International Journal of Community Medicine and Public Health
*Sinha S et al. Int J Community Med Public Health. 2018 Oct;5(10):4331-4334*
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20183969

**Original Research Article**

# A study on the immunisation status and the factors responsible for incomplete immunization amongst children of age group 0-12 months coming to a tertiary care hospital (IGIMS)

**Shivani Sinha*, Sanjay Kumar, Sanjay Kumar Chaudhary, Setu Sinha, Varsha Singh, Seema Kumari**

Department of Community Medicine, IGIMS, Patna, Bihar, India

**Received:** 26 July 2018
**Revised:** 24 August 2018
**Accepted:** 27 August 2018

***Correspondence:**
Dr. Shivani Sinha,
E-mail: shivani.sinha2005@gmail.com



## ABSTRACT

**Background:** Vaccines are safe, simple and one of the most cost-effective way to save and improve the lives of children. The World Health Organization launched the Global Programme of Immunization in 1974 and Government of India launched the same in India on 1st January, 1978, with a view to provide protection to the children against disease and to reduce infant mortality rate.
**Methods:** A hospital based cross sectional study was carried out in the immunization clinic of a tertiary care hospital (IGIMS) of Patna district. The study unit were children of age group 0 to 12 months attending the immunisation clinic of IGIMS Patna. The study was conducted from January 2017 to December 2017, for a period of 12 months.
**Results:** About 40% of children were fully immunized, about 73.3% were having immunization card.
**Conclusions:** Immunizations is one of the biggest public health achievements of the last century, saving millions of lives and preventing illness and lifelong disability in millions more. Many childhood diseases which is now preventable by vaccines often resulted in hospitalization, death or lifelong consequences only a few decades ago. Without immunizations, serious outbreaks of many of the diseases we are now protected from can reoccur. There is a need to create awareness regarding the importance of vaccination, as well as the consequences of partial immunization, parents views must also be taken into consideration when the programme is planned, especially those with a lower educational level.

**Keywords:** Vaccines immunization, World Health Organization, NFHS-4, Universal immunisation programme

## INTRODUCTION

The health of children has been of vital importance to all societies because children are the basic resources of future mankind. Immunization is one of the best indicators to evaluate the health outcomes and services distributed across social and economic groups. It is also one of the most cost-effective interventions to prevent a series of major illnesses, particularly in environments where children are undernourished and die from preventable diseases.[1]

Vaccines ensure that all children, no matter their circumstances, have a shot at a healthy life children in India continue to lose their lives to vaccine-preventable diseases such as measles, which remains the bigger killer. Tetanus in newborn also remains a problem. Diarrhea remains the second major cause of death among children, after respiratory-tract infections. Unhygienic practices and unsafe drinking water are some of its main causes. Immunization saves more than 3 million lives worldwide each year, and it saves millions more from suffering illness and lifelong disability (WHO estimate, 2009).[2]

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 newborns deaths in 2010 and a significant number of women also die to 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 rates in India are very high and the important causes which contribute major chunk to the IMR is inadequate breastfeeding and immunization.[3] The Government of India launched Universal Immunization Programme on 19th November 1985, with the main objective of covering at least 85% of all infants against the six vaccine preventable diseases by 1990.[4] As per the national family health survey– IV (2015–16) only 62.0% of eligible children were fully vaccinated.

In India, immunization services are offered free in public health facilities but the coverage still remains low. This emphasizes the continuing need of coverage assessment surveys with a focus on quality of the health services. To enhance the coverage of routine immunization, it is crucial that shortcomings in the quality of routine vaccination services are addressed, and quality of immunization services is monitored.

Performance of immunization programme in Bihar was revealed to be worse than the national level. It is clear from the result of NFHS 4 that a total of 61.7% children of age group 12-23 months were fully immunized for BCG, Measles, 3 doses of each polio and DPT in Bihar, where as in NFHS-3 only 32.8% were fully immunized against all these vaccine, which is showing an improving trend.[5]

Universal immunization programme in India reveals coverage below 50 percent in most populous states of the country (Bihar, Uttar Pradesh, West Bengal) and most of the health indicators to be low in states where immunization coverage is low.[6]

Immunization coverage is the most important strategy adopted by child survival programs throughout the world. Roughly 3 million children die each year of vaccine preventable diseases, with a dis-proportionate number of these children residing in developing countries[6].

Universal immunization programme was launched in India in 1985 with two vital components: immunization of pregnant women against tetanus, and immunization of children in their first year of life against the six EPI target diseases. The coverage evaluation survey by UNICEF in 2009 reported that the percentage of children fully immunized in India is only 61% and that the immunization coverage in India varies between 24.8% in Arunachal Pradesh to 87.9% in Goa and the coverage in Kerala is 81.5%.[7]

To supplement the national level survey, there is always need of local level data and as very few studies have been done in Patna regarding routine immunization amongst children aged 0 to 24 months.

## METHODS

A hospital based cross sectional study was carried out in the immunization clinic of a tertiary care hospital (IGIMS) of Patna district. The study unit were the children aged between 0 to 12 months attending the immunisation clinic of IGIMS Patna. The study was conducted for a period of 12 months from January 2017 to December 2017. All children of age group 0-12 months who attended the immunization clinic during the study period where included.

### *Sampling technique*

Simple random sampling technique was used to select required sample size.

### *Selection of sample*

Information was collected by a semi-structured questionnaire. Information about the child like name, age, sex, religion was included. It also included about feeding pattern, age at which weaning was started, parents name, their education, occupational status, annual income, total family members, and information regarding the immunization status of these children (vaccines covered under UIP). All the children who were coming for immunisation during the study period and were under the age group of 0-12 months were selected through simple random sampling.

### *Inclusion criteria*

Inclusion criteria were children aged between 0 to 12months attending the immunization clinic.

### *Exclusion criteria*

Exclusion criteria were children aged more than 12 months; mothers who showed non co-operative attitude or refusal to provide necessary information.

### *Statistical analysis*

Data was tabulated on Microsoft Excel Sheet. The master chart was prepared for data analysis and tables were formed accordingly. All the analysis was carried out by using SPSS 17.0 version.

## RESULTS

According to Table 1, about 53.3% of the children were brought to the immunisation clinic by their mother, where as 33.3% of the children were brought by their father, almost 3.3% were being brought by brother/sisters.

**Table 1: Relationships of the respondents with the under one children.**

| Relation | Number | Percentage (%) |
|---|---|---|
| **Mother** | 160 | 53.3 |
| **Father** | 100 | 33.3 |
| **Grandparents** | 30 | 10 |
| **Brother/sister/others** | 10 | 3.3 |
| **Total** | 300 | 100 |

In this study about 63.3% of the children were of male sex, 40% of children were fully immunized, and 73.3% of them were having immunization card (Table 2).

This study also showed that 73.3% of the mothers were in age group 19-29 year, in which majority (60%) of them belonged to Hindu religion, about 66.6% were from nuclear family and about 58.3% were housewife by occupation, whereas about 73.3% of the children were coming from urban area (Table 3).

**Table 2: Distribution of socio-demographic indicators of the respondents.**

| S. No | | No | % |
|---|---|---|---|
| **1.** | **Source of information** | | |
| | None | 90 | 30 |
| | Doctor | 82 | 27.3 |
| | Relatives | 75 | 25 |
| | Health worker | 45 | 15 |
| | Family | 8 | 2.6 |
| **2.** | **Sex of the child** | | |
| | Male | 190 | 63.3 |
| | Female | 110 | 36.6 |
| **3.** | **Immunisation status** | | |
| | Fully immunized | 120 | 40 |
| | Partially immunized | 100 | 33.3 |
| | Non immunized | 80 | 26.6 |
| **4.** | Immunisation card | | |
| | Has card | 220 | 73.3 |
| | Does not have card | 80 | 26.6. |

**Table 3: Distribution of samples according to demographic characteristics.**

| S. No | Sample characteristics | Frequency | Percentage (%) |
|---|---|---|---|
| **1** | **Age of mother (in years)** | | |
| | 19-29 | 220 | 73.3 |
| | 30-40 | 80 | 26.6 |
| **2** | **Religion** | | |
| | Hindu | 180 | 60 |
| | Muslim | 100 | 33.3 |
| | Others | 20 | 6.6 |
| **3** | **Type of family** | | |
| | Nuclear | 200 | 66.6 |
| | Joint | 100 | 33.3 |
| **4.** | **Education of mother** | | |
| | Uneducated | 15 | 5 |
| | Primary school | 78 | 26 |
| | High school | 88 | 29.3 |
| | Graduate and above | 119 | 39.6 |
| **4** | **Occupation** | | |
| | House wife | 175 | 58.3 |
| | Daily wages | 30 | 10 |
| | Private employee | 70 | 23.3 |
| | Government | 25 | 8.3 |
| **5.** | **Residential area** | | |
| | Urban | 220 | 73.3 |
| | Rural | 80 | 26.6 |

## DISCUSSION

In our study a majority (73.3%) of the mothers of the samples were in the age group of 19-29 years, whereas the study done by Mereena et al showed that a higher percentage (50.3%) of mothers belong to age group 26-30.[2] Most (60%) of them belonged to Hindu religion in our study while in the study done by Mereena et al a big bulk is from Muslim (54%) family which is different from our study.[2] However, UNICEF survey in 2010 and Gandhi et al showed immunization is higher in Hindu (55.55%) as compared to Muslim (33.33%), which is similar to my study.[8] In our study most (66.6%) of them were from joint family, whereas the study done by Mereena et al shows that the major chunk (72.3%) of the people were belonging to nuclear family followed by

joint family (27.7%).[2] The present study showed that about (40%) of the children were fully immunized which is more than the study done by Angadi et al in which almost 38.84% of the children were fully immunized.[9] In our study a total of 73.3% of the children had immunization card which is, similar to the finding of Angadi et al with a percentage of about 69.03% of the children having the immunization card.[9] About 73.3% of the study population belonged to urban (73.3%) area and (26.6%) of the children were coming from rural area similar to the study done by Angadi et al, 74.3% from urban area and about 25.7% from rural area.[9] In our study the major bulk of the children were male (63.3%), which is almost similar to the Angadi et al where the male are about 50.2% of the population.[9]

## CONCLUSION

Immunizations is one of the biggest public health achievement of the last century, saving millions of lives and preventing illness and lifelong disability in millions more. Many childhood diseases which is now preventable by vaccines often resulted in hospitalization, death or lifelong consequences only a few decades ago. Without immunizations, serious outbreaks of many of the diseases we are now protected from can reoccur.

A comprehensive communication strategy should be designed, regularly reviewed and updated. The strategic communication programme for different literacy level and ethnic group is must to reach the particular deprived group.[10]

There is a need to create awareness regarding the importance of vaccination, as well as the consequences of partial immunization, parents views must also be taken into consideration when the programme is planned, especially those with a lower educational level. This study goes out as a wakeup call for all policy makers and healthcare providers, that, health education is also an essential component that can go a long way in improving the prevailing scenario of immunization in the country.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Nath B, Singh JV, Awasthi S, Bhushan V, Kumar V, Singh SK. KAP Study on Immunization of Children in a City of North India – A 30 Cluster Survey. Online J Health Allied Scs. 2008;7(1):2.
2. Mereena, Sujatha RA Study on Knowledge and Attitude Regarding Vaccines among Mothers of Under Five Children attending Pediatric OPD in a Selected Hospital at Mangalore, IOSR J Nursing Health Sci. 2014;3(5):39-46.
3. Rabbanie Tariq Wani. Knowledge, Attitude and Practices of Mothers with Children Under Five years of Age About Vaccination. JMSCR. 2017;05(07):24449-54.
4. Park K. Park's textbook of Preventive and Social Medicine.20th ed. Jabalpur: M/S BanarsidasBhanot Publishers; 2009:112- 13,377-78,596.
5. National Family Health Survey-4, 2015 -16 State Fact Sheet, Bihar.
6. Datta A, Baidya S, Datta S, Mog C, Das S. A Study to Find Out the Full Immunization Coverage of 12 to 23-month old Children and Areas of Under-Performance using LQAS Technique in a Rural Area of Tripura. J Clin Diagnos Res. 2017;11(2):1-4.
7. Anitha SS, Jayasree AK, Devaki Antherjanam S. Immunization coverage among anganwadi preschool children in Kannur, Kerala, India. Int J Community Med Public Health. 2017;4(6):2042-5.
8. Gandhi PS, Dande V. A study to assess the knowledge and practice of initiation of immunisation in mothers of low birth weight Neonatal Intensive Care Unit (NICU) graduates in a tertiary care centre. Int J Contemp Pediatr. 2018;5(2):1-7.
9. Angadi MM, Jose AP,A Study of Knowledge, Attitude and Practices on Immunization of Children in Urban Slums of Bijapur City, Karnataka, India. J Clin Diagn Res. 2013;7(12):2803–26.
10. Devkota S, Simkhada P, Teijlingen EV, Rai LD. Parents' Knowledge and Practices to Childhood Immunisation in Nepal: Implications for Health Policy, Health Science J. 2013;7(4):370-83.

**Cite this article as:** Sinha S, Kumar S, Chaudhary SK, Sinha S, Singh V, Kumari S. A study on the immunisation status and the factors responsible for incomplete immunization amongst children of age group 0-12 months coming to a tertiary care hospital (IGIMS). Int J Community Med Public Health 2018;5:4331-4.