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Original Research Article

A study to assess the parent's knowledge and attitudes on childhood immunization

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ABSTRACT

Background: Immunization has greatly reduced the burden of infectious diseases. Immunization prevents illness, disability and death from vaccine-preventable diseases including diphtheria, measles, pertussis, pneumonia, polio, rotavirus diarrhea, rubella and tetanus. Improving childhood vaccination coverage and timelines is a key health policy objective in many developing countries. Parent's knowledge and their attitudes towards Immunization are likely to influence uptake.
Methods: This is a descriptive study using a pre-tested, self-administered questionnaire pertaining to knowledge, attitudes of parents regarding immunization. The questionnaire was given to parents whose children were being immunized at a health center within a one month period.
Results: About 90% of parents have the positive attitude towards immunization and 73% of parents have good knowledge about Immunization.
Conclusions: Diseases like pneumonia, measles, pertussis that can be prevented by vaccination continue to be major contributors. Knowledge and attitudes of parents and socio cultural factor can influence the immunization status of the children.

Keywords: Parents, Knowledge, Attitude, Practice, Children, Immunization status, Socio-demographic factors

INTRODUCTION

Immunization has greatly reduced the burden of infectious diseases. Immunization prevents vaccine-preventable diseases including diphtheria, pertussis, tetanus and childhood tuberculosis. Immunization is one of the most cost effective public health interventions and largely responsible for reduction of under5 mortality rate.[1] However, vaccine preventable diseases (VPDs) are still responsible for over 5 lakh deaths annually in India. This underlines the need of further improvement.[2]

Improving childhood vaccination coverage is a key health policy objective in many developing countries. Parents knowledge and their attitudes have significant influence on immunization.

Increasing immunization coverage to above 80%, cuts the chain of disease transmission and provides the herd immunity in that area. To achieve this goal a full course of potent vaccines should be given at the right time.[3]

Acceptance of any vaccination program is largely dependent on knowledge and attitude of the mothers, provision of the services, density of health workers and the opportunity costs incurred by parents. Socio-cultural attitudes of the community are important for success of any programs.[3]

Since socio-economic, educational and cultural backgrounds differ by region, findings from one population cannot be generalized. Thus, it is necessary to do research in to knowledge and attitudes of general population to improve services and to keep up the ongoing services. Hence, it is needed to undertake the current study to gain good understanding of the knowledge and attitude about immunization and also socio-demographic factors affecting immunization status.[3]

METHODS

A community based cross sectional study was conducted in parents attending immunization clinic of Pulianthope urban health centre between October and December 2017 using semi structured questionnaire. Minimum sample size required is calculated as 150 taking overall knowledge about immunization as 70% from previous studies.

Questionnaire consists of 2 parts with Part 1 comprising of Socio demographic details and Part 2 comprising of parents' knowledge and attitudes based questions. The data obtained through the questionnaire was subjected to analysis in SPPS Software 16 and interpretation was done.

Ethical approval was obtained from the Institutional Ethics committee of Madras Medical College, Chennai.

RESULTS

Majority of the participants (46%) belonged to the age group of 31-40 years. The participants are approximately equal in both sexes with 52% males and 48% females. More than 62% of the participants have studied higher secondary or degree. About 40% are employed in semi-skilled work and 30% of the participants are unemployed. Majority of the parents, about 65% have two children (Table 1).

Table 1: Sociodemographic variables of study population.

S. no	Sociodemographic variables	Type	Number	Percentage (%)
1	Age group (in years)	<20	1	0.7
		20-30	58	38.7
		31-40	68	45.3
		>40	23	15.3
2	Sex	Male	78	52
		Female	72	48
3	Education	Illiterate	3	2
		Primary	5	3.3
		High school	48	32
		Higher secondary	37	24.7
		Degree/diploma	57	38
4	Monthly income	<5000	2	1.4
		5-10000	70	46.6
		>10000	78	52
5	Occupation	Unemployed	45	30
		Unskilled	17	11.3
		Semiskilled	60	40
		Skilled	28	18.7
6	Parity	One	40	27
		Two	97	64.7
		Three	13	8.3

Table 2: Knowledge assessment of parents.

Knowledge questions	Yes N (%)	No N (%)	Don't know N (%)
K1- Routine vaccination prevent children from some infectious diseases and its complications	90	2	8
K2- First dose in vaccination given at birth	86	4.7	9.3
K3- Most diseases against which children are vaccinated occur during the first years of life	72.7	9.3	18
K4- Multi-doses of the same vaccine given at intervals are important for child immunity	72	15.3	12.7

Knowledge questions	Yes N (%)	No N (%)	Don't know N (%)
K5- More than one vaccine at the same time have no negative impacts on child immunity	57.3	12.7	30
K6- Is it important to vaccinate children during immunization campaigns	68	17.3	14.7
K7- It is recommended to vaccinate children against seasonal influenza	66.7	20.7	12.7
K8- Immunization can cause autism	24.7	38.7	36.7
K9- Common colds, ear infection, and diarrhoea are not contraindications for vaccination	36	28.7	35.7

Table 3: Attitude assessment of parents.

Attitude questions	Agreed N (%)	Not sure N (%)	Disagreed N (%)
A1- Child immunization is important	94	1.3	4
A2- Immunization is more beneficial than harmful	94	3.3	2.7
A3- Vaccines for child immunization are safe	91	4	5
A4- Child immunization is prohibited in your religion	16.7	14.7	68.7
A5- Immunization is associated with side effects	36.3	30.3	30.7
A6- Child can become infected after immunization with the disease/s against which he/she was vaccinated	46.7	34.7	18.6
A7- Compliance to immunization schedule is important	90	6.7	3.3
A8- Immunization keep your child health	90	5.3	4.7

Table 4: Sociodemographic variables vs. knowledge.

S.no	Sociodemographic variables	Type	Good	Average	Poor	Significance
1	Sex	Male	52	24	2	X^2- 4.073, p=0.052
		Female	57	15	0	Not significant
2	Education	Illiterate	1	2	0	X^2-9.5, p=0.03 significant
		Primary	3	2	0	
		High school	35	12	1	
		Higher secondary	23	14	0	
		Degree/diploma	47	9	1	
3	Parity	One	28	12	1	X^2-2.3 P=0.8 not significant
		Two	73	23	1	
		Three	8	4	0	

About 73% of the parents have good knowledge about immunisation and associated facts (Table 2).

All the positive questions i.e., a1, a2, a3, a7 and a8 are positively agreed upon by majority of the participants. About 90% of the parents' have the positive attitude toward childhood immunization (Table 3).

It is clear that the education of the parent has an influence on their knowledge and attitude towards immunization and it is statistical significant (Table 4).

DISCUSSION

A total number of 150 parents were included in this study. 90% of parents have the positive attitude towards childhood immunization like child Immunization is important and safe, the most of the parents around 92% have agreed and 34.7% not sure.

Compliance to immunization schedule is important (90% parents have agreed and 6.7% not sure). After immunization with vaccine the children may get the same disease (46.7% agreed and 34.7% not sure).

73% of parents have good knowledge about immunization like routine vaccination prevent child from some infectious disease and its complications (90% agreed and 8% don't know) and first dose in vaccination give at birth (86% agreed and 9.3% don't know). The parents have the misconception about the common cold and ear infection and diarrhea are contraindicated for immunization.

There was statistical significance between immunization status of the children and parents education Level which is in concurrence with the study done by Malkar et al.[4] There is no relation between the Immunization status and sex and parity of the parents. Analysis of the demographic characteristics of the parents participated in the present study showed that the mothers constituted the majority of the sample. Understanding mothers' knowledge and attitudes towards immunization is important, although the father's involvement was shown to be associated with the child's vaccination status. More than half of the parents had higher education.

Assessment of the parents' knowledge in the current study showed variations in responses to questions designed to assess their knowledge on childhood immunization. The majority of them knew that routine vaccination prevent children from some serious infectious diseases and its complication. Most vaccines in the childhood immunization schedule require two or more doses for development of an adequate and persisting antibody response. Only 72% of the interviewees correctly knew the importance of administration of multi-doses of the same vaccine given at intervals for child immunity.

To date there is no scientific evidence that supports parents' fears about combined vaccines causing immune overload. Only 57.3% of the participants knew that the administration of more than one vaccine at the same time have no negative impacts on child immunity. In contrast, in another study quarter of the parents believed that their child's immune system could become weakened as a result of too many immunizations.[5]

During mass immunization a large number of children can be reached, who for a variety of reasons never get immunized through routine immunization or are unable to complete the recommended immunization schedule. In the current study (68%) of the parents agreed with the importance of vaccinating children during immunization campaigns. In other study parents/caretakers perceived vaccines used during mass immunization not to be safe either because they are expired or are deliberately contaminated with harmful agents intended to harm their children.[5]

Current recommendation is to vaccinate all children from 6 months up to 19 years – with particular emphasis on children under the age of 5 year or with chronic illnesses with Influenza vaccines. Nearly 66.5% of the parents knew that vaccination of children against seasonal influenza is important. Parents might be motivated to vaccinate their children if educated about the central role of children in transmitting the infection in households and communities, beside the health and economic burden of contracting influenza.

Generally the administration of vaccines may be associated with common local reactions like pain, swelling, and redness at the injection site. Systemic reactions, including fever, irritability, drowsiness, and rash, may also occur. More than half of the recruited parents strongly agreed or agreed that immunization associated with side effects. In another survey nearly 20% of the interviewed parents considered administration of vaccines are associated with undesirable effect like allergies and asthma.[5] Parents should be educated about these side effects.

The results of the present survey revealed significant association between parents' educational level and knowledge on childhood immunization. Higher educational level, of no doubt, helps the parents to understand the educational messages. This may be explained by the difference in educational level or may be due to variation in the provided health services.

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