



Original Article

A STUDY ON KNOWLEDGE OF MOTHERS ABOUT IMMUNIZATION PRACTICES IN GOVERNMENT DISTRICT HOSPITAL KALABURAGI

Ashwini G Rayee¹, Sharanabasappa S Dhanwadkar², Ruthu G Rayee³

¹ Senior resident, Department of Paediatrics, Adichunchanagiri institute of medical sciences, B G nagara, Mandya district, Karnataka, India

² Associate professor, Department of Paediatrics, Gulbarga Institute of Medical Sciences, Kalaburagi, Karnataka, India

³ Intern, Adichunchanagiri institute of medical sciences, B G nagara, Mandya district, Karnataka, India

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Corresponding Author:

Dr. Ashwini G Rayee

Senior resident, Department of
Paediatrics, Adichunchanagiri
institute of medical sciences, B G
nagara, Mandya district, Karnataka,
India.

Email: rayeeashwinig@gmail.com

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ABSTRACT

Background: Vaccines are the most powerful, safe and cost-effective interventions to prevent major illnesses that contribute to child mortality in the country. Negative parental perceptions of vaccination are also an important barrier to childhood vaccination. So this study was taken up to determine the Knowledge of mothers with children under five years of age, which will help the policy makers in implementing the immunization programme in a better way, to achieve >85% coverage.

Methods: A semi structured prevalidated questionnaire designed to assess the Knowledge about vaccination was administered to 360 mothers fulfilling the Inclusion criteria.

Results: In our study, Out of 360 children, 183 (50.8%) children were fully immunized, 155 (43.1%) children were partially immunized and 22 (6.1%) children were seen unimmunized. Mothers were the main decision makers regarding vaccination of their children. Majority, 183 (50.3%) mothers identified vaccine preventable disease as polio

Conclusion: We found significant lacunae in the Knowledge of mothers towards childhood vaccination. So, health education is also an essential component that can go a long way in improving the prevailing scenario of immunization in our country.

Keywords: Immunization, knowledge, Mothers.

INTRODUCTION:

One of the most significant contributions of modern medicine to public health is the development of vaccines. Immunization is recognized as one of the most effective, safe, and cost-efficient public health interventions for preventing infectious diseases, particularly among children. In developing countries such as India, where malnutrition, poverty, overcrowding, and illiteracy remain major public health challenges, vaccination plays a crucial role in reducing childhood morbidity and mortality. However, misconceptions, myths, and lack of awareness regarding immunization among parents, particularly mothers in rural communities, continue to result in incomplete or missed vaccinations, making children vulnerable to vaccine-preventable diseases (VPDs). This remains a significant public health concern.¹

Adequate knowledge, positive attitudes, and appropriate practices (KAP) regarding childhood immunization among mothers are essential for achieving high vaccination coverage. Improving maternal awareness and promoting positive health-seeking behavior can significantly reduce the incidence of vaccine-preventable diseases, thereby decreasing childhood morbidity and mortality.¹

Recognizing the importance of immunization, the World Health Organization (WHO) launched the Expanded Programme on Immunization (EPI) in 1974 with the objective of protecting children against six major vaccine-preventable diseases. In India, the programme was introduced in 1978 and was subsequently expanded and renamed the Universal Immunization Programme (UIP) in 1985, with the goal of achieving at least 85% immunization coverage among infants.²

Despite these initiatives, immunization coverage remains below the desired level. In 2010, an estimated 19.3 million children worldwide were either partially immunized or not immunized at all, leaving them vulnerable to vaccine-preventable diseases. Nearly half of these under-vaccinated children resided in just three countries, including India. During the same period, approximately 1.7 million child deaths worldwide were attributed to vaccine-preventable diseases, highlighting the continued need to strengthen immunization programmes.³

The problem of under-immunization is no longer confined to rural areas but is increasingly evident in urban settings as well. Rapid urbanization and migration have led to the growth of underserved urban populations characterized by poverty, overcrowding, poor sanitation, and limited access to healthcare services. These factors contribute to inadequate immunization coverage among children living in urban communities.⁴

According to the National Family Health Survey-5 (NFHS-5), only 72.0% of children aged 12–23 months in Karnataka received all age-appropriate vaccinations. In Kalaburagi district, the coverage was even lower, with only 61.6% of children in the same age group receiving complete immunization. These findings indicate the need for continued efforts to improve vaccination coverage, especially in districts with lower immunization rates.⁵

Several factors contribute to poor immunization coverage in India, including inadequate community participation, insufficient Information, Education and Communication (IEC) activities, lack of awareness, misconceptions regarding vaccine safety, and negative parental attitudes toward vaccination. These barriers adversely affect the timely and complete immunization of children, emphasizing the importance of assessing mothers' knowledge and practices regarding childhood immunization.^{3, 6}

Therefore it is important to know about the variables that influence parental decisions to vaccinate their children and plan measures to overcome these barriers. To know about the variables, beliefs and behaviour of parents it is necessary to conduct a Knowledge, Attitudes and Practices (KAP) study. So, this study was planned to assess the knowledge of mothers with children under five years of age about vaccination.

METHODOLOGY:

This cross sectional descriptive study was conducted over a period of 3months (from July 2023 to September 2023) on 360 mothers attending department of Paediatrics, Gulbarga institute of Medical sciences, Kalaburagi having children under five years of age. The study was conducted after obtaining the ethics committee approval from Institutional Ethics committee. Informed consent was obtained from all eligible participants after explaining the objectives and nature of this study in their own language. A semi structured prevalidated questionnaire designed to assess the Knowledge about vaccination was administered to all the mothers of children under five years of age. Mothers with neurologically abnormal child and mothers with children on chemotherapy /immunosuppressant therapy and mothers of children under five years of age who did not give consent for the study were excluded from the study. The data collected through this questionnaire includes: socio demographic details of parents and children, place of vaccination, immunization status of their child/children, reason for not taking vaccine, decision makers for taking vaccination, knowledge of vaccines and the diseases they prevent the source of the information regarding vaccination

Statistical data was analyzed by using statistical package for social sciences (SPSS, version 20.0). If p value is <0.05, it is considered as statistically significant.

RESULTS:

Table 1: Socio Demographic profile wise distribution of study participants

Variables	Categories	No. of mothers	Percentage
Age of children	≤ 2 years	162	45.0
	2—4 years	158	43.9
	4—5 years	40	11.1
	Mean ± SD	2.12 ± 1.63	----
Gender of children	Male	191	53.1
	Female	169	46.9
Area residence	Urban area	266	73.9
	Rural area	94	26.1
Socio-economic status (B G Prasad classification) ⁷	Upper Class	0	0.0
	Upper Middle Class	12	3.4
	Middle Class	165	45.8
	Lower Middle Class	124	34.4
	Lower Class	59	16.4
Age of mother	≤ 25	133	36.9
	26—30	198	55.0
	> 30	29	8.1
	Mean ± SD	26.81 ± 6.78	----
Mother education	Illiterate	162	45.0
	Primary	110	30.6
	Secondary and degree	88	24.4
Mother occupation	House wife	225	62.5
	Labour	54	15.0
	Employee	81	22.5

In the study, the mean age of children was 2.12 years, the mean age of mothers (participants) was 26.81 years. Out of 360 children in the study, males were 191 (53.1%) and females were 169 (46.9%). Table 1 shows demographical profiles wise distribution of mothers. Majority of mother's 266 (73.9%) residential area was rural and 94 (26.1%) mother's residential area was urban. Majority of the study participants 165 (45.8%) were belonging to middle class.

Out of 360 participants, 162 (45.0%) of participants (mothers) were illiterate, Majority of mother's occupation 225 (62.5%) was found to be house wife.

In the Study, it was observed that, out of 360 children, 183 (50.8%) children were fully immunized, 155 (43.1%) children were partially immunized and 22 (6.1%) children were seen unimmunized.

Table No.2: Immunization status wise distribution of children

Immunization status	No. of children	Percentage
Fully Immunized	183	50.8
Partially immunized	155	43.1
Unimmunized	22	6.1
Total	360	100.0

Out of 177 (49.2%) partially and unimmunized children's mothers, 53 (29.9%) had given the reason for not taking vaccination as lack of awareness regarding vaccination schedule, followed by 37 (20.9%) said unawareness regarding Place/time of immunization and 30 (17.0%) said Child was ill so not brought for immunization.

In the study, for majority 248 (68.9%) children, mothers were the decision makers for vaccination, for 62 (17.2%) children both mother and father were the decision makers for vaccination, and for 50(13.9%) children fathers were the decision makers. All 360 mothers said the place of vaccination preferred by them was government institute

Out of 360 mothers, Majority 212 (58.9%) of mothers had got the source of information regarding vaccination from Health care workers (ANM/AWW) and 98 (27.2%) participants got the source of information regarding vaccination from doctors and 29(8.1%) participants got information from family/neighbours/relatives.

Table No. 3: Vaccine preventable diseases identified by mothers

SL No	Source of information	No. of mothers	Percentage
1	Polio	183	50.8
2	Measles	50	13.9
3	Diphtheria	20	5.6
4	Pertussis	0	0.0
5	Tetanus	0	0.0
6	Tuberculosis	40	11.1
7	Hepatitis B	0	0.0
8	No response /don't know	147	40.8

In the study, Majority, 183 (50.3%) mothers identified vaccine preventable disease as polio followed by 50(13.9%) mothers identified measles,40(11.1%) of them identified Tuberculosis and 20(5.6%) of them identified Diphtheria. Table 3 shows vaccine preventable diseases identified by mothers.

Table No.4: Knowledge of mothers about immunization

Sl. No.	Questions	No. of mothers		
		Yes No. (%)	No/don't know No. (%)	Total
1	Does the mother know the importance to vaccinate a child	202 (56.1%)	158 (43.9%)	360
2	Does the mother know the correct age to start immunization	184 (51.1%)	176 (48.9%)	360
3	Are vaccines harmful	0 (0.0%)	360 (100.0%)	360
4	Does the child with fever be vaccinated	4 (1.1%)	356 (98.9%)	360
5	Does the child with cold be vaccinated	8 (2.2%)	352 (97.8%)	360

Table 4 shows that, in the study, all the mothers 360 (100.0%) had the knowledge that vaccines are not harmful, 356 (98.8%) mothers were of the opinion that, child with fever should not be vaccinated and 352 (97.8%) mothers were of the

opinion that when child has cold, they should not be vaccinated and 202 (56.1%) mothers knew the importance of vaccination.

DISCUSSION:

The study reported an overall immunization coverage of 50.8%, which was considerably lower than the Universal Immunization Programme (UIP) target of 85%. This finding indicates that a substantial proportion of children remain either partially immunized or unimmunized, highlighting the need for strengthened immunization services and community awareness.

Assessment of mothers' knowledge regarding vaccination revealed significant differences between mothers of fully immunized children and those of partially immunized or unimmunized children. Mothers of fully immunized children demonstrated better understanding of the importance of vaccination and the recommended age for initiation and completion of immunization according to the national schedule. Although the majority of mothers in both groups considered vaccines to be safe, many reported that they would postpone vaccination if the child had minor illnesses such as fever or the common cold. These misconceptions may contribute to delayed or missed vaccinations. Therefore, educating mothers about the safety of vaccines and the importance of adhering to the recommended immunization schedule is essential for achieving universal immunization coverage.

The study also identified Anganwadi Workers (AWWs) and Auxiliary Nurse Midwives (ANMs) as the primary sources of information regarding childhood immunization. This finding is consistent with the study conducted by Bholanath et al., which also highlighted the vital role of frontline healthcare workers in promoting immunization. Strengthening the training and communication skills of AWWs and ANMs can further enhance community awareness and improve vaccination uptake.⁴

Similar findings have been reported by other researchers. Singh et al. observed that while mothers possessed adequate knowledge regarding the importance of immunization, their knowledge about vaccine-preventable diseases (VPDs) was limited.⁸ Kapoor et al. reported that awareness and knowledge regarding VPDs increased significantly with higher maternal educational status.⁹ Likewise, Siddiqui et al., in a cross-sectional study conducted in Karachi, found that children of literate parents had significantly better immunization status compared with children whose parents were illiterate.¹⁰ These studies emphasize the influence of parental education on childhood immunization practices.

The present study also found that all participating mothers preferred to receive vaccination services from government health facilities. This finding is in agreement with the study by Hamid et al., which reported that rural mothers preferred and trusted government healthcare facilities for immunization services.¹¹

Polio was the most commonly identified vaccine-preventable disease among the mothers in the present study, which is consistent with the findings reported by Mahalingam et al.³ However, the inability of many mothers to identify other vaccine-preventable diseases suggests inadequate awareness regarding the complete immunization programme. This highlights the need for comprehensive health education focusing on all diseases prevented through routine childhood immunization.

Among mothers of partially immunized and unimmunized children, the most frequently reported reason for incomplete vaccination was lack of awareness regarding the immunization schedule. Similar findings were reported by Angadi et al., who identified inadequate knowledge of vaccination schedules as a major barrier to complete immunization.¹² These findings underscore the importance of strengthening Information, Education and Communication (IEC) activities and promoting timely counseling of mothers to improve immunization coverage.

This study has some limitations, this study was a cross sectional study conducted in the hospital, so the study conducted in the community would be able to give better information regarding immunization practices of mothers than the study conducted in the hospital.

CONCLUSION:

We found significant lacunae in the Knowledge of mothers towards childhood vaccination especially among mothers of partially immunized and unimmunized children. Although a vast majority of the population know the importance of immunization, lack of knowledge regarding vaccination schedule and failure of the authorities in educating the target population for completing the schedule, has led to a large proportion of the children being partially immunized. These are the problems which need to be addressed in order to achieve vaccination coverage of 100%.

All policy makers and health care providers should see to that, mere providing the resources for immunization alone is not serving the purpose so, health education is also an essential component that can go a long way in improving the prevailing scenario of immunization in our country.

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