

Original Research Article

Knowledge, attitude and practice among mothers of under five children regarding immunization in a clinic of a private medical college and hospital, Bhubaneswar

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Received: 25 July 2023

Revised: 09 August 2023

Accepted: 13 September 2023

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ABSTRACT

Background: Immunization stands as a vital bulwark against vaccine-preventable diseases, especially for children under the age of 5. Cross-sectional study into the knowledge, attitude, and practices (KAP) of mothers concerning childhood immunization and the interplay of sociodemographic factors on immunization practices required.

Methods: A descriptive cross sectional study was conducted in an immunization clinic at a private medical college and hospital in Bhubaneswar for a total period of 4 weeks. A population purposive sampling technique was used for this study enlisting 70 mothers with children under 5 years old.

Results: The majority of mothers had attained secondary-level education, and significant proportion being homemakers (75.7%). An overwhelming percentage (97.5%) of mothers exhibited a positive attitude towards vaccination, considering it beneficial and safe for their children. However, some exhibited gaps in knowledge concerning the significance of vaccinating from the day of birth and vaccine-related contraindications (24.29%). Crucially, 97.5% of the children had received all mandatory childhood vaccines, and all mothers adhered to the vaccination schedule outlined in the NIS. Socio-demographic factors, such as maternal age and literacy status, are determinants of knowledge about immunization. Younger mothers and those with higher educational attainment were more likely to possess a better understanding of childhood immunization.

Conclusions: This study underscores the pivotal role of maternal KAP in ensuring successful immunization for children under 5. The findings advocate for targeted awareness campaigns and interventions aimed at enhancing maternal knowledge, particularly among younger and less educated mothers.

Keywords: Immunization, KAP, Mothers, Under-5

INTRODUCTION

Now a days controlling several diseases has become an important concern. On-time vaccination helps provide

immunity against potentially life-threatening disease. They also help lower child's risk of infection. They work with body's natural defenses to develop protection against a disease. Various reports states that vaccine preventable diseases are still a leading cause of death in under 5 years

of age. It is estimated that around 22.6 million infants were partially protected.¹ Parents' knowledge, attitude, and practices regarding immunization are the most important factors that could contribute to their immunization decisions.² Thus, parents' decisions about immunization are very crucial for enhancing the immunization rate and compliance. In order to have greatest protection to risk, all children under 5 years of age must be vaccinated as per National Immunization Schedule (NIS). Vaccinating a child with all the vaccines would significantly reduce the cost of treatment of the disease, morbidity from the disease and therefore would improve the quality of life of the child. An adequate knowledge, attitude and practices (KAP) among their mothers is essential for complete immunization of the child and subsequent protection against vaccine preventable diseases (VPD). There are various factors that influence complete immunization which needs to be probed.

Aim of study were to evaluate knowledge, attitude and practices among mothers of under 5 regarding immunization. Also, to find out association between sociodemographic factors and immunization practices during first five years.

METHODS

After an IEC approval, the study was started. A descriptive cross-sectional study was conducted in the Immunization clinic of a private medical college and hospital, Bhubaneswar between 1st to 28th March 2023 (total period of 4 weeks). A total population purposive sampling technique was used to select 76 participants presenting to the immunization clinic during the study period. After careful selection and exclusion, total 70 participants gave consent to be a part of the study.

Inclusion criteria

Those who gave consent to be a part of the study and mothers of under 5 children were included.

Exclusion criteria

Mothers of very sick children who are not eligible for immunization were excluded from this study.

An Institutional Ethics Committee approval was obtained at the start of the study.

After the mothers were explained about the study and informed consent was taken, a pre-designed, pre-tested close ended questionnaire was used to collect data. The information was recorded according to their response. Percentage, chi-square and Fisher's exact test were applied to know the association between variables. A p value less than 0.05 was considered as statistically significant.

RESULTS

The cross sectional study on 70 mothers was conducted and their responses were recorded. Table 1 shows the socio-demographic profile of study participants.

Table 1: Socio-demographic profile of study participants (n=70).

Characteristics	No.	Percentage
Mother's age (in years)		
18-23	25	35.7
24-29	26	37.1
30-35	12	17.2
>35	7	10.0
Mother's education		
Illiterate	11	15.7
Primary	5	7.2
Secondary	11	15.7
High school	19	27.2
Senior secondary	12	17.1
Graduate or higher	12	17.1
Job		
Housewife	53	75.7
Student	5	7.2
Employed	12	17.1

Mean age is 26.48 years (± 5.6). The box and whisker plot showed minimum value =17.5 and maximum value =40.5. Majority of the mothers 54 (77.14%) were educated upto secondary and beyond while 15.7% were illiterates. More than three-fourths (75.7%) were housewives.

Table 2: Source of information among participants (N=70).

Source of information	No.*	Percentage
PHC	48	68.6
Friends and relatives	11	15.7
PHC and books	7	10.0
Others	4	5.7

*multiple response

Regarding the source of information for the mothers about vaccination is shown in Table 2. It is a multiple response table (total percentage more than 100%). The most common source of information was primary health centre (68.6%) followed by friends and relatives (15.7%).

There were 58 (82.86%) mothers who responded as "yes" to the question that whether they have any knowledge about immunization. Though they answered that they have knowledge about vaccines, but on enquiring with specific knowledge domain questions, some were not aware about its importance for child from first day of birth (24.29%). There were 77.14% mothers who knew vaccines help to prevent infectious diseases and can keep

their children healthy and rest did not. Mothers (45.71%) were not sure whether diphtheria, pertussis, tetanus and hepatitis B could be prevented with vaccination. Majority were either not sure (44.28%) or did not know (21.43%)

that low fever, mild diarrhoea and mild malnutrition are not contraindication to vaccination. Most of them were not aware about side effects of vaccine (21.43% and 51.43%) (Table 3).

Table 3: Mothers' knowledge regarding childhood vaccination.

Knowledge	Yes		No		May be		Total	
	No.	%	No.	%	No.	%	No.	%
Is vaccination important for child from 1 st day of birth?	53	75.71	4	5.72	13	18.57	70	100
Does vaccination prevent infectious diseases?	54	77.14	1	1.43	15	21.43	70	100
Can vaccine keep children healthy?	54	77.14	1	1.43	15	21.43	70	100
Can DPT, hepatitis b be controlled through vaccines?	36	51.43	2	2.86	32	45.71	70	100
Are malnutrition, low fever and diarrhea contraindicated to vaccine?	24	34.29	15	21.43	31	44.28	70	100
Do you know vaccine related fever and pain?	41	58.57	15	21.43	14	20	70	100
Some vaccine can cause cramps and rashes?	32	45.71	36	51.43	2	2.86	70	100

Table 4: Mothers' attitude regarding childhood vaccination (N=70).

Attitude	Yes		No		Maybe		Total	
	No.	%	No.	%	No.	%	No.	%
Do you think vaccination is beneficial?	69	97.5	0	0	1	2.5	70	100
Do you think it is safe for your child to be vaccinated?	69	97.5	0	0	1	2.5	70	100
Do you support compulsory vaccination programme designed by the govt.?	63	82.5	3	7.5	4	10	70	100

Table 5: Mothers' practices regarding childhood vaccination (N=70).

Practice	Yes		No		Total	
	No.	%	No.	%	No.	%
Has your child received all mandatory childhood vaccine?	65	97.5	5	2.5	70	100
Do you follow the compulsory vaccination programme listed in the vaccination schedule?	65	100	5	0	70	100
Do you look for other vaccine available for your child?	37	75	33	2.5	70	100

Table 6: Association of socio-demographic factors and knowledge of mothers about immunization.

Socio-demographic variables	Knowledge		P value
	Present	Absent	
Age (years)			Chi-square is 16.7732. p-value is .000042(S)
Less than 30	48	3	
More than 30	10	9	
Literacy status			Chi-square is 11.6894. p-value is .002895(S)
Illiterate	7	4	
Upto primary	2	3	
Secondary and above	49	5	
Job			Fisher exact test statistic value is 0.2692 p value is >0.05(NS)
Housewife	42	11	
Employed	16	1	

An overwhelming majority (97.5%) of the mothers had a positive attitude because they believed that vaccination is beneficial and safe for their children. 82.5% of the mothers reported that they will recommend immunization for all and support compulsory vaccination. All (100%) of them said they are totally responsible for immunization of their children (Table 4).

From a total of 70 under 5 children, 97.5% were fully immunized since birth, 75% were also looking for vaccines outside the schedule. All of them (100%) follow the vaccination programme as per NIS (Table 5).

There were 58 (82.86%) mothers who said they had knowledge about routine immunization. However, mothers' age had a statistically significant role in presence of knowledge about immunization. Literacy status also had a statistically significant ($p=0.002895$) association with presence of knowledge. The job of the mothers did not have a statistical significant association with knowledge (Table 6).

DISCUSSION

After obtaining an IEC approval, a study involving 70 mothers of under 5 children was conducted in the immunization clinic of a private medical college and hospital, Bhubaneswar. All the respondents were currently married and majority of respondents (85.2%) lived in an urban area. This study showed 37.1% (highest) belonging to 24-29 years, which is not similar to a Saudi Arabia study that is 37.8% who are 35 years and older⁽³⁾. In our study majority i.e. 77.14% were educated to secondary school and out of them 22.22% had graduation degree while it was higher in Saudi Arabia study, 68.1% had bachelor degree or higher.³ In the same Saudi Arabia study,¹ 98.5% mothers knew that vaccination is important for their child whereas in the present study fewer mothers (75.71%) knew that vaccination is important from day of birth.. This could be due to lower literacy status in this study. In Saudi Arabia, 45.4% of study participants knew that fever and diarrhea are not contraindicated where as in our study it was 34.29% knew that malnutrition, low fever and diarrhea are not contraindication for vaccination.³ This may be due to lack of awareness and lower literacy.

In a study in Bhopal, majority of the mothers (83.6%) showed positive attitude towards getting their child immunized, where as in our study it was 97.5%.⁴ In our study 2.5% didn't receive mandatory vaccine, while it was 1.5% in Saudi Arabia study.³ Association between age and vaccination practices was found to be statistically not significant ($p=0.2875$) in the present study, though it is found to be positive in a study done in Pondicherry ($p=0.000$).⁵ Literacy status in the current study was also

significant with knowledge about vaccination whereas job was not significantly associated with knowledge.

CONCLUSION

For successful immunization of under 5 children good mother's knowledge, attitude and practice are essential. The gaps in KAP should be minimized through awareness campaign among mothers and close relatives so that vaccine related mortality is minimal.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Sarangi L, Panigrahi R, Samantara C, Acharya M, Sahoo SP, Gupta M, et al. Knowledge, attitude and practice among mothers of under five children regarding immunization in a clinic of a private medical college and hospital, Bhubaneswar. *Int J Community Med Public Health* 2023;10:3733-6.