



**INTERNATIONAL JOURNAL OF
PHARMACEUTICAL SCIENCES**
[ISSN: 0975-4725; CODEN(USA):IJPS00]
Journal Homepage: <https://www.ijpsjournal.com>



Research Article

A Prospective Observational Study To Assess The Knowledge, Attitude And Perception Of Mothers On Child Immunization Programme In Mangalore

Ramakrishna Shabaraya A. , Clelia Kb *, Sudhamshu K Tantry

Department of Pharmacy Practice, Srinivas College of Pharmacy, Valachil, Post Farangipete, Mangalore-574143.

ARTICLE INFO

Received: 20 Sep 2024

Accepted: 24 Sep 2024

Published: 12 Oct 2024

Keywords:

vaccine preventable disease, PIL, knowledge, attitude, perception.

DOI:

10.5281/zenodo.13955809

ABSTRACT

Immunization is essential for public health, effectively reducing illness and death from Vaccine Preventable Diseases (VPDs). In order to raise public awareness of the advantages of vaccination, this study sought to determine the knowledge, attitude, perception and its influence on immunization status. A prospective observational study was conducted in Mangalore in which a total of 161 mothers with children under five-year-old were included in the study. The knowledge, attitude and perception affecting immunization status were examined using a pre-validated questionnaire. Out of 161 participants, 31.6% had good knowledge, 8% had positive attitude and 24.2% had positive perception on immunization programme. There was a significant ($p < 0.05$) correlation found among the 41% of mothers who stated that their children had delayed vaccinations, 75.7% had inadequate knowledge, 95.5% had a negative attitude, and 81.81% had poor perception. Moreover, the study showed that education and employment status of mother were significant factors affecting immunization status. Therefore, to increase the vaccination rates and enhance the overall health of future generations, health care providers should educate by using patient information leaflet (PIL), follow immunization cards, utilize vaccination date reminders and communicate promptly with mothers to improve the knowledge, attitude and perception regarding the immunization program and address the other factors that may limit the vaccination rate.

*Corresponding Author: Clelia Kb

Address: Department of Pharmacy Practice, Srinivas College of Pharmacy, Valachil, Post Farangipete, Mangalore-574143.

Email ✉: cleliakb1259@gmail.com

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



INTRODUCTION

Immunization is one of the most popular and economically viable public health interventions to reduce childhood morbidity and death linked to vaccine-preventable diseases (VPDS)^{1,10}. It is widely acknowledged that raising the vaccination rate to above 80% prevents disease transmission to the point where even children who are not vaccinated in the community are protected due to herd immunity. As a result, it's critical that all kids under five receive vaccinations. Additionally, in order to protect every generation going forward, that level of immunization needs be maintained. Immunizations against dangerous diseases throughout childhood not only protect a child from them, but also stop them from infecting other children. Both community hospitals and private hospitals implement various immunization programs. The BCG vaccine, poliomyelitis vaccine, pertussis vaccine, tetanus vaccine, measles vaccine, MMR vaccine, hepatitis B vaccine, varicella vaccine, typhoid vaccine, etc. are common vaccinations in the current situation². The Expanded Programme of Immunization (EPI), launched by the World Health Organization (WHO) in 1974, attempts to achieve at least 85% vaccination coverage while also immunizing infants against diseases that can be prevented by vaccination. According to national family health surveys, vaccination coverage has gradually increased in India over time, with 35.4%, 42.2%, and 43.5% of children between the ages of 12 and 23 months finding that they had received all recommended vaccinations. However, this improvement falls well short of what is desired. Depending on socioeconomic conditions, these numbers differ significantly between states and nations^{3,11}. The community's inadequate engagement in routine vaccination programs, as well as a lack of information and communication efforts, have been recognized as the main causes

of low coverage. A major obstacle to childhood vaccination is unfavourable parental attitudes against vaccinations⁴. A number of factors, including parents' knowledge, attitudes, and perceptions, affect an immunization program's success or failure. There is variation in the vaccination rate in India. In Karnataka, the remaining 15 districts including Bijapur District had low vaccination rates, with the exception of Uttar Kannada District, which has a very high vaccination rate of 95%, and 14 other districts that have demonstrated a greater coverage rate (>85%). 95% vaccination coverage is the minimum required to maintain the control of diseases that can be prevented by vaccination⁵.

Given that mothers are a child's primary caregiver, they are crucial to the child's immunization process. Research have indicated that the incomplete or partial immunization status of children under five years old is influenced by maternal factors, including knowledge, attitude, and perception of mothers as well as socioeconomic factors⁶.

This study aims to assess mother's knowledge, attitudes, and perception towards child vaccination. This will make it possible for us to determine the causes of inadequate immunization as well as other elements influencing low vaccination rates.

MATERIALS AND METHODS

STUDY DESIGN:

A Prospective observational study

STUDY SITE:

The study was conducted at communities in Mangalore.

STUDY DURATION

: The study was conducted for a duration of 6 months.

SAMPLE SIZE:

The sample taken for the study was 1616.



STUDY CRITERIA:**Inclusion criteria:**

Mothers of child below 5 years of age.
Voluntary participants residing in Mangalore.

Exclusion criteria:

Mothers of child with diseases and/ medications.
Mothers working as healthcare professionals.

SOURCE OF DATA:

The data were collected using Questionnaire9

STATISTICAL ANALYSIS:

Statistical Analysis involves collecting and scrutinizing every data sample in a set of items from which samples can be drawn and a suitable statistical test will be applied to analyse the data. The collected data will be analysed using Microsoft Excel.

RESULTS**Socio Demographic Characteristics of Study Participants**

The study comprised 161 respondents in total, and sociodemographic data about the study participants was gathered from different Mangalore localities. The mothers' mean age, according to the data, was 29. The majority (69.5%) were homemakers, and over half (64.5%) had earned a degree. 51.5% Of mothers had female children, while 53.4% of mothers were from rural areas. A summary of the demographic features can be found in a Table 1.

Table 1 sociodemographic details

Socio Demographic characteristics	No. of participants	Percentage (%)
Age of mother		
20-24	13	8.07
25-29	89	55.3
30-34	40	24.8
35-40	19	11.8
Education status of mother		
Illiterate	3	1.86
Primary	12	7.4
Secondary	42	26.08
Degree	104	64.5
Employment status of mother		
Housewife	112	69.5
employed	41	25.4
Self employed	7	4.3
Business	1	0.62
Domiciliary status		
Rural	86	53.4
Urban	75	46.5
Age of child		
Neonates or Newborns (birth to 1 month)	2	1.24
Infants (1 month to 1 year)	46	28.5
Toddler (1 year to 3 years)	66	40.9
Preschool (3 years to 6 years)	47	29.1
Gender of child		
Male	78	48.4
Female	83	51.5

Immunization Status:**Table no. 2: Immunization status**

Immunization status	No. of participants
Immunized as per schedule without fail	95
Immunized but not per schedule	66
Not Immunized	0

From total of 161, 66 participants had delayed their immunization and 95 participants children were immunized as per schedule without fail. [Table 2]

ASSESSMENT OF KNOWLEDGE

Knowledge of mothers on immunization programme:

In all, 63.3% of mothers who satisfied the requirements for inclusion are aware of the child vaccination program [Fig 1]. 81.9% Of Mothers concurred that the aim of immunization is to prevent development of certain diseases [Fig 2]. 94 mothers are aware that vaccinations begin as soon as the baby is born [Fig 3].

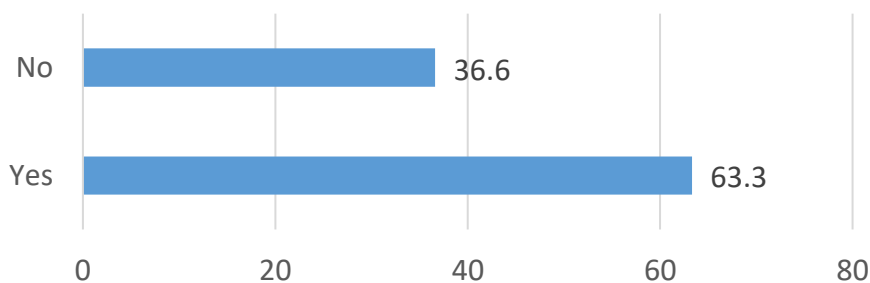


Fig 1: Do you know about child immunization programme?

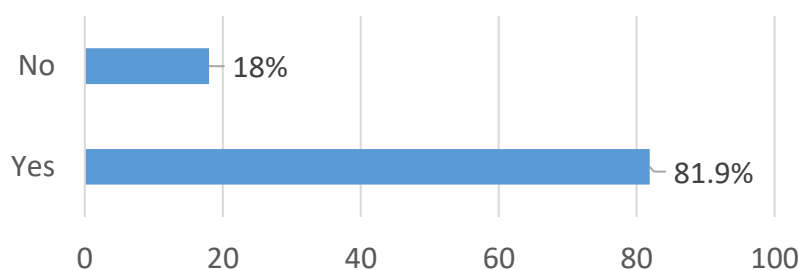


Fig 2: The aim of immunization is to prevent development of certain diseases

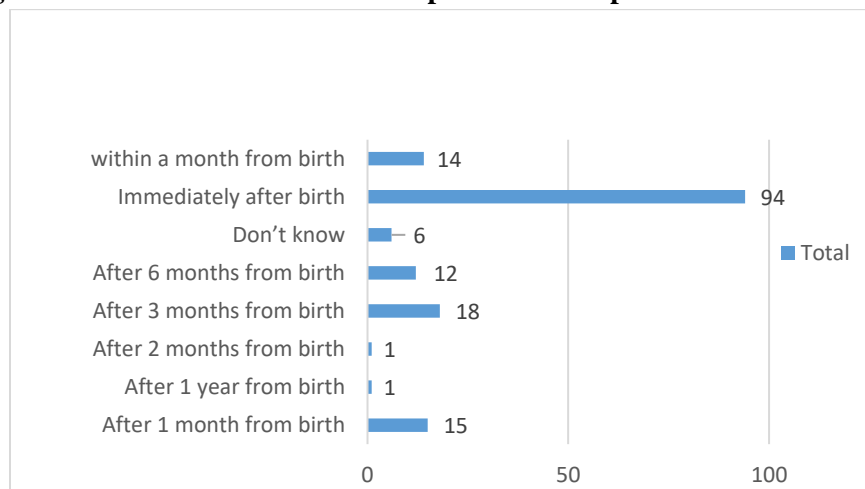


Fig 3: Age at which immunization starts

ASSESSMENT OF ATTITUDE**Table no.3: Attitude assessment among mothers on immunization**

QUESTIONS	Data Frequency (%)	QUESTIONS
Do you think vaccination Side effects are dangerous?	Yes	20 (12.4)
	No	141 (87.5)
Do you think vaccination important only for serious diseases?	Agree	49 (30.4)
	Disagree	49 (30.4)
	Do not know	63 (39.1)
Do you think all children should be vaccinate?	Agree	94 (58.3)
	Disagree	10 (6.2)
	Do not know	57 (35.4)
Have you recommended vaccines to other parents?	Yes	60 (37.2)
	No	101 (62.7)

The attitude assessment is presented in Table 9. Analytical test data showed that attitude of participants about the side effects, awareness on need of vaccination for serious illness, importance of vaccination in every child and the practice of recommending immunization to other parents. Total of 49 (30.4%) responded that vaccination is important only for serious diseases [Table 3]. 58.3% of mothers believe that all children should be vaccinated and 37.2% mothers recommended vaccinations to other parents.

ASSESSMENT OF PERCEPTION

Out of the 161 participants, 120 (74.5%) agreed that vaccination does not make the child sick, 22 (13.6%) believed that immunizations may make their child sick and 19 (11.8%) participants reported as don't know. 56 (34.7 %) of mothers had misconception of "number of vaccines taken by a child is too many". A total of 103 (63.9%) stated that immunization is beneficial for child.

Table no. 4 perception assessment among mothers on immunization

Questions	Responses	Pre-Data Frequency (%)
Do you think vaccination makes your child sick?	Agree	22 (13.6)
	Disagree	120 (74.5)
	Do not know	19 (11.8)
Do you think the no. of vaccines to be taken by a child is too many?	Agree	56 (34.7)
	Disagree	53 (32.9)
	Do not know	52 (32.2)
Do you think compliance with immunization as per schedule is beneficial for your child?	Agree	103 (63.9)
	Disagree	8 (4.9)
	Do not know	50 (31)



Assessment of Immunization status with Demographics**Table no.5: Assessment of Immunization status with Demographics**

Demographic characteristics	Immunization status		
Age of mother	Immunized as per Schedule without fail	Immunized but not per schedule	p value
20-24	8	5	> 0.5
25-29	54	35	
30-34	20	20	
35-40	13	6	
Education status of mother			
Illiterate	0	3	< 0.001
Primary	6	6	
Secondary	13	29	
Degree	76	28	
Employment status of mother			
Housewife	59	53	< 0.001
employed	32	9	
Self employed	4	3	
Business	0	1	
Domiciliary status			
Rural	47	39	> 0.05
Urban	48	27	
Age of child			
Neonates or Newborns (birth to 1 month)	0	2	> 0.05
Infants (1 month to 1 year)	31	14	
Toddler (1 year to 3 years)	36	30	
Preschool (3 years to 6 years)	27	20	
Gender of child			
Male	46	49	> 0.05
Female	32	34	

From Table 5, it was found that education and employment status significantly affect the immunization status of a child ($p < 0.05$).



Assessment of Immunization status with Knowledge, attitude and perception**Table no. 6: Assessment of Immunization status with Knowledge, attitude and perception**

Parameter		Immunization status		p value
		Not delayed Immunization	Delayed Immunization	
Knowledge	Good	46	16	p < 0.05
	Poor	49	50	
Attitude	Positive	12	3	p < 0.05
	Negative	83	63	
Perception	Positive	27	12	p < 0.05
	Negative	68	54	

The data also showed that influence of the knowledge, attitude and perception was significant on immunization status. Majority of participants with poor knowledge, attitude and perception had delayed immunization with p value < 0.05.

DISCUSSION

This study evaluated the knowledge, attitudes, and perception of mothers in Mangalore about immunization programs and the factors influencing children under the age of five's immunization status. Mothers' awareness is known to have a significant effect on their child's immunization rate and ability to retain current immunization status. A brief survey is designed to gather information about mothers of children under five years old regarding their knowledge, attitudes, and perceptions of routine immunization (RI), as well as the factors affecting their child's immunization status. In contrast to a study by Abel N et al., a significant correlation was also found in the current study between mothers' immunization status and their knowledge, attitude, and perception. Their findings showed that the immunization status of children was correlated with factors mothers' knowledge, attitudes and perceptions¹. This study found a significant relationship (p<0.05) between mothers' employment and educational status and their immunization status. These results are consistent with a study by Malkar VR et al., that found a

significant relationship (p<0.05) between mothers' employment and educational status and their immunization status.³ The majority of mothers in this study believed that the purpose of vaccination is to prevent the development of specific diseases and that most mothers were aware of the child immunization program. The age at which immunizations begin to take effect was accurately stated by more than half of the mothers. This result was in line with research by Adedire E.B. et al., which showed that more than half of the mothers were aware of the proper immunization schedule and age at which each vaccine should be administered⁷. Analytical test results from the current study demonstrated participant attitudes toward vaccination awareness and the necessity of immunization for major illnesses in children. While negative attitudes regarding vaccination, which are frequently the result of misinformation or a fear of side effects, might cause immunization to be delayed, positive attitudes toward vaccination can significantly help complete immunization. These results were in line with research by Bofarraj M.A⁸. Another important finding in this study with delayed vaccination was a negative assessment of the safety of vaccinations. Mothers are more likely to postpone their children's vaccinations if they believe that diseases that can be prevented by vaccines are not serious enough to call for preventative measures or



if they believe that immunizations will not have a significant positive impact on their child's health. Although mothers' attitudes regarding vaccinations were shown to be positive in this survey, a tiny percentage of respondents still held some misconceptions that ran counter to the results of a KAP study on vaccinations that Adedire EB et al., did in Atakumosa, Osun state⁷. The study's findings offer important insights into the impact of factors such as a mother's employment and educational background, as well as her knowledge of vaccinations, attitude toward immunization, and perception of immunization. According to research by Tadesse H et al., mothers who were more informed about vaccinations were more likely to vaccinate their child. Similarly, the majority of mothers in this study whose children are fully vaccinated were more knowledgeable than the mothers whose children are partially vaccinated⁶. It is essential to vaccinate more children in accordance with the immunization schedule in order to control or eradicate diseases that can be prevented by vaccination. Using information dissemination (PIL) to educate mothers about the value of child vaccination, the number of children with inadequate immunization status must be reduced. Health practitioners and the media should concentrate on stepping up health communication initiatives to raise vaccination awareness and alter public perceptions of vaccination, particularly among mothers.

CONCLUSION:

The current study concludes that mothers of children under five had inadequate knowledge, attitudes, and perceptions regarding routine immunizations. The study showed that delayed immunization was significantly associated with poor knowledge, negative attitudes, and poor perception. Furthermore, the education and employment status of the mother were significant factors affecting the immunization status. When devising plans for child vaccination, each of these

variables has to be considered. Therefore, to increase the vaccination rates and enhance the overall health of future generations, healthcare providers should educate by using PIL, follow immunization cards, utilize vaccination date reminders, and communicate promptly with mothers to improve the knowledge, attitude, and perception regarding the immunization program and address the other factors that may limit the vaccination rate.

ACKNOWLEDGEMENTS

The authors would like to thank Srinivas College of Pharmacy for their support and acknowledge the study participants for their seamless completion.

REFERENCE:

1. Abel N, Wondewosen K, Sahilu A, Hagan AK. Factors associated with incomplete childhood immunization in Arbogona district, southern Ethiopia: a case-control study. *BMC Public Health*. 2016;16(27).
2. Dias E, Dias A, Baburaj A. Common Vaccinations in Infants and Children-A Brief Review. *International Journal of Health Sciences and Pharmacy (IJHSP)*.2019; 3(2): 30-40.
3. Malkar VR, Khadilakar H, Lakde RN, Joge US, Choudhari SG. Assessment of sociodemographic factors affecting immunization status of children in age group of 12-23 months in a rural area. *Indian Medical Gazette*. 2013 May;164-9.
4. Mahalingam S, Soori A, Ram P, Achappa B, Chowta M, Madi D. Knowledge, attitude and perceptions of mothers with children under five years of age about vaccination in Mangalore, India. *Asian Journal of Medical Sciences*. 2014;5(4):52-7.
5. Abdulraheem IS, Onajole AT, Jimoh AA, Oladipo AR. Reasons for incomplete vaccination and factors for missed opportunities among rural Nigerian children.



- Journal of Public Health and Epidemiology. 2011;3(4):194-203.
6. Tadesse H, Deribew A, Woldie M. Explorative assessment of factors affecting child immunization in Wonago district, Gedeo zone, South Ethiopia. *Archives of Medical Science*. 2009 Apr 1;5(2):233-40.
 7. Adedire EB, Ajumobi O, Bolu O, Nguku P, Ajayi O. Maternal knowledge, attitude, and perception about childhood routine immunization program in Atakumosa-west Local Government Area, Osun State, Southwestern Nigeria. *The Pan African Medical Journal*. 2021;40(8):79-99.
 8. Bofarraj MA. Knowledge, attitude and practices of mothers regarding immunization of infants and preschool children at Al-Beida City, Libya 2008. *Egyptian Journal of Pediatric Allergy and Immunology (The)*. 2011;9(1):10-20.
 9. Md S, Athira A, Lmd T, Sa R, Nadikudi N, Doddayya D. Assessment of knowledge, attitude and perception among mothers towards immunization in a tertiary care teaching hospital. *Int J Community Med Public Health*. 2017 Sep;4(9):3429-5.
 10. Verulava T, Jaiani M, Lordkipanidze A, Jorbenadze R, Dangadze B. Mothers' knowledge and attitudes towards child immunization in Georgia. *The Open Public Health Journal*. 2019 May 31;12(1).
 11. Azhar S, Rashid L, Islam T, Akhtar S, Hopkins KL, Sommers T, Ikram A, Anwer N, Maqbool NA, Khan Z, Ahmed N. Knowledge, attitudes, and practices of vaccinators about expanded programs on immunization: a cross-sectional study. *Frontiers in Public Health*. 2024 Mar 6;12.

HOW TO CITE: Ramakrishna Shabaraya A., Clelia Kb, Sudhamshu K Tantry, A Prospective Observational Study To Assess The Knowledge, Attitude And Perception Of Mothers On Child Immunization Programme In Mangalore, *Int. J. of Pharm. Sci.*, 2024, Vol 2, Issue 10, 664-672. <https://doi.org/10.5281/zenodo.13955809>

