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Evaluation of Knowledge and Attitudes Towards Optional and National Immunization Programme Vaccines Among Mothers Delivering at a Tertiary Care Centre in Dehradun

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Abstract

Background- The future of any nation or community belongs to the children. This fact has therefore led to the focus of public health on reducing mortality and morbidity to nurture, preserve, and ensure the continuity of the human race.

Materials and Methods – The present study is descriptive cross-sectional study which was carried out on mothers' knowledge & attitude regarding immunization. The study design was chosen so as to provide snapshot of the knowledge and attitude of mothers' regarding immunization.

Results – 80.7% mothers there was no need for vaccination against seasonal influenza. When questioned about breastfeeding after immunization; 46% said baby could be fed immediately and according to 54% breastfeeding should be held up to 2-3 hours post vaccination.

Conclusion – Low maternal literacy and knowledge regarding vaccine and immunization schedule, poor socio-economic status and residence in rural areas are associated with low immunization coverage.

Introduction

The growth and development of children is a long-term contribution of country as a whole. The key to attain the goal of health for all primary health care emphasizes on the preventive principles.Prevention of disease is always better than cure. Vaccine is a substance that is introduced into the body to prevent infection or to control disease due to a certain pathogen - a disease- causing organism, such as a virus, bacteria or parasite. The vaccine "teaches" the body how to defend itself against the pathogen by creating an immune response [1].

It is undeniable that vaccines are integral part of health system, which has been proved on the basis of their success in controlling vaccine preventable diseases in several countries in the world. Protection from infectious diseases is one of the greatest benefits that any country can offer to its population [2]. Since Edward Jenner demonstrated the value of immunization in 1792, vaccination has increasingly become a key strategy for the prevention and control of infectious diseases globally [3]. The Centers for Disease Control and Prevention (CDC; 1999) ranked immunization at the top of the ten most significant public health achievements of the 20th century.Immunization is a high priority area in care of infants and children. High Immunization rates have almost eliminated many infectious diseases which used to decimate sizable of the population for countries.

Immunization is the process of conferring increased resistance to an infectious disease by means other than experiencing the natural infection. Typically, this involves exposure to an antigen designed to fortify the person's immune system against that antigen or similar infectious agent (active immunization). Immunization also can include providing the subject with protective antibodies developed by someone else or other organism (passive immunization). [4]

Aims & Objective

To assess the knowledge and attitude amongst the mothers in relation to immunization.

Material and Methods

The study was carried out at Shri Guru Ram Rai Institute of Medical and Health and sciences (SGRRIM&HS), a tertiary hospital in Dehradun (Uttarakhand). The study population comprised of post-partum mothers who delivered at hospital during the study. Around 1100 mothers were recruited in the study. These include socio demographic factors such as maternal age, parity, education, literacy, type of family, maternal occupation and religion.

Results

Frequency and percentage of all demographic characteristics like age, area of residence, education,occupation,income,type of family,parity and religion are represented in table 1.Out of 1106 mothers interviewed majority of them were in the age group of 26-30 years (40.1%) & 18 % mothers were of age more than 31 years. Around 55.1 % belonged to rural areas and rest belongs to urban area (44.9%). The proportion of females who received primary level of education were 25.5 %, where as 20.5 % were illiterate;18% had received matric level of education, post-graduate was 5.8% only.Majority of them lived in joint family comprising 59.2 % .48.2% were living independently.Family income of majority (37.8%) was falling under the range of up toRs 10,000. Majority of women in our study are housewives which constituted 55.5% .60.2% mothers in our study were primigravida. Majority of females in study were Hindu by religion; accounting for 76.3%, Muslim were 15.2%5.2% were Sikh and around 3.3% Christians.In our study majority (94.7%) of mothers believed that immunization will keep their child healthy and 93.1 % knew that vaccine will prevent their child from disease and around 86.2% knew vaccination will prevent children from some infectious disease and its complications.

78.4% were aware that first dose in vaccination is given at birth. Although majority of mothers (46%) did not have basic education, still 60% were aware about vaccine against polio. 62.6% knew that not all vaccine cause fever. 47.2% mothers knew that vaccine prevents from certain diseases. 32.6% believed it contributes to increased life expectancy. 19.5% believed that immunization keeps baby healthy and 7% hand no idea regarding role of immunization towards baby's health. 68.5 % had no knowledge regarding age related vaccine under NIS.83% mothers had no idea about any vaccine which could prevent cervical cancer. When asked regarding optional vaccine (HPV vaccine); Questions were asked to assess attitude of mother regarding immunisation.68.4 % knew that vaccine is given from birth. However, majority (88.1%) mothers believed that child should not be vaccinated if he/she has fever.75.9% mothers believed no vaccination to be given if child has common cold and 87% said that no vaccination should be given if child has diarrhoea.

Although mother's education was low 89.2% admitted that vaccination is not prohibited in their respective religion and 86.5% said that there is no cultural belief regarding immunization. 52.8% agreed that child should be vaccinated during immunization campaign.According to 53.1% there was no need to follow immunization schedule.72.7% mothers agreed that immunization is important and 76.9% believed that vaccine for child immunization is safe. According to 80.7% mothers there was no need for vaccination against

seasonal influenza. When questioned about breastfeeding after immunization; 46% said baby could be fed immediately and according to 54% breastfeeding should be held up to 2-3 hrs. post vaccination. According to 61.7%; hot fomentation would help if there is any hardening or redness at injection site or consult a doctor. 95.6% mothers said that if any vaccine was missed it could be given afterwards or consult a doctor.

Table 1: Showing distribution of demographic Data

VARIABLES		Frequency: N=1106	Percentage
Age	<20	50	4.5
	21-25	413	37.3
	26-30	444	40.1
	≥31	199	18
Area of residence	Rural	609	55.1
	Urban	497	44.9
Mother's Education	Illiterate	227	20.5
	Primary	282	25.5
	High school	199	18
	Intermediate	200	18.1
	Undergraduate	134	12.1
	Postgraduate	64	5.8
Mother's occupation	House wife	614	55.5
	Business (shops)	150	13.6
	Service (private/govt)	142	12.8
	Other	200	18.1
Family income	Up to 10,000	418	37.8
	Up to 20,000	343	31
	Up to 30,000	238	21.5
	≥ 40,000	107	9.7
Type of family	Nuclear	451	40.8
	Joint	655	59.2
Parity	Primigravida	666	60.2
	Multigravida	440	39.8
Religion	Hindu	844	76.3
	Muslim	168	15.2
	Sikh	57	5.2
	Christian	37	3.3

TABLE 2 - DISTRIBUTION OF POSTNATAL MOTHERS AS PER THEIR KNOWLEDGE REGARDING IMMUNISATION

Knowledge	Yes	No
Does immunization keep your child healthy	1047(94.7)	59(5.3)
Does vaccine prevent disease?	1030(93.1)	76(6.9)
Does routine vaccination prevent children from some infectious disease and it complications?	953(86.2)	153(13.8)
Is first dose in vaccination given at birth?	867(78.4)	239(21.6)
Most disease against which children are vaccinated occurs during first year of life?	412(37.3)	694(62.7)
Can Child become infected after immunization with disease against which he/ she was vaccinated?	402(36.3)	704(63.7)
Do you know any vaccine which prevents polio?	664(60.0)	442(40.0)
Do you know any vaccine which prevents cervical cancer?	178(16.1)	928(83.9)
Do immunizations prevent jaundice?	187(16.9)	882(83.1)
Do you know about age related optional vaccination?	310(28.0)	796(72.0)
Do all vaccines cause fever?	414(37.4)	692(62.6)
Do you know regarding age related vaccination under NIS?	348(31.5)	758(68.5)
Why immunization is given to baby?	Protect from disease/Increase Life Expectancy/Become Healthy	Don't know
	1099(99.4)	7(0.6)

TABLE- 3 DISTRIBUTION OF POSTNATAL MOTHERS AS PER THEIR ATTITUDE REGARDING IMMUNISATION

Attitude	Yes	No
Should vaccination be given from birth?	756(68.4)	350(31.6)
Is it recommended to vaccinate children during immunization campaign?	584(52.8)	522(47.2)
Is child immunization prohibited in religion?	120(10.8)	986(89.2)
Is there any need to follow immunization schedule?	519(46.9)	587(53.1)
Should child with fever be vaccinated?	132(11.9)	974(88.1)
Is Child immunization important?	804(72.7)	302(27.3)
Vaccines for child immunization are safe?	851(76.9)	255(23.1)
Should child with common cold be vaccinated?	230(20.8)	876(79.2)
Can child with diarrhoea be vaccinated?	106(9.6)	1000(90.4)
Is it recommended to vaccinate children against seasonal influenza?	213(19.3)	893(80.7)
Is there any culture belief regarding not giving vaccine?	149(13.5)	957(86.5)
If you miss any vaccine what should you do?	Can Be Given After Wards / Consult Doctors	No Need To Give / Don't Know
	1061(95.9)	45(4.1)
What would you do if you see redness/hardening at site of injection?	Consult Doctors / Hot Fomentation	Cold Fomentation / Nothing
	683(61.7)	423(38.3)
After vaccination for how much time do you have to hold breastfeeding?	Can Be Fed Immediately	After 2-3 Hr / 6 Hr / 1 Day
	509(46.0)	597(54)

Discussion

The aim of the study is to assess the effectiveness of structured teaching programme on level of knowledge attitude regarding immunization among mothers of under 5 children.Worldwide many studies have replied on KAP's of mothers regarding children immunization and showed that successful immunization depends upon parents positive attitude and knowledge**[5][6].**Despite all efforts taken by government of India and international agencies, the proportion of unimmunized and partially immunized children remain quite high and we lag far behind the National socio demographic goal of 85% coverage of all the vaccines. There is an urgent need to increase the coverage of UIP vaccines. This necessitates the information on the exciting knowledge, attitude and practices of the society with respect to different aspects of immunization. This study therefore provides us an important insight into the existing level of awareness among the people and the areas that need attention [**7].**

The findings revealed that majority (40.3%) mothers to age group of 26-30, and majority (43.5%) mothers have completed higher primary and high school education. The findings were similar to study done by MsMereana and Ms Sujatha R in selected hospitals of Mangalore about knowledge and attitude regarding vaccines any mother of under five children with 50.35 mothers in age group of 26-30 years and 45.3% educated mothers**[8]** but similar study done by Rachana Kapoor in Ahmedabad about the awareness and knowledge mother of under 5 children regarding immunization, in this study findings contradicted it found that 73% of the mothers belong to 21-30 years. Majority of mothers were Hindu (76.3%) and majority had income up to 10,000. This was similar to the study done by Rachana Kapoor in Ahmedabad about the awareness and knowledge of mothers of under-5 regarding immunization, which revealed most of the subjects, 65% belongs to Hindu religion. But contradicted to similar study done in Mangalore which revealed most of the mothers (54%) belong to Muslim religion, however income status in both the studies was similar and majority being up to 10,000. Most, 655(59.2%) mother belongs to joint family, this contraindicated to similar study done in Mangalore on knowledge and attitude regarding vaccine any mothers of under 5 where 72.3% belong to nuclear family.Majority 55.5% (614) were housewives, which was similar to study done in Mangalore on knowledge and attitude regarding to under five children showed that majority 72% were housewives.In our study 609(55.1%) mothers belong to rural areas which contradicted to a similar study done in Mangalore by Sujatha R on knowledge and attitude of mothers regarding immunization **[8].**In our study knowledge of mothers was assessed based on the questionnaire. When asked about first dose of vaccination at birth; 867(78.4%) of respondents correctly responded as compared to studyShiferawBirhaun et al where about 90% respondents correctly mentioned the time when infant should begin vaccination programme(i.e just after birth) **[9]**and also majority knew in a similar study done in North Kashmir India. All mothers had knowledge that immunization is important for the child and all of them knew that immunization is to be started at birth. In contrast to mothers in study done in Ambo Ethiopia only6.7% of respondents knew the exact time when infant should begin immunization.In our study majority (93.1%) 1030 mothers know that vaccine prevent disease compared to a study done to assess and correlate knowledge, attitude and practices of vaccination among mothers with educational status in a teaching hospital in South India **[10]** only 60.13% mothers said that they were aware of the use of vaccination in which majority 91.86% opted for correct answer that vaccination prevent illness. In contrast to a study done in Ethiopia, Shiferaw Birhaun et al only 23.8% of mothers correctly knew the objective of immunization(i.e to prevent specific disease and killer disease) also a study done in Pakistan, Nighat Nisar et al reported limited knowledge of mothers about vaccine preventable disease **[6].**

In our study, 953(86.2%) mothers knew that routine immunization prevent children from some infectious disease and its complications, finding were similar to study done in Iraq Qutaiba B Al lela et al Are parents' knowledge and practice regarding immunization related to pediatric immunization compliant? In which most parents were in favor of immunization for children and thought that routine vaccination would prevent infectious disease in future, where more than 83% gave the correct answer**[11].**

Conclusion

- Our study revealed that majority of mothers knowledge regarding basic immunization was satisfactory but was not complete as 94% mothers know that immunization keep child healthy but they have poor maternal knowledge about the adverse event of immunization.
- In our study knowledge of mothers regarding national immunization schedule was not satisfactory and only 60% of the mothers were able to answer that poliomyelitis is prevented by polio vaccine.
- Many mothers don't know about the age related optional vaccines, as a results they miss the optional vaccines for their children low literacy level of mothers is a matter of worry.
- In our study the knowledge of the mothers regarding HPV vaccine was quit low. Efforts should be made to educate mothers regarding HPV vaccinations. Based on our study and educational programme should be emphasis on the safety and efficacy of the vaccine, benefits of vaccines among the adolescent girls and link between HPV vaccine and cervical cancer.
- The attitude of the mothers regarding immunization was also not good which can be further improved by imparting the awareness regarding immunization. Mothers need to be educated on the importance of national immunization schedule and adherence to the timing of immunization.

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