



Original Article

A STUDY TO ASSESS THE IMMUNIZATION PRACTICES AMONG MOTHERS ATTENDING THE GOVERNMENT DISTRICT HOSPITAL KALABURAGI

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OPEN ACCESS

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Received: 11-06-2026

Accepted: 14-07-2026

Available online: 24-07-2026

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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 practice 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. Study revealed that, out of 360 mothers; 324 (90.0%) mothers practically observed side effects and when they observe side effects only 281 (78.1%) inform doctors /health care workers

Conclusion: We found significant lacunae in the practice 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, Mothers, Practice.

INTRODUCTION

Vaccination is one of the most significant contributions of modern medicine to public health. It has played a crucial role in reducing childhood morbidity and mortality by preventing several life-threatening infectious diseases. However, in developing countries such as India, a substantial proportion of the population resides in rural areas, where illiteracy, particularly among mothers, and misconceptions regarding vaccination contribute to low immunization coverage. Consequently, many children remain unimmunized and are at increased risk of vaccine-preventable diseases (VPDs), making inadequate immunization a major public health concern.¹

Vaccines are considered one of the most effective, safe, and cost-efficient public health interventions, especially in settings characterized by malnutrition, overcrowding, poverty, and illiteracy. These adverse socio-economic conditions increase children's susceptibility to infectious diseases, thereby emphasizing the importance of vaccination in improving child survival.¹

Knowledge, attitudes, and practices (KAP) regarding immunization among parents and caregivers are critical determinants of vaccination uptake. Adequate knowledge, positive attitudes, and appropriate practices contribute significantly to increasing immunization coverage and reducing the incidence of vaccine-preventable diseases, ultimately lowering childhood morbidity and mortality.¹

Recognizing the importance of immunization, the World Health Organization (WHO) launched the Expanded Programme on Immunization (EPI) in May 1974, aiming to protect children against six major vaccine-preventable diseases worldwide. India adopted this initiative in 1978, and in 1985, the programme was expanded and renamed the Universal Immunization Programme (UIP), with the objective of achieving at least 85% immunization coverage among infants.²

Despite these initiatives, global immunization coverage remains suboptimal. In 2010, approximately 19.3 million children worldwide were either partially immunized or had not received complete vaccination, leaving them vulnerable to vaccine-preventable illnesses. Nearly half of these under-vaccinated children lived in just three countries, including India. During the same year, an estimated 1.7 million children died from vaccine-preventable diseases globally, highlighting the need for strengthening routine immunization services.³

Although under-immunization has traditionally been associated with rural populations, it is increasingly recognized as a concern in urban areas as well. Rapid urbanization and migration have led to the growth of urban slums, where poverty, overcrowding, poor sanitation, limited access to healthcare services, and low literacy levels contribute to inadequate immunization coverage among children.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. The coverage is even lower in Kalaburagi (formerly Gulbarga), where only 61.6% of children in the same age group were fully immunized. These findings indicate considerable gaps in immunization coverage and emphasize the need for targeted interventions in underserved regions.⁵

Several factors have been identified as barriers to achieving optimal immunization coverage in India. These include inadequate community participation in routine immunization programmes, insufficient Information, Education and Communication (IEC) activities, limited awareness regarding the benefits of vaccination, and negative parental perceptions and misconceptions about vaccines. Such barriers significantly influence parents' decisions regarding childhood immunization and contribute to incomplete vaccination coverage.^{3, 6}

Therefore, improving parental knowledge, fostering positive attitudes, and encouraging appropriate immunization practices through effective health education, community engagement, and strengthened healthcare services are essential to achieving higher vaccination coverage and reducing the burden of vaccine-preventable diseases among children.

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 etc and practice of mother with respect to vaccination is assessed.

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

Table No.3: Practice of mothers regarding vaccination

Sl. No.	Questions	No. of mothers		
		Yes No. (%)	No/don't know No. (%)	Total
1	Was immunization completed according to schedule?	317 (88.1%)	43 (11.9%)	360
2	Did side effects appear?	324 (90.0%)	36 (10.0%)	360
3	If yes which were seen: fever/injection site pain and swelling/rash	310 (86.1%)	50 (13.9%)	360
4	Did you inform the doctor/health care worker about the side effect seen in your child?	281 (78.1%)	79 (21.9%)	360

Study revealed that; out of 360 mothers; 324 (90.0%) mothers practically observed side effects and when they observe side effects only 281 (78.1%) inform doctors /health care workers.

Table 4: Comparison of practice of mothers with immunization status of children

	Questions	Fully immunized (N=183)		Partially immunized/unimmunized (N=177)		Fisher exact test P-value
		Yes	No/don't know	Yes	No/don't know	
Practice	Was immunization completed according to schedule?	183	0	134	43	P = 0.001 HS
	Did side effects appear?	172	11	152	25	P = 0.0132 S
	If yes which were seen: fever/injection site pain and swelling/rash	162	21	147	30	P =0.1734 NS
	Did you inform the doctor/health care worker about the side effect seen in your child?	162	21	120	57	P = 0.001 HS

NS= not significant, S=significant, HS=highly significant

On analysing the practices of the mothers towards vaccination, About 94.0% mothers of fully immunized children and 85.9% mothers of partially immunized/unimmunized children reported to have side effects following vaccination. And only 88.5% mothers of fully immunized children and 67.8% mothers of partially immunized/unimmunized children reported these side effects to doctor/health care workers.

DISCUSSION

The present study found that the immunization coverage was 50.8%, which is considerably lower than the Universal Immunization Programme (UIP) target of 85% coverage. This finding indicates a substantial gap in achieving universal childhood immunization and highlights the need for strengthening routine immunization services and community-based awareness programmes.

The study identified Anganwadi Workers (AWWs) and Auxiliary Nurse Midwives (ANMs) as the primary sources of information regarding childhood vaccination among mothers. This finding is consistent with the study conducted by Bholanath et al., who also reported that frontline healthcare workers play a pivotal role in disseminating information on immunization.⁴ Therefore, enhancing the knowledge and communication skills of AWWs and ANMs through regular training programmes could improve awareness and increase vaccination coverage.

Singh et al. reported that although mothers possessed fair knowledge regarding the importance of immunization, their knowledge about vaccine-preventable diseases (VPDs) was inadequate.⁸ Similarly, Kapoor et al. observed that maternal awareness and knowledge of VPDs increased significantly with higher educational status.⁹ Siddiqui et al., in a cross-sectional study conducted in Karachi, found significantly better vaccination coverage among children whose parents were literate compared to those with illiterate parents.¹⁰ These findings support the present study, which suggests that maternal education plays a crucial role in improving knowledge, attitudes, and practices related to childhood immunization.

In the present study, all mothers preferred to avail vaccination services from government health facilities. A similar observation was reported by Hamid et al., who found that rural mothers trusted and preferred government healthcare facilities for immunization services.¹¹ This preference underscores the importance of strengthening public health infrastructure and ensuring uninterrupted availability of immunization services.

Among mothers of partially immunized and unimmunized children, the most commonly reported reason for incomplete vaccination was lack of awareness regarding the immunization schedule. This finding is in agreement with the study conducted by Angadi et al., which identified inadequate awareness of vaccination schedules as a major reason for incomplete immunization.¹² These findings emphasize the need for effective Information, Education, and Communication (IEC) activities and regular counselling of parents regarding the importance of timely vaccination.

The present study also demonstrated a statistically significant difference in vaccination-related practices between mothers of fully immunized children and those of partially immunized or unimmunized children. Mothers of fully immunized children exhibited better awareness and more favourable immunization practices. This difference may be attributed to their higher literacy levels and better understanding of the benefits of vaccination. The findings reinforce the importance of maternal education and targeted health education interventions in improving immunization practices and achieving higher vaccination coverage.

CONCLUSION

We found significant lacunae in the practice of mothers towards childhood vaccination especially among mothers of partially immunized and unimmunized children. 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.

ACKNOWLEDGEMENT

Authors acknowledge the help received from scholars whose articles have been cited and included in references of this manuscript.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee.

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