem. Diarrhea remains the second major cause of death among children, after respiratory-tract infections. Unhygienic practices and unsafe drinking water are some of its main causes⁴. Immunization saves more than 3 million lives worldwide each year, and it saves millions more from suffering illness and lifelong disability (WHO estimate, 2009).

Before the introduction of routine childhood vaccination, infectious diseases were the leading cause of child’s death globally. Even today these diseases cause suffering and death. Measles, Haemophilus influenza type b (Hib), pertussis and neonatal tetanus being the prominent killers among vaccine-preventable diseases.

II. Materials And Methods

The research approach used in this study was evaluator approach. The research design used in this study was descriptive research design.



Fig:1-Schematic representation of the research design

Variables

In this study knowledge and attitude of mothers regarding vaccines are the dependent variable. This study does not have an independent variable. In this study extraneous variable were mother’s age, number of underfive children, type of family, religion, area of residence, income of the family, educational status and occupation of the parents..

III. Results

The results of the study were organized under the following sections.

Section 1: Description of sample characteristics

Section 2: Assessment of knowledge regarding vaccines

Section 3: Assessment of attitude regarding vaccines

Section 4: Correlate the knowledge and attitude regarding vaccines among mothers of underfive children

Section 5: Association between the knowledge regarding vaccines among mothers of underfive children with selected demographic variables

Section 6: Association between the attitude regarding vaccines among mothers of underfive children selected demographic variables

Section 1: Description Of Mothers According To The Demographic Characteristics.

Table 1: Distribution of samples according to demographic characteristics
n=300

SAMPLE CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
Age in years		
16-20	5	1.7
21-25	107	35.7
26-30	151	50.3
31-35	29	9.7
36-40	8	2.7
Religion		
Hindu	54	18
Muslim	162	54
Christian	84	28
Others	0	0
Monthly family income (in Rs.)		
Equal to or more than 30,375	0	0
15,188-30,374	0	0
11,362-15,187	23	7.7
7,594-11,361	41	13.7
4,556-7,593	158	52.7
1,521-4,555	78	26
Equal to or less than 1,520 Rs	0	0

Type of the family		
Nuclear family	217	72.3
Joint family	83	27.7
Extended family	0	0
Occupation		
Home maker	148	49.3
Daily wages	8	2.7
Private employee	78	26
Self employed	65	21.7
Government	0	0
Residential area		
Urban	223	74.3
Rural	77	25.7

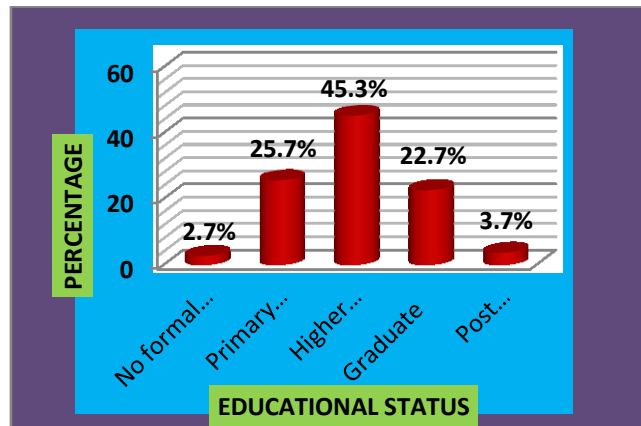


Fig-2: Cylindrical bar diagram showing distribution of samples based on educational status

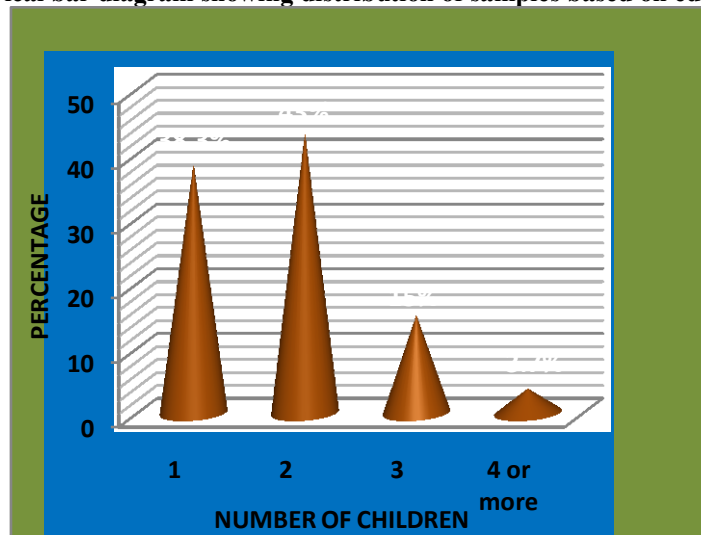


Fig-3: Cone diagram showing distribution of samples based on number of children

Section 2: Assessment Of Knowledge Regarding Vaccines Among Mothers Of Underfive Children

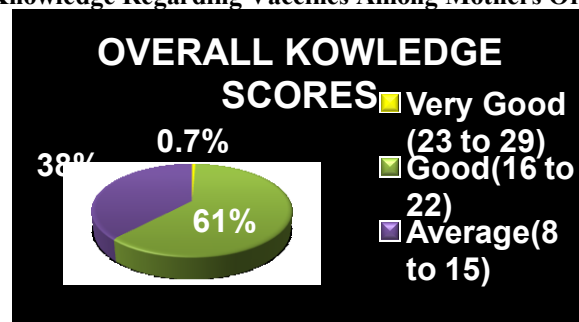


Fig-4: Pie diagram showing distribution of samples according to the overall knowledge scores.

Table -2 Assessment of knowledge about vaccines – Area Wise

AREA		Frequency	Percentage(%)
1. Knowledge about concept of vaccines		300	100
a)	Vaccines are responsible to protect the immune system.		
b)	Vaccines are recommended for members of <5 years.	226	75.33
c)	Get the missed shot at your next visit, if you miss one or more of your child's shots.		
d)	If child has a severe allergic reaction after a previous dose of the vaccine, child be opted out of a vaccination programme.	253	84.33
e)	Combination vaccines are mainly used to increase the potency of vaccine.	248	82.66
f)	If child is HIV infected, live vaccines are contraindicated.		
g)	Delayed growth and development is NOT a significant factor related to vaccination.	206	68.66
		202	67.33
		87	29
Knowledge about BCG		289	96.33
a)	Vaccine which prevents Tuberculosis is BCG		
b)	Vaccines which can be given at birth are BCG, OPV	300	100
c)	BCG vaccine forms nodule at the site of injection .		
d)	After BCG vaccination the papule occurs within or after 3-4 weeks	291	97
		279	93
Knowledge about OPV		275	91.66
Pulse polio programme, is an extra dose of oral polio vaccine which is given in the following months- January and February		204	68
According to the immunization schedule , 5 year old child will get a minimum 7 doses of OPV			
Zero dose of Polio vaccine is given at birth.		261	87
Knowledge about Hepatitis B		266	88.66
Hepatitis B can be prevented by a vaccine .			
Babies of mothers who have positive HBsAg should be advised to be given HB immunoglobulin and HB vaccine within 24 hours of birth		44	14.66
For a neonate with birth weight less than 2000gms , Hepatitis B Vaccine is given at , 30 days after birth		16	5.3
3 doses of Hepatitis B Vaccine is required before 5 years of age.		254	84.66
Knowledge about DPT		259	86.33
The vaccine which prevents whooping cough is DPT.			
Minimal interval between 2 doses of OPV and DPT should be 4 weeks		45	15
DT vaccine can be given in 2 doses with a 6 week interval if the child has not been given the DPT vaccine until 5 years,		26	8.66
Knowledge about measles		280	93.33
Measles vaccine is given at the age of 9 months			
The combination vaccine MMR represents/stands for Measles, Mumps, Rubella		24	8
MMR is given at the age of 15-18 months		267	89
Knowledge about Varicella vaccine		11	3.66
Chicken pox can be prevented by the Varicella vaccine			
Knowledge about typhoid vaccine		1	0.33
Revaccination of typhoid vaccine should be done at 3-4 years			
9. Knowledge about Hib vaccine		0	0
a)	4-5 doses of Hib vaccine is required for children.		
b)	Brain fever and pneumonia can be prevented by, Hib vaccine	5	1.66
Knowledge about Rotavirus vaccine		0	0
Rotavirus vaccine is available to prevent diarrhea			

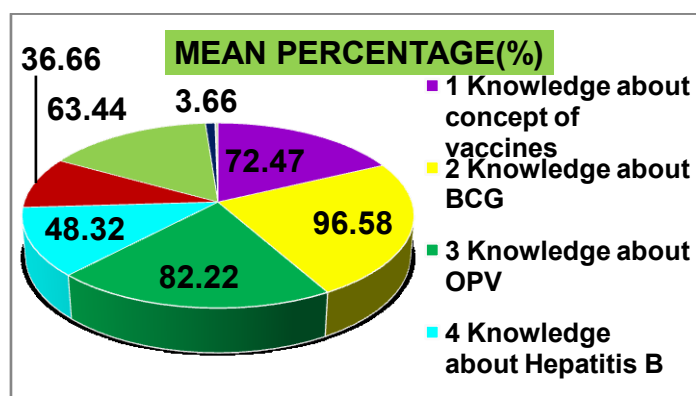


Fig-5: Pie diagram showing mean percentage distribution of mothers knowledge about vaccines- Area wise.

Section-3: Assessment Of Attitude Regarding Vaccines Among Mothers Of Underfive Children

Table-3 Distribution of samples according to overall attitude scores.

n=300

Category	Frequency	Percentage(%)
Very good (80 to 95)	62	20.7
Good (60 to 80)	206	68.7
Average(40 to 60)	31	10.3
Poor (20 to 40)	0	0

Section 4: Correlate The Knowledge And Attitude Regarding Vaccines Among Mothers Of Under-Five Children

Table-4: orrelation between the knowledge and attitude regarding vaccines among mothers of underfive children.

n=300

VARIABLE	MEAN	S.D.	KARL-PEARSON CORRELATION COEFFICIENT (r)	p-VALUE
Knowledge	16.2367	3.05260	0.589	0.001 p<0.01 S
Attitude	71.53	8.31140		

Section 5: Association between the knowledge regarding vaccines among mothers of underfive children with selected demographic variables

Table-5 : Association between knowledge regarding vaccines among mothers of under-five children with selected demographic variables:

n=300

Variables	Knowledge rating				LOS
	Poor (0-7)	Average (8-15)	Good (16-22)	Very good (23-29)	
Age					
15-20	0	4	1	0	0.001 P<0.05 S
20-25	0	68	39	0	
25-30	0	41	109	1	
30-35	0	1	28	0	
35-40	0	0	7	1	
2.Educational status					
No formal education	0	4	3	1	0.001 P<0.05 S
Primary school	0	43	33	1	
Higher primary and high school	0	57	79	0	
Graduate	0	8	60	0	
Post graduate	0	2	9	0	
3.Religion					
Hindu	0	21	33	0	0.021 P<0.05 S
Muslim	0	72	89	1	
Christian	0	21	62	1	
others	0	0	0	0	
4. Monthly family income (in Rs.)					
Equal to or more than 30,375	0	0	0	0	0.005 P<0.05 S
15,188-30,374	0	0	0	0	
11,362-15,187	0	7	16	0	
7,594-11,361	0	6	35	0	
4,556-7,593	0	64	93	1	
1,521-4,555	0	37	40	1	
Equal to or less than 1,520	0	0	0	0	
5. Type of family					
Nuclear	0	77	138	2	0.265 p>0.05 NS
Joint	0	37	46	0	
extended	0	0	0	0	
6. Occupation					
Home maker	0	71	75	2	0.001 P<0.05 S
Daily wages	0	5	3	0	
Private employee	0	11	67	0	
Self-employed	0	26	39	0	
government	0	0	0	0	
	0	0	0	0	
7. Number of children					
1	0	87	28	0	0.001

2	0	24	105	0	P<0.05
3	0	1	42	2	S
4 or more	0	2	9	0	
8. Residential area					0.290
Urban	0	81	141	1	P>0.05
Rural	0	33	43	1	NS

Section 6: Association between the attitude regarding vaccines among mothers of underfive children with selected demographic variables.

Table:6: Association between attitude regarding vaccines among mothers of underfive children with selected demographic variables:

Variables	attitude rating				LOS
	Poor (20-40)	Average (40-60)	Good (60-80)	Very good (80-95)	
1.Age in years					
15-20	0	1	4	0	0.001 P<0.05 S
20-25	0	21	72	13	
25-30	0	9	110	32	
30-35	0	0	16	13	
35-40	0	0	4	4	
2.Educational status					
No formal education	0	0	7	1	0.001 P<0.05 S
Primary school	0	19	44	13	
Higher primary and high school	0	11	105	20	
Graduate	0	1	42	25	
Post graduate	0	0	8	3	
3.Religion					
Hindu	0	2	46	6	0.002 P<0.05 S
Muslim	0	26	99	36	
Christian	0	3	61	20	
others	0	0	0	0	
4.Monthly family income (in Rs.)					
Equal to or more than 30,375					0.018 P<0.05 S
15,188-30,374	0	0	0	0	
11,362-15,187	0	0	0	0	
7,594-11,361	0	1	17	5	
4,556-7,593	0	0	30	11	
1,521-4,555	0	23	111	24	
Equal to or less than 1,520	0	7	48	22	
	0	0	0	0	
5. Type of family					
Nuclear	0	18	150	48	0.215 p>0.05 NS
Joint	0	13	56	14	
extended	0	0	0	0	
6. Occupation					
Home maker	0	24	100	23	0.028 P<0.05 S
Daily wages	0	1	6	1	
Private employee	0	2	54	22	
Self-employed	0	4	45	16	
government	0	0	0	0	
7.Number of children					
1	0	24	78	12	0.001 P<0.05 S
2	0	6	94	29	
3	0	0	26	19	
4 or more	0	1	8	3	
8. Residential area					
• Urban	0	20	161	41	0.097 P>0.05 NS
• Rural	0	11	45	21	

IV. Discussion

Section 1: Description of samples according to the demographic characteristics

The findings revealed that majority ,151 (50.3%) mothers belongs to the age group between 26-30 years and majority,136 (45.3%) mothers have completed higher primary and high school education. The findings were contradictory ,in a similar study done by Rachna Kapoor in Ahmedabad about the awareness and knowledge of mothers of under five children regarding immunization. The study revealed that 73% of the mothers belonged to the age group of 21-30 years. A similar study done by Rachna Kapoor in Ahmedabad about the awareness and knowledge of mothers of under five children regarding immunization, revealed that 29% of the mothers had secondary education. Majority of the mothers 162 (54%) were muslims and 158 (52.7%) had

income between Rs.4,556- Rs.7,593. Results were contradictory in a study done by Rachna Kapoor in Ahmedabad about the awareness and knowledge of mothers of under five children regarding immunization , revealed that most of the subjects 65% belongs to Hindu religion. Most ,217 (72.3%) mothers belongs to nuclear family. Majority , 148 (49.3%) mothers were home makers. In a similar study done by Rachna Kapoor in Ahmedabad about the awareness and knowledge of mothers of under five children regarding immunization ,the results shows that 72% of the mothers were housewives. Nearly half , 129 (49%) mothers had 2 children. Majority, 223 (74.3%) mothers belongs to urban area. In a similar study conducted in New Zealand on mothers knowledge and attitude towards immunization revealed that, majority (500) of the mothers belongs to urban area.

Section 2: Assessment Of Knowledge Regarding Vaccines Among Mothers Of Under-Five Children .

More than half of the of the mothers 184 (61.3%) had **'good'** knowledge regarding vaccines. In a similar study KAP study done by Shamila Hamid in North Kashmir (2011), about "Immunization of children in a Rural Area of North Kashmir , India: A KAP study" revealed that 39% of the mothers knew about OPV and only 1% were aware of protective role of BCG. In this study 99% of the mothers were ignorant about the disease for which BCG is used. 259 (86.33%) mothers knew that vaccine which prevents whooping cough is DPT. Only 26(8.66%) mothers were knowledgeable about the measures that can be done if the child has not been given DPT. Results were contradictory in a similar KAP study done by Shamila Hamid in North Kashmir (2011), about "Immunization of children ", revealed that only 20% of the mothers were knowing the disease prevented by DPT vaccination. None of the mothers were aware about the doses of Hib vaccine . Only 5 (1.66%) mothers knew that brain fever and pneumonia can be prevented by Hib vaccine. An internet based survey on parental attitudes towards immunization was performed by the use of a German internet vaccine forum for lay persons. This study revealed that parents considered Hib vaccine as least important for their children.

Section-3: Assessment Of Attitude Regarding Vaccines Among Mothers Of Under-Five Children Attending Pediatric Opd In A Selected Hospital At Mangalore

In the present study the majority 206 (68.7%) mothers has good attitude. The highest score was 88 and the lowest was 52.

In a similar study done by Shamila Hamid in North Kashmir (2011), about " Immunization of children in a Rural Area of North Kashmir, India: A KAP study" revealed that all the mothers(100%) had good attitude towards immunization.

Section 6: Association Between The Attitude Regarding Vaccines Among Mothers Of Under-Five Children With Selected Demographic Variables.

The study findings shows that there was a significant association of attitude with age, educational status, religion, monthly family income, occupation, and the number of children. The $p < 0.05$, the research hypothesis H3 was accepted, that is, there will be a significant association between attitude of mothers with selected demographic variables.

In a similar study conducted on status of mother's KAP on child immunization in minority areas in Guizhou Province shown that mothers' knowledge, attitudes and practices on childhood immunization were at a low level and influenced by educational background, country's economic level, mother's age, household size and ethnic group.

V. Conclusion

Therefore, the findings of the study shows that the public health nurse have a vital role in creating health consciousness among the people and also to identify children who are at risk by periodic assessment of children. Mothers need education on importance of National Immunization Schedule and adherence to the timings in the given immunization card. Educational campaigns will help to reduce the incidence of Vaccine-Preventable Diseases. Nursing practice optimally enables mothers to examine what is known and make choice that best fit for their children.

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References

- [1]. United Nations Foundation. "All About Vaccines". Available at <http://www.shot-life-allaboutvaccinesapri12012.pdf>
- [2]. "How vaccines prevent disease". Available at: www.valueoptions.com/solutions/2011/08-August/story1.htm
- [3]. Borras E. "Parental knowledge of paediatric vaccination". 2009, May27. Available at www.biomedcentral.com/1471-2458/9/154.
- [4]. Available at www.unicef.org/infobycountry/india-background.html
- [5]. European Immunization Week. "Seven Key Reasons"- World Health Organization Regional Office. Available at www.euro.who.int/-data/assets/pdf-file/...seven-key-reasons.pdf
- [6]. Sharma Suresh. "Immunization coverage in India", Institute of Economic Growth. University Enclave, Delhi, India. Available from URL: <http://www.iegindia.org/workpap/wp283.pdf>
- [7]. Centers for Disease Control and Prevention (CDC). "Progress towards introduction of Hib vaccine in low income countries worldwide". MMWR Morb Mortal Wkly Re. Feb.57(6);2008,Pp:148151. Available at www.cdc.gov/mmwr/preview/mmwrhtml/mm570693.htm
- [8]. Chadha M S,Lole K S, Bora M H, et.al. "Transactions of the Royal Society of Tropical Medicine and Hygiene. ISSN 0035-9203. Available from URL:<http://cat.instr.fr/?Modele=afficheN&EPSIDT=21980430>
- [9]. UNICEF. "The State of World's Children Report". July 2008. Available at www.unicef.org/sowc08/docs/sowc08.pdf
- [10]. UNICEF. "The State of World's Children Report". 2012. Available at www.unicef.org/...sowc2012-main-report-EN-21Dec2011.pdf
- [11]. Patel MM, Parashar UD. "Assessing the effectiveness and public health impact of rotavirus vaccines after introduction in immunization programs".
- [12]. JInfectDis.2009 Nov1; 200 Suppl1: S291. Available URL from: http://www.ncbi.nlm.nih.gov/pubmed/19817612?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel
- [13]. Rachna Kapoor, Vyas Sheetal. "Awareness and knowledge of mothers of under-five children regarding immunization in Ahmedabad". Volume I.Issue 1. JulyDecember2010,Pp:1215.AvailablefromURL:<http://www.iapsmgc.org/oa2.pdf>
- [14]. National Family Health Survey(NFHS-3). 2006.Available at www.rchips.org/NFHS/nfhs3.shtml