



Knowledge of mothers regarding Hib vaccination: A cross sectional survey

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ABSTRACT

Immunization is vital; it protects nearly 3/4th of children against major childhood illness. In the Universal Immunization Program (UIP) only six vaccine preventable diseases are taking into consideration, the epidemiology, cost effectiveness and availability of vaccine in the country. A cross sectional survey was conducted among 100 mothers of under five children, who were recruited using purposive sampling technique from pediatric OPD of a Medical College in Karnataka. Objectives of the study were:- To assess the knowledge regarding Hib vaccination, to determine the association of knowledge of mothers with selected demographic variables and provide an information guide sheet regarding the importance of Hib vaccination. Data collected using a structured questionnaire the split half method was used to test the reliability of the tool. The reliability is obtained as $r=0.92$ for knowledge questionnaire. The findings revealed that; more than half of the mothers 55% had moderate knowledge, 37% had inadequate and only 8% had adequate knowledge; mean knowledge score of 13.19 with standard deviation of 4.16. The mean score per cent attained as 52.7%. There was significant association between knowledge and educational status and also residence of mothers. The study findings pointed out the need for educating the importance of vaccinations and provision of an information booklet.

KEYWORDS : Knowledge, Under Five Children, Haemophilus influenza b [Hib] vaccine, Mothers.

Introduction:

Immunizations have helped children stay healthy for more than 50 years. They are safe and they work efficiently in almost all cases. In fact, serious side effects are no more common than those from other type of medications such as pain killers, antibiotics and steroids. Vaccinations have reduced the number of infections from vaccine preventable diseases by more than 90%, yet many parents still question their safety because of misinformation's regarding the vaccines. Depending on the vaccine, about 1% to 5% of children vaccinated fail to develop immunity. If these children are exposed to that disease, they could get sick. Sometimes giving additional vaccine does will stimulate an immune response in a child who didn't respond to 1 dose; example a single dose of measles protects about 95% of children, but after 2 doses, almost 100% are immune.

Every child has the right to benefit from the appropriate traditional and new life saving vaccinations. Haemophilus influenza b [Hib] vaccine is administered for the child safety against Haemophilus influenza type b bacteria. Hib is one of the major pathogens in acute invasive bacterial infection like pyogenic meningitis, pneumonia, sinusitis, septic arthritis, cellulitis, empyema and epiglottitis in children under five years of age. It may also cause purulent pericarditis, endocarditis, conjunctivitis, osteomyelitis and peritonitis in infants and young children. In neonates Hib manifest as septicemia, pneumonia, respiratory distress syndrome with shock, conjunctivitis, cellulitis, meningitis and mastoiditis. Serotype b is responsible for nearly all episodes of meningitis and most cases of severe pneumonia [1]. There is an increasing consensus among experts that the estimates of Hib pneumonia in India are under estimated. A large percent of Indian children are thought to be high risk due to increasing resistance to antibiotics as well as limited access to health care facilities [2]. WHO recommended Hib vaccine for all children and that the lack of local surveillance data should not be a reason for delay of introduction. "In view of their demonstrated safety and efficacy conjugate Hib vaccines should be included in all routine immunization programs" [3].

The global expanded program of immunization [EPI] designed and popularized by WHO recommended the use of BCG, DPT, OPV and measles vaccines and has accepted in policy the inclusion of HBV and Hib vaccines nationally [4]. All mothers wish good health for their children. Health workers desire all children immunized against vac-

cine preventable diseases. The government wants them protected from progressive diseases. But many vaccines do not reach a majority of infants and children. Decreased awareness, patient compliance and cost effectiveness play a major role in limiting the success of vaccine [5].

Several studies evaluated parent's reason for incomplete immunization. Misconceptions about contraindications of vaccination were frequently indicated as causes of unnecessary delay in administering vaccines. Such information is urgently needed, since the reason for noncompliance with or non-delivery of vaccinations eligible children and the factors that may affect immunization rates need to be identified and addressed in order to prevent these diseases [6].

Materials and Methods:

The study was conducted in the paediatric Out Patient Department of Sri Siddhartha Medical College Hospital, Tumkur, Karnataka, India, during the year 2015. Data collection was done after taking formal written permission from the Principal Sri Siddhartha Medical College Hospital, Tumkur. Non - probability convenience sampling was used to recruit 100 subjects. A structured questionnaire was used to approach the subject consent of the sample was taken. The study protocols and methods were approved by institutional ethical committee. In this study, a structured questionnaire in Kannada and English languages were given to participants after obtaining a written informed consent. Informed consent was obtained from each participant ensuring the confidentiality of the data.

The structure interview was used to collect the relevant data, because interview allows the respondent to clarify answers; were recorded immediately and to ensure objectivity. Structured questionnaire and standardized tool was selected because it is an efficient method of recording and data gathered is objective.

The interview schedule consisted of 2 sections;

Section A - Socio demographic proforma

This section consists of 10 items pertinent to the demographic data of mothers of under five children. It includes the age, religion, education, occupation, residence, and family income, number of children and source of information.

Section B: -

This questionnaire comprises of 24 multiple choice questions to assess knowledge of mothers regarding Hib vaccination.

The split half method was used to test the reliability of the tool the test was first divided into two equivalent half and co-relation was found by using Karl-Pearson correlation of co-efficient formula. The reliability is obtained as $r=0.92$ for knowledge questionnaire and $r=0.89$ for attitude scale which is highly desirable. Data was analysed in term of objectives & by using both descriptive inferential statistic in the following manner.

Results:

Socio demographic data of subjects

The socio demographic variables in frequency and percentage reveals that maximum subjects 41%(41) were in the age group of 21-25 years, majority of subjects 86%(86) were belongs to Hindu religion, among them 50%(50) were having high school education, maximum subjects 66%(66) were unemployed, almost of majority of subjects 80%(80) were hailing from urban background, all the subjects 100% (100) were heard information about Hib vaccination, among them 85%(85) were got information from health professionals.

Knowledge regarding Hib vaccination among subjects

Table 1: Frequency and percentage distribution of subjects according to knowledge level (n= 100)

| Level of knowledge | Distribution of subjects | |
|-----------------------------|--------------------------|-----|
| | Frequency | % |
| Inadequate {<50% of score} | 37 | 37% |
| Moderate {50-75% of score } | 55 | 55% |
| Adequate {> 75% of score} | 8 | 8% |

Table 1 show that; the levels of knowledge were classified into 3 categories inadequate, moderate, adequate knowledge. Of the mothers more than half of the mothers 55% had moderate knowledge, 37% had inadequate and only 8% had adequate knowledge.

The statistical outcome such as mean, standard deviation, mean score percentage of mother's knowledge were calculated. Out of the maximum score of 24, the mothers had mean knowledge of 13.19 with standard deviation of 4.16. The mean score percent attained as 52.7%

Association of knowledge level and selected socio demographic variables

Table 2: Chi square values and degrees of freedom in analysis of association (n= 100)

| Socio demographic variables | Chi-square value | Degrees of freedom |
|-----------------------------|------------------|--------------------|
| Educational status | 8.690* | 3 |
| Residence | 5.429* | 1 |

*Significant at 5% level ($p<0.05$)

Chi square analysis was used to compute level of knowledge among subjects and their socio demographic variables. There is significant association between the educational status ($X^2=8.690$, $df=3$) and the residence of mothers ($X^2=5.429$, $df=1$) were significant at 5% level ($p<0.05$).

Discussion:

The current study was aimed to assess knowledge regarding Hib vaccination among mothers of under five children, to find out the association between level of knowledge and selected socio demographic variables of the subject. The study was done in a view to prepare and distribute and information booklet regarding the need for Hib vaccination of children.

In this study the level of knowledge were seen into 3 categories inadequate, moderate, adequate knowledge. Of the mothers more than half of the mothers 55% had moderate knowledge, 37% had inadequate and only 8% had adequate knowledge.

The knowledge of mothers of under five children regarding Hib vaccination, the mothers had mean knowledge score of 13.19 with standard deviation of 4.16. The mean score per cent attained as 52.7%. This finding is also supported by study examined the attitude and knowledge of Haemophilus influenza type B (Hib) and meningitis of 105 parents attending child health clinics. This study also revealed similar findings, 85% gained information from health professionals [7].

Association between the selected socio demographic variables with knowledge score of mothers. There is significant association between the educational status and residence of mothers. This finding is supported by a study examined how maternal socio-demographic factors, together with mother's education, knowledge and perception of immunizations, can affect the uptake of optional vaccinations of preschool children in Italy. A convenience sample of 1,035 Italian mothers was interviewed by using a structured questionnaire. In logistic regression analysis, three variables were significantly associated with immunization outcomes: mother's positive attitude towards immunization, mother's residency in the North of the country and mothers receipt of satisfactory information or immunization. The findings suggest that mothers attitudes, educational level, and socio-demographic characteristics, as well as socio-economic factors and local health policies, can influence children's immunization uptake [8].

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