

Descriptive study on Awareness and utilization of Mission Indradhanush in urban slums of kalaburagi, Karnataka

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How to cite this article: Dayalaxmi. T. Shedole, Pavan Kalaskar, Jaya Suryavanshi et al. Descriptive study on Awareness and utilization of Mission Indradhanush in urban slums of kalaburagi, Karnataka

Abstract:

Background: Mission Indradhanush was launched in December 2014 to achieve more than 90% full immunization coverage in the country by the year 2020. The Intensified Mission Indradhanush (IMI) was launched in October 2017 for reaching the drop-out and left-out children for immunization. Recently IMI 3.0 has been launched, "Focus of the IMI 3.0 were the children and pregnant women who have missed their vaccine doses during the COVID-19 pandemic. In urban areas, a large group of vulnerable population lives in slums, where mothers are illiterate and have numerous myths about vaccination; this results in children being unimmunized and increased susceptibility to diseases.

Methodology: A descriptive, community based, cross sectional study was conducted for a period of two months i.e in the month of Feb. and March 2021, among the residents of slums of urban field practice area (Manikeshwari) of Gulbarga Institute Of Medical Sciences, Kalaburagi, Kanataka. A preformed, pretested, semi-structured questionnaire was used to collect information regarding Socio-demographic data of respondents, Immunization status of children and Knowledge regarding Mission Indradhanush and Immunization.

Results: Out of 200 children included in the study 81.5% of the children were completely vaccinated according to their age. Statistically significant association was seen between father's occupation and socioeconomic status with the immunization status of children. 46% of the respondents told that they had heard the word Mission Indradhanush, and the source of information was from the health care workers (60.9%) followed by friends (35.9%). A total of 77.1% of the respondents had an adequate knowledge about Mission Indradhanush and immunization. Sex of the child, religion, literacy status of father and occupation of father had a significant association with knowledge about MI and immunization.

Conclusion: Our study concludes that immunization coverage is satisfactory. Of the 200 participants only 92 respondents told that they had heard of the word "Mission Indradhanush, hence there is need for strengthening of Information, Education, Communication (IEC) activities regarding the program – Mission Indradhanush.

Keywords: Awareness, Mission Indradhanush, Immunization Status, Children, Urban Slums.

Introduction

India's UIP has contributed significantly to ensure equity to children accessing the public health system through a variety of supply and demand side interventions, though there still remain challenges of inequity. This translates into a cohort of 89

lakhs missed children majorly in hard to reach and underserved populations. Evidence shows that unvaccinated and partially vaccinated children are most susceptible to childhood diseases and disability, and run a three to six times higher risk of death as compared with fully immunized children¹.

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As a strategic endeavor, the Ministry of Health and Family Welfare, Government of India, launched Mission Indradhanush in December 2014 to achieve more than 90% full immunization coverage in the country by the year 2020 with a vision that it will eventually close immunity gaps and strengthen immunization coverage².

The Intensified Mission Indradhanush (IMI) was launched in October 2017 for reaching the drop-out and left-out children for immunization. In April 2018, MI was launched as one of the seven flagship schemes of the Government of India under the Gram Swaraj Abhiyan (GSA), an intensified multisectoral outreach program to deliver social welfare schemes in selected villages³.

Recently IMI 3.0 has been launched, "Focus of the IMI 3.0 will be the children and pregnant women who have missed their vaccine doses during the COVID-19 pandemic. They will be identified and vaccinated during the two rounds of IMI 3.0. Each round will be for 15 days each. Beneficiaries from migration areas and hard to reach areas will be targeted as they may have missed their vaccine doses during COVID19⁴.

In urban areas, a large group of vulnerable population lives in slums, where mothers are illiterate and have numerous myths about vaccination; this results in children being unimmunized and increased susceptibility to diseases. Parents are the primary health decision makers for their children, their knowledge regarding immunization in general have a great impact on the immunization status of their children⁵. With this background, we planned to undertake this study.

Objectives of the study

1. To assess knowledge of respondents about "Mission Indradhanush" and immunization.
2. To assess immunization status of children aged less than or equal to 24 months.
3. To study the association of Immunization status and Knowledge with various socio-demographic factors.

Materials and Methods:

Study population: Residents of slums in the Urban Field Practice area of GIMS, Kalburagi.

Sample size: 200 (convenient sampling) children in

the age group of 0-24 months attending MI session in urban slums of Manikeshwari UHTC.

Study design: Descriptive, Community based, Cross sectional study.

Study period: Two months (February 2021 to March 2021)

Inclusion criteria

Respondents whose children are aged less than or equal to 24 months attending Mission Indradhanush sessions and who are willing to participate.

Exclusion criteria:

Respondents who are not willing to participate.

Data collection method:

Total population of 13 slums coming under the field practice area of UHTC is nearly 15,649 with 3,465 families. An initial house to house survey was conducted in the slums of field practice area to find out the total number of children who are due for vaccination and a list of beneficiaries was prepared. After preparing the beneficiary list, sessions were planned in the month of Feb. And March 2021 when IMI 3(Intensified Mission Indradhanush) was launched. Mothers of eligible beneficiaries were informed about the date and place where the session will be held. On the day of session the mothers were briefed about the purpose of study and consent was taken for participation. A preformed pretested semi-structured questionnaire was used to collect information regarding the following,

- (A) Socio-demographic data of residents,
- (B) Immunization status of children and
- (C) Knowledge regarding Mission Indradhanush and immunization.

Immunization status of children was assessed by interviewing the respondents or from the immunization card. Only those respondents who told yes that they have heard about "Mission Indradhanush" were subjected to Knowledge assessment. The knowledge domain was assessed by 9 questions, the answer being yes, no and don't know. "Yes" (correct option) was given score 2 and "No" (wrong answer) was given score 1 and "Don't know" was given score 0 for each question. Answering 'yes'

to questions 1, 2, 3, 4, 5, 7 and 9 and 'No' to question 6 and 8 revealed good knowledge. The maximum score for knowledge was 18. 50th percentile was set as cut-off score, so the respondents who scored less than 9 were said to have inadequate knowledge and those who had score more than 9 were said to have adequate knowledge about vaccination. The questionnaire was initially developed in English and later translated into Kannada (local language) and translated back to English.

Statistical Analysis: Data entry was done in Microsoft excel spreadsheet and analysis was done by using SPSS software (version 16). Descriptive statistics was used and chi-square test as the test of significance; taking p-value of <0.05 as statistically significant.

Operational definitions:

1. **Complete immunization:** Defined as a child who has received one dose of BCG, one dose of Measles, 3 doses of DPT, OPV, Hepatitis B Vaccine within the age of one year (excluding OPV-0).

2. **Partial/ incomplete immunization:** Defined as a child who is not fully immunized but has received at least one dose of any vaccine within the age of one year
3. **Unimmunized children:** Defined as a child who has not received any vaccine as per National immunization schedule within one year of age⁶.

Results

Table 1. Distribution of children according to Immunization status.

Immunization status	Complete N (%)	Incomplete N (%)	Unimmunized N (%)
Total (N=200)	163(81.5%)	37(18.5%)	0

Out of 200 children included in the study 163 children were completely vaccinated according to their age where as 37 children vaccination was incomplete.

Table 2. Association between immunization status and selected variables

Socio-demographic factors	Immunization Status		X ² , df, p-value
	Complete 163(81.5%)	Incomplete 37(18.5%)	
1. Sex			
Male	78(39%)	19(9.5%)	X ² =0.148,df=1,p=0.71
Female	85(42.5%)	18(9%)	
2. Birth order			
1	51(28.5%)	10(5%)	X ² =5.557,df=4,p=0.235
2	68(34%)	21(10.5%)	
3	29(14.5%)	5(2.5%)	
4	8(4%)	0	
>/=5	1(0.5%)	1(0.5%)	
3. Type of family			
Nuclear	93(46.5%)	20(10%)	X ² =0.629,df=2,p=0.730
Joint	68(34%)	17(.5%)	
Three generation	2(1%)	0	
4. Family size			
<5	62(31%)	12(6%)	X ² =0.406,df=1,p=0.524
>/=5	101(50.5%)	25(12.5%)	

Conti..Table 2. Association between immunization status and selected variables

Socio-demographic factors	Immunization Status		X2, df, p-value
	Complete 163(81.5%)	Incomplete 37(18.5%)	
5. Religion			
Hindu	120(60%)	27(13.5%)	X2=0.006,df=1,p=0.936
Muslim	43(21.5%)	10(5%)	
6. Mothers education			
Literate	139(69.5%)	32(16%)	X2=0.036,df=1,p=0.850
Illiterate	24(12%)	5(2.5%)	
7. Fathers education			
Literate	136(68%)	30(15%)	X2=0.118,df=1,p=0.731
Illiterate	27(13.5%)	7(3.5%)	
8. Mothers occupation			
Housewife	143(71.5%)	32(16%)	X2=3.040,df=3,p=0.386
Private	5(2.5%)	3(1.5%)	
Govt.	3(1.5%)	1(0.5%)	
Laborer	12(6%)	1(0.5%)	
9. Fathers occupation			
Private	84(42%)	19(9.5%)	X2=6.408,df=2,p=0.041 Significant
Govt.	8(4%)	6(3%)	
Laborer	71(35.5%)	12(6%)	
10. Socioeconomic status (Modified B G Prasad classification 2020)⁷			
Class I	71(35.5%)	6(3%)	X2=17.672,df=4,p=0.001 Highly significant
Class II	26(13%)	4(2%)	
Class III	29(14.5%)	8(4%)	
Class IV	29(14.5%)	12(6%)	
Class V	8(4%)	7(3.5%)	

In the above table significant association was found between father's occupation and immunization status of children i.e fathers of most of the children who had complete immunization were doing either private or were labourers, the association of socioeconomic status with immunization status was found statistically highly significant. i.e most of the children who were completely immunized were belonging to class I according to modified B G Prasad classification. No significant association was found between immunization status with other socio demographic variables.

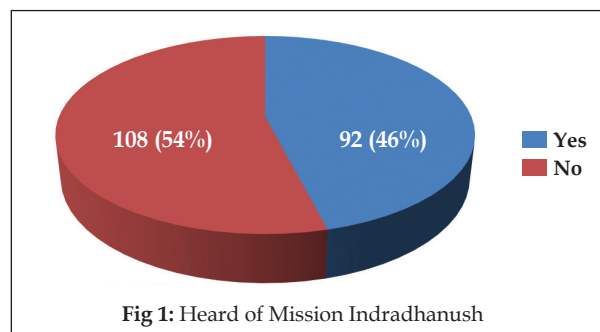


Figure 1: Distribution of study population according to whether they have heard of Mission Indradhanush.

Of the 200 residents involved in the study only 92 respondents told that they have heard the word Mission Indradhanush. Only those respondents who told that they are aware of word Mission Indradhanush were subjected to questions for testing their knowledge on Mission Indradhanush and Immunization.

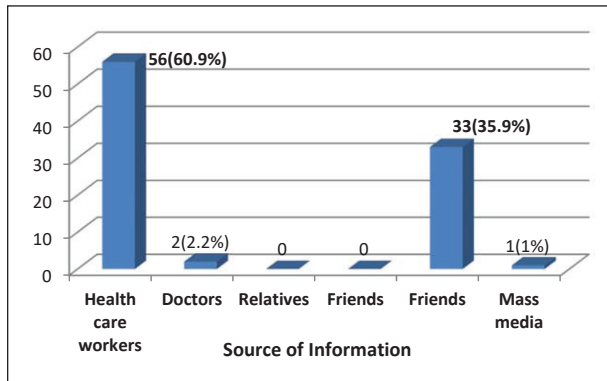


Fig 2: Source of information regarding Mission Indradhanush

The main source of information to the residents about mission indradhanush was from the health care workers (60.9%) followed by friends (35.9%).

Table 3: Assessment of knowledge regarding Mission Indradhanush.

Sl. no	Knowledge assessment	Yes N (%)	No N (%)	Don't know N (%)
1	Awareness about age related vaccination	89(96.7%)	1(1.1%)	2(2.2)

Conti..Table 3

Sl. no	Knowledge assessment	Yes N (%)	No N (%)	Don't know N (%)
2	Does the Vaccine prevent diseases	56(60.9%)	7(7.6%)	29(31.5%)
3	Vaccination schedule Should be followed	89(96.7%)	0	3(3.3%)
4	vaccination is compulsory	81(88%)	2(2.2%)	9(9.8%)
5	Vaccination should be given from birth	87(94.6%)	1(1.1%)	4(4.3%)
6	Are these Vaccines harmful	7(7.6%)	76(82.6%)	9(9.8%)
7	Can Child with common cold be vaccinated?	21(22.8%)	62(67.4%)	9(9.8%)
8	Can Child with fever be vaccinated?	24(26.1%)	59(64.1%)	9(9.8%)
9	Can Child with diarrhea be vaccinated?	9(9.8%)	75(81.5%)	8(8.7%)

Table 4: Association between knowledge about Mission Indradhanush and selected socio -demographic factors

Socio-demographic factors	knowledge about Mission Indradhanush		X ² , df, p-value
	Adequate N=71(77.2%)	Inadequate N=21(22.8%)	
1. Sex Male Female	26(28.3%) 45(48.9%)	16(17.4%) 5(5.4%)	X ² =10.228,df=1,p=0.001 Highly significant
2. Type of family Nuclear Joint Three generation	35(38%) 0 36(39.1%)	10(10.9%) 1(1.1%) 10(10.9%)	X ² =3.421,df=2,p=0.181
3. Family size <5 >/=5	25(27.2%) 46(50%)	7(7.6%) 14(15.2%)	X ² =0.025,df=1,p=0.874

Socio-demographic factors	knowledge about Mission Indradhanush		X ² , df, p-value
	Adequate N=71(77.2%)	Inadequate N=21(22.8%)	
4. Religion			
Hindu	40(43.5%)	19(20.7%)	X ² =8.211,df=1,p=0.004 Highly Significant
Muslim	31(33.7%)	2(2.2%)	
5. Mothers education			
Literate	62(67.4%)	18(19.6%)	X ² =0.037,df=1,p=0.847
Illiterate	9(9.8%)	3(3.3%)	
6. Fathers education			
Literate	56(60.9%)	21(22.8%)	X ² =5.301,df=1,p=0.021 Significant
Illiterate	15(16.3%)	0	
7. Mothers occupation			
Housewife	66(71.7%)	19(20.7%)	X ² =0.872,df=2,p=0.647
Private	1(1.1)	1(1.1%)	
Laborer	4(4.3%)	1(1.1)	
8. Fathers occupation			
Private	21(22.8%)	18(19.6%)	X ² =22.296,df=2,p=0.000 Highly significant
Govt.	2(2.2%)	1(1.1%)	
Laborer	48(52.2%)	2(2.2)	
9. Socioeconomic status (Modified B G Prasad classification 2020)			
Class I	44(47.8%)	11(12%)	X ² =3.368,df=4,p=0.498
Class II	9(9.8%)	2(2.2%)	
Class III	7(7.6%)	3(3.3%)	
Class IV	8(8.7%)	5(5.4%)	
Class V	3(3.3%)	0	

A total of 77.1% of the respondents had an adequate knowledge about Mission Indradhanush and immunization; 67.4% of the literate mothers and 9.8% of the illiterate mothers had adequate knowledge about MI and immunization, although this was not found to be statistically significant. Sex of the child, religion, literacy status of father and occupation of father had a significant association with knowledge about MI and immunization.

Discussion

We all know that immunization is one of the most effective ways to protect children against the vaccine preventable diseases. Our study highlighted that 46% of the respondents had heard about Mission Indradhanush and the main source of information about mission indradhanush was from the health care workers (60.9%) followed by friends (35.9%). where as in a study done by Mohapatra I et al. in urban slums of bhubaneswar, only 10% of the respondents had heard about MI and the most common source of

information regarding immunization were health care workers/doctors/volunteer, followed by friends/relatives and mass media, which accounted for 64%, 22% and 7%, respectively⁵. In a study by Kumar et al. in rural area of Telangana, the major source of information were health workers/doctors (46%), mass media (43%), and friends/relatives (7%). In another study by Kumar et al. in rural area of Telangana, the major source of information were health workers/doctors (46%), mass media (43%), and friends/relatives (7%)⁸.

Total coverage for completely immunized and incompletely immunized children in the present study was 81.5% and 18.5%, respectively, by both card plus recall, where as in a study done at bhubaneswar the total coverage for fully immunized and partially immunized children was 72% and 28%, respectively, by both card plus recall⁵, and in the study done in Nepal where total coverage for fully immunized and not fully immunized children was 92% and 8%, respectively⁹.

Present study shows that father's occupation and socioeconomic status was positively associated with immunization status of children such as complete and timely immunization where as in a study done by Mohapatra et al. it was fathers education/literacy status and mothers literacy status that was positively associated with vaccination status of children⁵.

In our study a total of 77.1% of the respondents had an adequate knowledge about Mission Indradhanush and immunization; 67.4% of the literate mothers and 9.8% of the illiterate mothers had adequate knowledge about MI and immunization, where as in a study done by Mohapatra et al. a total of 64% of the respondents had an adequate knowledge about vaccination⁵, and in a study by Birhanu et al. in Addis Ababa, Ethiopia, 55% of the mothers had good knowledge¹⁰.

Literacy status of mother was not associated with the level of knowledge in the present study which was consistent with the study done by Mohapatra et al⁵, where as in a study by Chris-Otubor et al. in Jos North, Nigeria, mother's education status was significantly associated with the level of knowledge¹¹.

Limitations

1. In the absence of MCH card, data regarding immunization was collected based on self reporting of the respondents, which could lead to issues of reporting bias.
2. The sampled population chosen is according to the convenience of the researchers; hence the results cannot be generalized.

Conclusion

In present study, about 81.5% of the children have taken their immunization appropriate to their age. Of the 200 participants only 92 respondents told that they are aware of the word "Mission Indradhanush". There was significant association seen between father's occupations, socioeconomic status of family with immunization status of children. Also significant association was seen between Sex of the child, religion, literacy status of father and occupation of father with knowledge about MI and immunization.

Recommendations

1. Periodic assessment and awareness generation activities should be done about the ongoing

and new programs launched by government; this will increase the utilization rates of the various vaccine preventable diseases.

2. Anganwadi workers, ASHA workers and through electronic media efforts should be put forth to raise the consciousness about importance of immunization and immunization rate irrespective of knowledge and area of residence of people.

Acknowledgment: I sincerely thank The Director, The Principal of Gulbarga Institute of Medical Sciences, the Professor and Head of the Department of Community Medicine, the Medical Officer of UHTC, the staff of the UHTC, the female health workers, the DHI students, the health inspector who facilitated for data collection and all the study participants for their cooperation and time.

Funding: No funding sources

Conflict of interest: None declared

Ethical clearance: Ethical clearance and approval was obtained from the Institutional Ethical Committee, Gulbarga Institute of Medical Sciences, Kalburagi.

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