ORIGINAL RESEARCH PAPER
Volume - 11 | Issue - 11 | November - 2022 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# KNOWLEDGE AND ATTITUDE AMONG MOTHERS REGARDING IMMUNIZATION OF CHILDREN: OUR EXPERIENCE AT DR. VAISHAMPAYAN MEMORIAL GOVERNMENT MEDICAL COLLEGE, SOLAPUR, MAHARASHTRA

**Paediatrics**

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## ABSTRACT

**Background:** Knowledge (K), positive attitudes (A) and appropriate perceptions (P) about vaccination hence, become one of the main tools to reduce the incidence of vaccine preventable diseases (VPDs) thus reducing childhood mortality and morbidity. Since mothers are the important health decision makers of their children, their Knowledge, Attitude and Practices regarding immunization in general have a great impact on immunization status of their child. **Objective:** To study knowledge and attitude among mothers regarding immunization of children. Materials and **Methods:** The present cross sectional observational study was carried out at Immunization OPD and well-baby clinic of Paediatric department Dr. VMGMC, Solapur involving 1000 mothers. Statistical analysis was carried out using SPSS 24.0 version **Results:** Out of 1000 mothers, majority were from 21-25 years age group i.e. 488(48.8%) followed by 273(27.3%) from 26-30 years age group, 180(18%) from less than 20 years age and 59(5.9%) from above 30 years age. Age of the child in majority of the cases was between 0 to 12 months i.e. 407(40.7%). Majority of the study population was from lower socioeconomic class i.e. 56.9%. Majority of the mothers were aware that vaccine prevents disease i.e. 92.7%. 89.2% mothers know about antenatal vaccination. 60.3% were aware about adverse reactions of vaccines. 59.9% were aware about age of vaccination. 46.6% replied that vaccine is totally safe. Mother's attitude about immunisation revealed that 94.3% women said that they will get their child completely immunised. 93.4% women said that they will follow vaccination schedule. **Conclusion:** Majority of the mothers were aware that vaccine prevents disease i.e. 92.7%. 89.2% mothers know about antenatal vaccination. 94.3% women said that they will get their child completely immunised. 93.4% women said that they will follow vaccination schedule.

## KEYWORDS

*Knowledge, attitude, child immunisation etc.*

## INTRODUCTION

The World Health Organization (WHO) has defined immunization as the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. These vaccines help to stimulate the body's own immune system to protect the person against subsequent infection or disease.[1] Immunization therefore depicts the ability to develop immunity. Immunity being the state of having sufficient biological defenses to avoid infection, disease or others unwanted biological invasion.[2]

Immunity also depicts the capability of the body to resist harmful microbes from gaining access into it. Vaccination is one of the most cost-effective interventions to prevent major illnesses that contribute to child mortality in the country, particularly in environments where malnourished children, overcrowding, poverty and illiteracy reign. Knowledge (K), positive attitudes (A) and appropriate perceptions (P) about vaccination hence, become one of the main tools to reduce the incidence of vaccine preventable diseases (VPDs) thus reducing childhood mortality and morbidity. In our society, a large chunk of the population lives in rural areas, where mothers are illiterate and have numerous myths about vaccination; this results in children being unimmunized and susceptible and hence causes a serious policy concern.[3]

Since mothers are the important health decision makers of their children, their Knowledge, Attitude and Practices regarding immunization in general have a great impact on immunization status of their child.[4,5,6]

Several studies on immunization status of children conducted in various countries have revealed that increasing parents' knowledge regarding vaccination improves immunization status and affects success of immunization programme. Education status and other socioeconomic status of parents have a great impact on their decision regarding vaccination.[7,8]

Hence the present cross sectional observational study was carried out in immunization OPD at our tertiary care centre with the objective to assess the knowledge, attitude and practices regarding immunization amongst mothers having children between 0-5 years.

**Objective:**

To study knowledge and attitude among mothers regarding immunization of children.

## MATERIALS AND METHODS

**Study setting:** Immunization OPD and well-baby clinic of Paediatric department of tertiary care centre

**Study population:**

Mothers of children from 0 to 5 years of age attending Immunization OPD and well-baby clinic of Paediatric department of tertiary care centre

**Study period:** Two years (From November 2019 to October 2021)

**Study design:** Cross sectional observational study

**Sample size:** 1000 mothers

**Sampling technique:** Simple Random sampling method

**Inclusion criteria:**

- Children of age birth to 5 years who are followed up in immunization clinics and well-baby clinics
- Those who are willing to participate in the study

**Exclusion criteria:**

- Children more than 5 years.
- Mothers not willing for study.
- Mother who has psychological problems

**Methods of data collection:**

This is a cross sectional study involving the mothers who attend the

Well Baby Clinics, immunization Clinics of Pediatric department of Dr. Vaishampayan Memorial Government Medical College, Solapur, Maharashtra was conducted. These mothers are mostly delivered in this hospital and to some extent delivery conducted in other areas. We have included 0 to 5 years of age in our study. Questionnaire is prepared in vernacular language i.e. Marathi. Most of the mothers are Marathi speaking so the Marathi format is chosen for our study to assess the mother's knowledge of immunization in general.

**Statistical analysis:**
Data was collected by using a structure proforma. Data entered in MS excel sheet and analysed by using SPSS 24.0 version IBM USA. Qualitative data was expressed in terms of proportions. Quantitative data was expressed in terms of Mean and Standard deviation. Association between two qualitative variables was seen by using Chi square/ Fischer's exact test. Descriptive statistics of each variable was presented in terms of Mean, standard deviation, standard error of mean.

## RESULTS

**Table 1: Distribution according to mother's age**

| | | Frequency | Percent |
|---|---|---|---|
| Age of mother | ≤ 20 | 180 | 18.0 |
| | 21-25 | 488 | 48.8 |
| | 26-30 | 273 | 27.3 |
| | >30 | 59 | 5.9 |
| | Total | 1000 | 100.0 |

We included 1000 mothers of children from 0 to 5 years of age attending Immunization OPD and well-baby clinic of Paediatric department of tertiary care centre. Out of 1000 mothers, majority were from 21-25 years age group i.e. 488(48.8%) followed by 273(27.3%) from 26-30 years age group, 180(18%) from less than 20 years age and 59(5.9%) from above 30 years age.

**Table 2: Distribution according to child's age**

| | | Frequency | Percent |
|---|---|---|---|
| Age of the child (months) | 0 to 12 | 407 | 40.7 |
| | 13-24 | 385 | 38.5 |
| | 25 to 36 | 129 | 12.9 |
| | 36 to 48 | 79 | 7.9 |
| | Total | 1000 | 100.0 |

Age of the child in majority of the cases was between 0 to 12 months i.e. 407(40.7%). This is followed by 13 to 24 months in 385(38.5%) children, 25-36 months in 129(12.9%) and 79(7.9%) in 36-48 months children

**Table 3: Distribution according to education of mothers**

| | | Frequency | Percent |
|---|---|---|---|
| Education | Illiterate | 122 | 12.2 |
| | Primary | 266 | 26.6 |
| | Secondary | 232 | 23.2 |
| | Higher secondary | 178 | 17.8 |
| | Graduate | 131 | 13.1 |
| | Postgraduate | 71 | 7.1 |
| | Total | 1000 | 100.0 |

12.2% mothers were illiterate in our study. 26.6% were studied up to primary level. 23.2% were studied upto secondary level. 17.8% were studied up to higher secondary class. 13.1% were graduates and 7.1% were postgraduates.

**Table 4: Distribution according to SES**

| | | Frequency | Percent |
|---|---|---|---|
| SES | Upper | 56 | 5.6 |
| | Upper middle | 105 | 10.5 |
| | Lower middle | 220 | 22.0 |
| | Upper lower | 347 | 34.7 |
| | Lower | 272 | 27.2 |
| | Total | 1000 | 100.0 |

Majority of the study population was from lower socioeconomic class i.e. 56.9%. 27.2% were from lower class and remaining 5.6% were from upper class.

**Table 5: Distribution according to mother's knowledge about immunisation**

| | | Yes | | No | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Frequency | Percent |
| Knowledge | Vaccine prevents disease | 927 | 92.7 | 73 | 7.3 |
| | Antenatal vaccination | 892 | 89.2 | 108 | 10.8 |
| | Age of vaccination | 599 | 59.9 | 401 | 40.1 |
| | Is vaccine totally safe | 466 | 46.6 | 534 | 53.4 |
| | Adverse reactions of vaccines | 603 | 60.3 | 397 | 39.7 |
| | Special vaccine | 155 | 15.5 | 845 | 84.5 |
| | Whether vaccine can be given during minor illness | 224 | 22.4 | 776 | 77.6 |

Majority of the mothers were aware that vaccine prevents disease i.e. 92.7%. 89.2% mothers know about antenatal vaccination. 60.3% were aware about adverse reactions of vaccines. 59.9% were aware about age of vaccination. 46.6% replied that vaccine is totally safe. 15.5% know about special vaccines. 22.4% replied that vaccine can be given during minor illness.

**Table 6: Distribution according to mother's attitude about immunisation**

| | | Yes | | No | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Frequency | Percent |
| Attitude | Will get my child completely immunized | 943 | 94.3 | 57 | 5.7 |
| | Will follow vaccination schedule | 934 | 93.4 | 66 | 6.6 |
| | will give special vaccines | 124 | 12.4 | 87.6 | 87.6 |
| | recommend others to vaccinate their children | 898 | 89.8 | 102 | 10.2 |

Mother's attitude about immunisation revealed that 94.3% women said that they will get their child completely immunised. 93.4% women said that they will follow vaccination schedule. 89.8% women said that they will recommend others to vaccinate their children. 12.4% women said that they are willing to give special vaccines to their child.

## DISCUSSION

**Demographic information**

We included 1000 mothers of children from 0 to 5 years of age attending Immunization OPD and well-baby clinic of Paediatric department of tertiary care centre. Out of 1000 mothers, majority were from 21-25 years age group i.e. 488(48.8%) followed by 273(27.3%) from 26-30 years age group, 180(18%) from less than 20 years age and 59(5.9%) from above 30 years age. Age of the child in majority of the cases was between 0 to 12 months i.e. 407(40.7%). This is followed by 13 to 24 months in 385(38.5%) children, 25-36 months in 129(12.9%) and 79(7.9%) in 36-48 months children. 50.7% were male children and 49.3% were female children. Males were predominant in our study with male to female ratio of 1.02:1. 50.1% were from rural area and 49.9% were from urban area.

**Mohammed MB et al**[9] reported that the studied mothers aged less than 20 (30) to less than 30 (3), 30 - 40 years (103) and more than 40 (74) with percent 14.3%, 1.4%, 49.0%, 35.2% respectively Concerning mothers, occupation the same table revealed that 138 (65.7%) of the studied mothers were housewives and minor of them 10 (4.8%) were nurses, 143 (68.1%) of them married and 59 (28.1%) divorced, and 8 (3.8%) widowed regarding to their level of education, the table shows that 80 (38.1%) of the studied mothers were illiterate while 20 (9.5%) same percent show their education level was primary and secondary although 60 (28.6%) have a higher education.

**Kaur R. et al**[10] reported that women were in the age range of 21–35 years with the mean age 25.95 ± 10.29 years. Nearly half of them studied up to middle (22.5%) or high school (27.5%). Most of them (85.3%) were homemakers and their monthly per capita income ranged from Rs. 3000 to 6000 with a mean of Rs. 4375 ± 2224.71. Male children (54.3%) outnumbered females (45 7%). Age of children

ranged from 0 to 1 year (20.8%), 1–2years (21%–4%), 2–3 years (21.9%), 3–4 years (21.9%), and 4–5 years (9.9%).

**Tiwari A. et al**[11] included total of 300 mothers of children in the age group of 0 to 24 months were included in the study. Male children were 115 (50.32%) and female 106 (49.68%). Majority of mothers (55.48%) were in a group 21-25 years. 146 (48.66 %) mothers were illiterate ,42% educated till secondary school. Pre-college and graduate were 1.33% and 0.65% respectively. Majority 55.48% belong to grade four socioeconomic status. 232 (77.33%) of mothers were housewives, and 14.66% worked on daily wages, 8% were employed.

**Knowledge and attitude towards immunisation**

Knowledge assessment in our study revealed that majority of the mothers were aware that vaccine prevents disease i.e. 92.7%. 89.2% mothers know about antenatal vaccination. 60.3% were aware about adverse reactions of vaccines. 59.9% were aware about age of vaccination. 46.6% replied that vaccine is totally safe. 35.5% know about special vaccines. 55.4% replied that vaccine can be given during minor illness.

In our study, mother's attitude about immunisation revealed that 94.3% women said that they will get their child completely immunised. 93.4% women said that they will follow vaccination schedule. 89.8% women said that they will recommend others to vaccinate their children. 42.9% women said that they are willing to give special vaccines to their child.

**Mohammed MB et al**[9] reported that 87 (41.4%) of the studied mothers had poor knowledge score while 78 (37.1%) had good knowledge score, and 45 (21.4%) their knowledge were fair. 110 (52.3%) of the studied mothers had good attitudes score while 100 (47.6%) had poor attitudes score, their attitudes score range between good and poor, no fair score.

**Kaur R. et al**[10] reported that all the women had heard about vaccination either from dispensary/hospital (80.7%) or from TV (19.3%). Majority of them (98.2%) knew that vaccination should be given to children, 78.5% of mothers knew that after getting vaccination, the child would be free from diseases, i.e., polio/TB/fever/vomiting. Most of the women (95.7%) knew that child gets vaccinated for the first time at birth, although most of them did not know which vaccine is given for which disease. Women had knowledge about polio (75.7%), tuberculosis (41.2%), measles (18.4%), and chickenpox (1.9%) for which a child is vaccinated. The rest of the mothers did not know the names of vaccines and diseases for which it is given. Most of the children (98.8%) received all the vaccination in time except two who received vaccination late.

**Tiwari A. et al**[11] reported that mmajority of the mothers (83.6%) showed positive attitude towards getting their child. About 15.6% participants had the misconception of stopping the immunization if it caused side effects. Majority 60% of mothers were unaware about the age-related vaccination. Nearly Fifty one percent of the respondents knew that the child should be vaccinated even if it had minor illness during the time of immunization. 88.6% mothers were aware of the fact that vaccination should be given at birth.

**Tiwari A. et al**[11] reported that majority of the mothers were aware that vaccine prevents disease i.e. 87.8%. 88.3% mothers know about antenatal vaccination. 66% were aware about adverse reactions of vaccines. 88.6% were aware about age of vaccination.

**Wani RT et al**[12] reported that most of the mothers don't know the reason for vaccination but they knew the correct age to start vaccination. Most of them believe that vaccines are not harmful. Most of the mothers were not willing to vaccinate her child when he/she was suffering from cold and fever. Attitude of mothers towards vaccination was satisfactory because majority of the mothers believes that vaccination is important and to follow the vaccination schedule for good health. Most of the mothers preferred government hospital for vaccination than private hospital may be owing to free supply of vaccines to child, which would be costly otherwise.

## CONCLUSION

Knowledge assessment in our study revealed that majority of the mothers were aware that vaccine prevents disease i.e. 92.7%. 89.2% mothers know about antenatal vaccination. 60.3% were aware about adverse reactions of vaccines. 59.9% were aware about age of vaccination. 46.6% replied that vaccine is totally safe. 35.5% know about special vaccines. 55.4% replied that vaccine can be given during minor illness.

In our study, mother's attitude about immunisation revealed that 94.3% women said that they will get their child completely immunised. 93.4% women said that they will follow vaccination schedule. 89.8% women said that they will recommend others to vaccinate their children. 42.9% women said that they are willing to give special vaccines to their child.

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