

# Knowledge Attitude and Practice of Mothers with Under-Five Children about Immunization

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## ABSTRACT

**Introduction:** Vaccines are one of most successful health interventions that bring about significant reduction in infectious diseases and adverse health consequences. In India, The Expanded Program on Immunization (EPI) was launched in 1978 and it was re-designated as the Universal Immunization program (UIP) in 1985, with a goal to cover at least 85% of infants. In India 7.4 million children are not immunized. Study aimed to determine the knowledge, attitude and practice of mothers with under five children about immunization.

**Material and methods:** Research was conducted to determine the knowledge attitude and practice of mothers with under-five children about immunization. A cross sectional study was conducted among mothers having children aged more than two and half years in the field practice area of K.S. Hegde Medical Academy. Data was collected using a pre-tested semi structured questionnaire from 348 mothers during a period of two months. Among the study participants (92) 26% were from urban area and (256) 74% were from rural area. Mothers were the main decision makers regarding vaccination of the child in both urban and rural areas.

**Results:** Majority 99% supported vaccination. Majority 97% of the mothers in both the urban and rural areas believed that vaccines were protective. In the study it was seen that 93% of the mothers had vaccinated their children as per vaccination card and the rest of the mothers were not up to date with vaccinating their children. Only 43% of the mothers were aware of the side effects and 32% knew about contraindications. In this study it was found that 32% of the mothers believed that vaccination could be done even if the child had fever. Only 22% of the mothers were aware of the SMS notification program by the government.

**Conclusion:** In the study the reasons stated by the mothers for not fully vaccinating the child were because of the side effects 44%, difficulty in reaching the center 28% and long crowds 19%. According to our study, majority of the mothers were supportive of immunizing their children but unaware of their contraindications and side effects.

**Keywords:** Expanded Program on Immunization (EPI)  
Universal Immunization program (UIP)

## INTRODUCTION

Vaccines are one of the most successful health interventions that bring about significant reductions in infectious diseases and adverse health consequences and improve quality of life in the population. Over the years vaccines have provided highly cost effective improvements to human health by reducing avoidable human suffering, costs of care and treatment, economic consequences of work i.e. lower

productivity and loss of work. More and more diseases are becoming vaccine preventable: including those for prominent killers like pneumonia and diarrhea.

Immunization is a highly cost effective way of improving child survival in developing countries. However, in the past few decades immunization coverage rates have improved sufficiently in developed countries whereas most developing countries are still struggling with low rates. India has one of the largest immunization program in the world but diseases like Maternal and Neonatal Tetanus (MNT) has alone led to 58,000 newborn deaths in 2010 and a significant number of women also die due to maternal tetanus every year. Infant Mortality Rate (IMR) is considered as one of the most sensitive indicators of health status of a community. Infant mortality figures in India are very high and the two important causes which contributes maximum to the IMR is inadequate breastfeeding and immunization. Despite India being a leading producer of vaccines, it harbors on-third of the world's unimmunized children. Only four diseases – respiratory infections, diarrheal diseases, other infectious and parasitic diseases and malaria – account for about half of under-five deaths in India.

The current scenario depicts that immunization coverage has been steadily increasing but the average level remains far less than desired. Still only 44 percent of the infants are fully immunized (NFHS-III) which is much less than the desired goal of achieving 85 percent coverage. In India, under Universal Immunization Program (UIP) vaccines for six vaccine-preventable diseases (tuberculosis, diphtheria, pertussis (whooping cough), tetanus, poliomyelitis, and measles) are available for free of cost to all. UIP was launched in 1985 with much dynamism to attain the target to immunize all eligible children by 1990. Lot of energy and money has been spent on the UIP but it does not reap the much hyped outcome.

The National Family Health Survey (NFHS)-3 reported that 57.6% of urban infants were fully vaccinated compared to

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38.6% in rural areas. The percentage of infants who were not vaccinated was 5.7% in rural areas compared to 3.3% in urban areas. The urban-rural gap existed for all individual vaccines, although the gap was lowest with the 3 doses of OPV. The UNICEF 2009-10 survey recorded complete vaccination in 58.5% rural infants compared to 67.4% urban infants; the respective unvaccinated infants were 8.5% and 5.2%.

The National Family Health Survey-3 reports that only 43.5% of children in India receive all of their primary vaccines by 12 months of age. Five main reasons identified for poor coverage includes inadequacy of community participation in routine immunization and information education and communication activities. Negative parental perceptions of vaccinations are also an important barrier to childhood vaccination.

The mother plays a major role in promoting the health of children. Several misconceptions, ignorance and inadequacy of knowledge in relation to vaccine is prevalent among mothers especially under five children it is important to understand the variables that influence parental decisions to vaccinate their children and plan measures to overcome these barriers. A way to measure these variables, beliefs and behavior of parents is to conduct a knowledge study. With this outlook, this study was planned to assess the knowledge of mothers with children under five years of age about vaccination.

Study aimed to determine the knowledge, attitude and practice of mothers with under five children about immunization

## MATERIAL AND METHODS

A cross-sectional study was conducted. The study was conducted in the field practice area of department of community medicine (Hejamady, Farangipete, Bengre, Mulky, Sasihithlu, Kadri, Natekal). Study setting was in Health centers in the field practice area of department of community medicine, KSHEMA. Study population targeted was mothers having children of age more than 2.5 to 3 years. 348 mothers were interviewed, out of which 72 were urban areas and 246 were from rural areas. Duration of study was from 1<sup>st</sup> of February 2017 – 20<sup>th</sup> of March 2017 (2 months) Sample size was 348. For collecting Data a pre tested semi structures questionnaire was used. A questionnaire to collect data on mother's knowledge, attitude and practice regarding childhood vaccination was designed based on the previous literature. The questionnaire was in English and was scrutinized by the department of community medicine, KSHEMA. The questionnaire consisted of 12 questions pertaining to all the three concerned areas, i.e. mother's knowledge, attitude and practices regarding childhood vaccination. Collection of data was done from total of 348 mothers who were interviewed with the questionnaires out of which 72 were from urban areas and 246 were from rural areas.

## STATISTICAL ANALYSIS

The data was entered in to Microsoft excel spreadsheet for analysis. Data is presented using tables, bar diagrams and

pie charts.

## RESULT

This study was conducted among the mothers in field practice area of department of community medicine (Hejamady, Farangipete, Bengre, Mulky, Sasihithlu, Kadri, Natekal).

A total of 348 mothers were interviewed, out of which 72

Support Vaccination	Frequency	Percentage
Yes	344	99
No	4	1

Table-1:

Source of information	Frequency	Percentage
Immunization card	196	56
Immunization provider	127	36
Newspaper/magazine	9	3
Friends/Family	19	5

Table-2:

Side effects	Frequency	Percentage
Yes	148	43
No	200	57

Table-3:

Center	Number	Percentage
Government	324	93
Private	24	7

Table-4:

Response	Frequency	Percentage
Consult Doctor	324	93
Wait for next date	24	7

Table-5:

Vaccination	Frequency	Percentage
Yes	113	32
No	235	68

Table-6:

Response	Frequency	Percentage
Yes	78	22
No	270	78

Table-7:

Special immunization programs	Frequency	Percentage
Yes	276	79
No	72	21

Table-8:

Vaccination up to date	Frequency	Percentage
All	322	93
Some	22	6
None	4	1

Table-9:

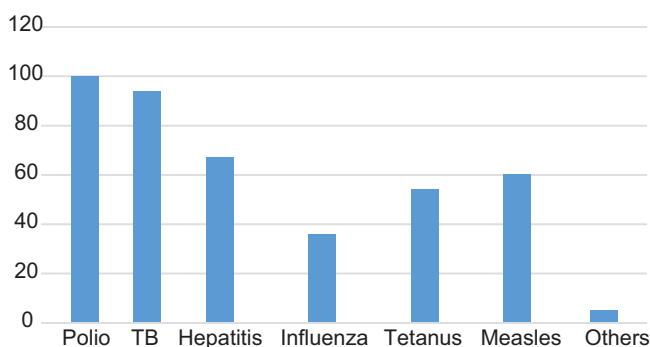


Figure-1:

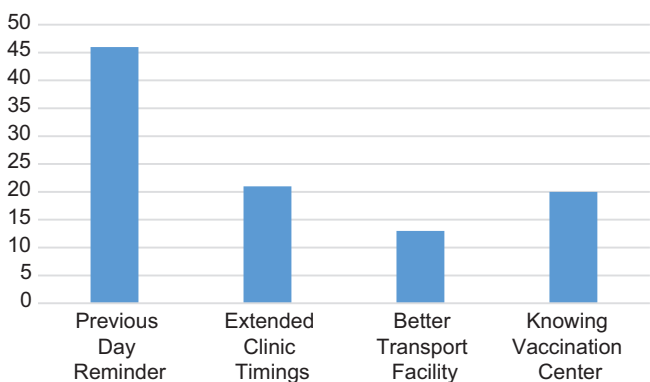


Figure-2:

were from urban areas and 246 were from rural areas.

From this 12 mothers included in the study were illiterate and 336 mothers were literate.

The following are the results based on the analysis of individual questions:

#### Mother's awareness regarding vaccines against major diseases

Figure 1 shows that 100% of mothers were aware about vaccine about polio while 94% were aware about TB, 67% were aware about hepatitis, 36% for influenza, 54% for tetanus, 60% for measles and about 5% were aware about newer vaccines like those against varicella and meningitis.

#### Distribution of mothers based on support for vaccination

Table 1 shows that, 344 (99%) mothers support vaccination and only 4 (1%) mothers did not support it.

#### Primary source of information for mothers regarding vaccination

Table 2 shows that, the primary source of information regarding vaccination for 56% mothers was the immunization card, 36% was the immunization provider and remaining 8% was through newspaper and friends.

#### Convenient measures to keep ones child vaccinated up to date

Figure 2 shows that, 46% of mothers claimed that previous day reminders helped keep their child vaccinated up to date. 21% suggested extended clinic timing and 13% asked for better transport facility.

#### Awareness of mothers regarding side effects of vaccines

Table 3 shows that, 43% of mothers are aware regarding the side effects if vaccines and 57% of them do not know about

any side effects of vaccination.

#### Distribution based on mother's preference of center for vaccination

Table 4 shows that, 93% of mothers prefer to go to a government center to get their children vaccinated and 7% of mothers prefer to go to private centers to get their children vaccinated.

#### Distribution regarding mother's response to a missed vaccine

Table 5 shows that, 93% of mothers would consult a doctor if they missed their child's vaccination date and 7% will wait for the next vaccination date to arrive if they missed their child's vaccination date.

#### Distribution of mother's knowledge regarding no vaccination during fever

Table 6 shows that, 32% of mothers believe that their children can be vaccinated even if they have fever and the rest 68% believe that their children should not be vaccinated if they had fever.

#### Mother's awareness about govt. SMS program for vaccination

Table 7 shows that, 22% of the mothers are aware about the govt. based SMS program and 78% aren't aware of it

#### Mother's awareness regarding special immunization programs in their locality

Table 8 shows that, 79% mothers are aware about majority of the vaccination based programs in their locality as compared to 21% mothers who are unaware.

#### Distribution of mothers based on vaccine status of children

Table 9 shows that, 93% mothers have vaccinated all children in their household as compared to 6% who have vaccinated and 1% who have vaccinated none of their children.

## DISCUSSION

This study describes knowledge and attitudes towards childhood immunization by mothers living in the filed practice area of the department of community medicine.

According to our study, mother's awareness regarding vaccines against major diseases were, OPV 100%, BCG 94%, Hepatitis B 67%, Measles 60%, Tetanus 54% and others 41%. According to a study done by Rachna Kapoor et. Al at Ahmedabad awareness as found to be OPV 85%, BCG 35%, Hepatitis B 15%, Measles 40%, Tetanus 45% and others 30%.<sup>1</sup> This indicates a better awareness among mothers, possibly due to better campaigning and educational programs.

Majority (99%) of the mothers supported vaccination, the major reason being protection of their children against diseases. According to a study conducted by Bhola Nath et al. in Bijapur, Karnataka, majority of the respondents (65.16%) opined that they support vaccinations to protect their children from diseases.<sup>2</sup>

Bhola Nath et al. in Bijapur concluded that auxiliary nurse midwives (ANMs), paramedical workers were found to be

the major (34.19%) sources of information for the mothers.<sup>2</sup> The findings indicate the major source of information to be immunization cards (56%). Similar findings were seen in studies done by MC Singh et al. from Pondicherry<sup>3</sup>, and N Gulati et al. from Delhi<sup>4</sup>, who found that the health workers and health personnel were the major sources of information regarding immunization. In contrast, a study done by Jose, Jisy et al. from Yenepoya University, Mangalore suggested that the television was the major (36.75%) source of information.<sup>5</sup>

This study indicates that majority (93%) of the mothers prefer to go to a government center to get their children vaccinated. Similar findings (78.71%) were found in the study done by Bholu Nath et al. in Bijapur.<sup>2</sup>

This study also indicates that the majority (68%) of the mothers believe that their children should not be vaccinated when they have fever. In contrast, according to a study done by Singh, MC et al. from Pondicherry, only 24% of the mothers considered fever to be a contraindication for vaccination.<sup>3</sup>

Many studies in low-income counties have also demonstrated that, particularly in rural areas, long travel distance to vaccination points can be a barrier to immunization uptake.<sup>6</sup> Our study shows that 46% mothers claimed that previous day reminders helped them to keep their children vaccinated up to date while 13% asked for better transport facility.

Mobile phone access has been increasing dramatically in rural areas of developing counties such as this over the past decade, and mobile phone-based interventions for improving vaccination coverage in populations at risk for under-vaccination are quickly becoming more feasible and efficacious.<sup>7-9</sup> This studies indicates that 78% mothers are unaware of the immunization notification program by SMS, launched by the govt. of India.

According to this study, 93% children were fully immunized, 6% were partially immunized and 1% was unimmunized, 62.58% were partially immunized and 2.58% were unimmunized.<sup>2</sup>

## CONCLUSION

Parents are one of the most important sources of immunization information. Their immunization knowledge needs to be strengthened. According to the findings, majority were supportive of vaccinating their children but were unaware of the contraindications and side-effects. Majority were unaware of the immunization notification program by SMS launched by the govt. of India. In conclusion, the entire population should be targeted and educational programs promoting child vaccination (especially newer vaccines such as hepatitis B, influenza), parental motivation, accessibility and follow-up should be instituted.

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