

**Original research article****To assess the status of immunization and their determinants in under 5-year children in Lohpeeta migrates tribe located in Shivpuri Central India****<sup>1</sup>Dr Anjana Niranjan, <sup>2</sup>Dr. Devendra Kumar Niranjan**<sup>1</sup>Assistant Professor, Department of Community Medicine, SRVS Medical College, Shivpuri, Madhya Pradesh, India<sup>2</sup>Associate Professor, Department of Microbiology, Maharshi Vishwamitra Autonomous State Medical College, Ghazipur, Uttar Pradesh, India**Corresponding Author:**Dr. Anjana Niranjan ([dr.anju09@gmail.com](mailto:dr.anju09@gmail.com))**Abstract**

**Background:** Avoidable sickness, disabilities and death among under 5 children are prevented by routine immunization against some specific diseases. Immunization is one of the most effective, safest, and efficient public health interventions, it prevent an estimated 2.5 million deaths every year worldwide.

**Objective:**

1. To assess the immunization coverage.
2. To assess the determinates of loss of immunization.

**Method:** A cross-sectional study was conducted in Lohpeeta migrants tribe located in Shivpuri during the month of October 2019 .Universal sampling method were applied because it was a small population, all children under the age of five year were included in the study. A pre-designed, pre-tested checklist was used by the trained investigators during their visits.

**Result:** In the present study no any single child was fully immunized and only 68.8% child were partially immunized and 31.1% child was unimmunized, most common cause of this was mobility of parents in 100% cases followed by lack of knowledge about vaccination schedule 90.5%.

**Conclusion:** Immunization coverage in these tribe was very poor so it was a very alarming condition for the elimination of various diseases. We all need to focus on these type of migrant's tribe for vaccination.

**Keywords:** Immunization, vaccine, unimmunized, partially immunized, fully immunized etc.

**Introduction**

Vaccines prevent an estimated 2.5 million deaths every year worldwide <sup>[1]</sup>. After the success of smallpox eradication programme, 27<sup>th</sup> World Health Assembly resolved to introduce Expanded Programme on Immunization (EPI), in May 1974. The EPI recommended the use of vaccines against six diseases-tuberculosis (BCG), diphtheria, tetanus, pertussis (DTP vaccine), measles and poliomyelitis <sup>[2]</sup>. The goal of Global Vaccine Action Plan as decade of vaccines (2011-2020) is to meet the vaccine coverage of 90% at national level and 80% every district or equivalent.

Immunization is one of the most effective, safest, and efficient public health interventions and was first introduced in India in 1978 <sup>[3]</sup>. While the impact of immunization on childhood morbidity and mortality has been great In 1985, the Universal Immunization Programme was started in India with the aim of achieving at least 85% coverage of primary immunization of infants, i.e. with three doses of DPT and OPV, one dose of BCG and one dose of measles by the year 1990. The current scenario depicts that immunization coverage has been steadily increasing but the average level remains far less than the desired. Though there is increased accessibility of health care services, its utilization is low. Delivering vaccines to hard to reach populations has always been a challenge. Thousands of children still die from vaccine-preventable diseases (VPDs) each year <sup>[4, 5]</sup>. VPDs are still responsible for over 5 lakh deaths annually in India. VPDs significantly contribute to under-five mortality, in India (Coverage Evaluation Survey (CES) 2009 Unicef report) <sup>[6]</sup>. The dropout rates are higher among migrants who have poor service utilization <sup>[7, 8]</sup>. Floating population, overcrowding poor sanitation, and personal hygiene lead to higher transmission of vaccine preventable diseases (VPD) <sup>[9]</sup>. Studies on determinants of immunization have shown that nearly one in three migrant children are unable to complete their course of vaccination <sup>[10]</sup>. Government of India declared 2012 as the year of intensification of routine immunization" a

campaign-like strategy to reach all children including migrants in remote inaccessible backward areas and urban slums <sup>[11]</sup>.

**Proof of Immunization** The child was considered as immunized or not, based on the immunization card. For those without an immunization card, information from the mother or any other responsible and reliable person in the family stating that the child has been immunized was considered. The lack of immunization cards was a common problem to both techniques but a shorter period of recall of child's immunization by the mother reduced this problem reduced the problem with that survey. If the mother could not remember regarding the vaccination or in the presence of any other confounding factors, the child was considered as not immunized with the vaccine under consideration. Child was considered as fully immunized if it received BCG (1), DPT (3), OPV (3) and measles (1); as unimmunized if received none of these vaccines and partially immunized if some dose given but immunization not complete.

Surveying the knowledge and attitudes toward childhood immunizations (KATCI) is an important first step toward understanding the factors that influence vaccine non-acceptance in particular settings <sup>[12]</sup>. Strategies need to be developed to improve vaccine coverage rates aided by the understanding of the relationship between KATCI and actually vaccinating children adequately <sup>[12]</sup>. This study aimed to assess the knowledge, attitude, and compliance of Family regarding immunization of under five children in Lohpeeta Migrants Tribe located in Shivpuri Central India.

## Material & Methods

This was a cross-sectional descriptive study conducted on Lohpeeta Migrants Tribe located in Shivpuri central India during the month of 1<sup>st</sup> October 2019 to 31<sup>st</sup> December 2019 with the objective

1. Actual status of immunization in under five children.
2. To assess the determinants of this.

### Operational definition uses in this study are

**Fully immunized:** A child who has taken all the vaccines and their required doses as per national immunization schedule (one dose of BCG, 3 doses of DPT, hepatitis B and OPV, one dose of measles vaccine) up to age of 12 months.

**Partially Immunized:** A child who has taken some vaccines or doses as per national immunization schedule up to age of 12 months.

**Non-immunized:** A child who have not taken any vaccine up to age of 12 months.

Total 1126 population of this tribe were reside in the Shivpuri local during month of October 2019, All mother and children's were included in the study without any exclusion criteria who are presence at home at the time of survey because they all were willingly participate in the study, so in our study total sample size was 180 under five year age group children to check the status of immunization and their determinants. Data was collected by using a pre-designed and pre-tested semi-structured questionnaire. The information regarding the households were collected in the initially. Information related to the place of birth of child, education and occupation of and other socio-demographic factors were collected. Immunization status of child was based on the information on immunization card. For children without immunization cards, information from the mother or any other reliable and responsible person in the family stating about immunization of the child was considered. BCG vaccination was also confirmed by presence of scar at appropriate place.

**Statistical Analysis:** Data were entered in the MS excel initially. Descriptive statistics used for socio-demographic details and vaccination coverage. Statistical analysis was perform& Results were expressed in number and percentages. SPSS software was used to calculate Chi-square test for proportions.  $p > 0.05$  were considered to be significant.

**Human subject protection:** The Institutional Ethics Committee of Govt. Medical College Shivpuri M.P. approved the study. We obtained written consent from the respondents after providing the information regarding the study.

## Result

In Table No. 1 we show the sociodemographic characteristic of study participants in these study most (41.1%) of them belong to 26 to 35 years and least (2.22%) one in was greater than 55 years. Mostly (68.3%) were uneducated followed by primary level (29.4%) then secondary level education in only (2.22%). Mostly were living in nuclear family and their family income was less than 5000rs and have more than two child in family and they were like to delivered in home followed by Government Hospital no any participants child was delivered in private hospital.

**Table 1:** Sociodemographic characteristics of respondents

S.N.	Variable	Frequency (180)	Percentage (%)
Age			
1.	15-25	39	21.6%
	26-35	74	41.1%
	36-45	46	25.5%
	46-55	17	9.44%
	>55	4	2.22%
Education			
2.	Uneducated	123	68.3%
	Primary level	53	29.4%
	Secondary level	4	2.22%
Type of Family			
3.	Nuclear	120	66.6%
	Joint	60	33.3%
Family income			
4.	<5000 Rs	98	54.4%
	6000-10000 Rs	66	36.6%
	>10000 Rs	16	8.88%
Number of Children in the family			
5.	<2	78	43.3%
	>2	102	56.6%
Place of Delivery of his/her child			
6.	Home	94	52.2%
	Govt. Hospital	86	47.7%
	Private Hospital	00	00%

**Table 2:** Practice of immunization in under 5 year age Children

S.N.	Variable	Child (180)	P-value
1.	Unimmunized	56(31.1%)	
	Male	23(41.07%)	
	Female	33(58.92%)	
2.	Partially Immunized	124(68.8%)	
	Male	73(58.8%)	
	Female	51(41.1%)	
3.	Fully Immunized	00(00%)	
	Male	00(00%)	
	Female	00(00%)	

In these study no any single child was fully immunized and only 124 (68.8%)child were partially immunized, in these partially immunized child male were 73 (58.8%) and female were 51(41.1%). and 56 (31.1%) child was unimmunized, in unimmunized child female were more 33(58.92%) than male were 23(341.07%).

**Table 3:** Reasons for partial immunization and non-immunization of the children according to respondents

S.N.	Cause	Partial immunization/ Non immunization (180)	Percentage (%)
1.	Home delivery	94	52.2
2.	Mobility of family	180	100
3.	Lack of knowledge of availability of vaccine place and time	156	86.6
4.	Lack of knowledge of benefits of vaccine	132	73.3
5.	Lack of knowledge of Vaccination Shedule	163	90.5
6.	Fear of side effects	82	45.5
7.	Lack of Time	33	18.3

In our study we found all children under five year age group were un-immunized /partially immunized, no one was fully immunized so we found the determinants of this were most common cause of this was mobility of parents in 100% cases followed by lack of knowledge about vaccination schedule 90.5% then Lack of knowledge of availability of vaccine place and time 86.6%, Lack of knowledge of benefits of vaccine 73.3%, followed by Home delivery 52.2% then Fear of side effects 45.5% least common cause of this was Lack of Time in only 18.3%.

**Discussion**

This study was carried out among mothers of children under 5 years on Migrant Lohpeeta Tribe Located in Shivpuri in October 2019. With the aim to determine their socio-demographic characteristics and

practice toward the immunization and their determinants in under-five children.

Childhood immunization being such an important intervention capable of preventing debilitating diseases to children, public enlightenment on the subject has been intensive and sustained.

In these study we found that most of the children's mother were uneducated, most of them belong to poor family and delivered at home and have more than two child in the family they were unaware about the various health facility available free of cost at the present time.

In these study no any single child was fully immunized and only 124 (68.8%) child were partially immunized, in these partially immunized child male were 73 (58.8%) and female were 51(41.1%). And 56 (31.1%) child was unimmunized, in unimmunized child female were more 33(58.92%) than male were 23(34.07%).

Similar results were shown by Singh *et al.* in a study in different states of India, where 63.3% children were fully immunized, 27.1% were partially immunized and 9.6% were unimmunized <sup>[13]</sup>. DLHS-III observed that 51.1% of children in Lucknow were fully immunized. Bholanath *et al.* <sup>[10]</sup> in a study in urban slums of Lucknow district showed that only 44.1% children were fully immunized, while 32% were partially immunized and 23.9% were unimmunized <sup>[10]</sup>.

In contrast to this study in the state of Madhya Pradesh reported a higher percentage (above 60%) of fully immunized children.

All children in our study were partial and non-immunization is due to most common cause of this was mobility of parents in 100% cases followed by lack of knowledge about vaccination schedule 90.5% then Lack of knowledge of availability of vaccine place and time 86.6%, Lack of knowledge of benefits of vaccine 73.3%, followed by Home delivery 52.2% then Fear of side effects 45.5% least common cause of this was Lack of Time in only 18.3%.

In a study by Joshi *et al.* <sup>[14]</sup>, important reasons for non-immunization were lack of awareness in both the urban (28.6%) and rural (78.6%) areas and lack of availability of services in rural areas (87.2%). In a study by Nandan *et al.*, <sup>[15]</sup> and Chaturvedi *et al.* <sup>[16]</sup>, non-availability of services was reported to be the single most common reason for non-immunization. According to another study by Nath *et al.* <sup>[10]</sup>, the commonest reason for the partial immunization of the child was the unavailability of both the parents (17.2%) to fulfill the child's health needs, as they were preoccupied in the livelihood-generation activities. This reflects the unmet needs of the community, which require organization of outreach services on fixed date and timing with prior information to the locality. Other reasons for partial immunization were missing of the dose due to visit to native place/village (14.7%). In the present study, children born at home were either non-immunized or partially immunized than those born in hospital. Similar findings were also observed by, Nath *et al.* <sup>[10]</sup> Mothers who deliver at home may be non-users of health services in general and have to be targeted for utilization of health services.

### Conclusion & Recommendation

In the present study we found very poor immunization coverage in the Lohpeeta migrants tribe located in the Shivpuri during the month of October 2019. Majority (68.8%) of the children were partially immunized followed by unimmunized (31.1%) no any child was found to be fully immunized. Most of them were uneducated and have poor living condition, they were don't know about the various facility available in the government hospital and they were beneficial for them, Gender of child has no significant effect in immunization coverage.

It was a very alarming condition for the elimination of various diseases. We all need to focus on these type of migrants tribe for vaccination and their education until they were not educated they were not able to understands the benefits of immunization, we also need to promote hospital based delivery in these people Increasing awareness and reducing fear of side effects of immunization among parents through health education, counseling, etc. can increase the percentage of immunized children. Making immunization services easily available to beneficiaries is again an important aspect for increasing immunization among children.

### Discussion

**Ethical approval and consent to participate:** The research proposal was approved by Ethics Review Committee of the Government Medical College Shivpuri M.P. informed consent was obtained from the entire participant.

**Consent to publish:** Administrative authorities consented the collection and publication of data. All authors read the manuscripts and agreed to publish.

**Authors' contributions:** RT and PA conceptualized the study. AN and AJ involved in the data collection process. AN and SS and SG assisted the data analysis and manuscript preparation to PA and RT. All authors read and approved the final manuscript.

**Conflicts of interest:** The authors have none to declare.

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