

Original Article**IMMUNIZATION STATUS OF 12-23 MONTHS CHILDREN OF URBAN JAMNAGAR**

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ABSTRACT**Background:** Immunization is one of most cost effective public health intervention.**Aims:** (1) To assess immunization status among children of 12-23 months age group (2) To find out left out/dropout rate (3) To check association of socio demographic factors with immunization status.**Material & Methods:** A cross sectional study of sample 240 children aged between 12 to 23 months (using 30 cluster sampling technique) from Jamnagar municipal corporation area. Immunization of child was assessed through immunization card, presence of BCG scar & interview.**Results:** Out of 240 children, Coverage of BCG-99.58%, OPV0-94.58%, DPT1-98.33%, DPT2-96.67%, DPT3-95.42%, OPV1-96.67%, OPV2-95.83%, OPV3-4.58%. Coverage of HepB1, HepB2, and HepB3 were 73.33%, 70.42%, 68.75% respectively. Coverage of measles was 87.75%. Fully immunized children were 65%. Vaccine dropout of BCG-Measles was highest 11.34%, followed by DPT1-measles 10.58%. For BCG-DPT3 4.17%, DPT1-DPT3 2.96% & for HEP1-HEP3 6.25%. Fully immunized status was higher among male child as compare to female child which was statistically significant. Fully immunized children were more in Hindu religion compared to others which was statistically significant. No association found between educations of mother & immunization status of child. Socioeconomic class had no association with immunization status.**Conclusion:** Vaccination coverage shows gradual improvement in last decade (Fully immunized 65%) but at the same time reflects incomplete utilization (dropout rate is around 11%). Coverage was higher among male children as compared to female children which indicate the existence of gender difference in utilization of immunization services in our study areas. Utilization of immunization services was higher in Hindu community as compared to other community.**Keywords:** Immunization status, Vaccine, dropout rate**INTRODUCTION**

Immunization is one of most cost effective public health intervention [1]. With the implementation of Universal Immunization Programme (UIP), significant achievements have been made in preventing and controlling the Vaccine Preventable Diseases (VPDs) namely Tuberculosis, Diphtheria, Tetanus, Pertussis, Polio and Measles [2]. Immunization has to be sustained as a high priority to further reduce the incidence of all VPDs, control measles, eliminate tetanus and eradicate poliomyelitis [2]. India has one of the largest

Universal Immunization Program (UIP) in the world in terms of quantities of vaccines used, number of beneficiaries (27 million infants and 30.2 million pregnant women) covered, geographical spread and manpower involved [2]. Present study is an attempt to evaluate immunization coverage of children under UIP in Jamnagar city with an objective to assess immunization status among children of 12-23 months age group, to find out left out / dropout rate and to check association of various socio demographic factors with immunization status.

MATERIAL AND METHODS

Study type: A cross sectional study.

Study period: Study was conducted in July to September 2013.

Sample size: This was a 30 cluster survey; clusters were identified randomly as per guidelines covering all 19 wards of Jamnagar Municipal Corporation [3].

Data collection: A house to house survey was done in each cluster strictly following the laid down instructions. 8 children in each cluster (2 from each quadrant) in the age group of 12-23 months totaling 240 children were selected as target population. Immunization coverage of each child was assessed through checking of immunization card, presence of BCG scar. If immunization card was not available then information was sought from the mother of that child.

Following criteria for full immunization, partial immunization & no immunization of children between of 12-23 months were used:

Fully immunized: Child 12-23 months of age who received BCG, 3 doses of DPT, 3 doses of OPV, 3 doses of Hepatitis B & Measles before 1 year of age [4].

Partial immunized: Child, who missed any one or more of above doses

Not immunized: Child who did not receive even a single dose of vaccine

Dropout rate was calculated as per standard formula.

RESULTS

The vaccine-wise coverage is shown in Table-1. Out of total 240 children, 238 (99.58%) had taken BCG vaccine and 227 (94.58%) had taken OPV0 dose at birth. out of total 240, DPT1, DPT2 and DPT3 had taken by 236 (98.33%), 232 (96.67%) and 229 (95.42%) respectively. Similarly OPV1, OPV2 and OPV3 had taken by 232 (96.67%), 230 (95.83%) and 227 (94.58%) respectively. HepB1, HepB2, HepB3 had taken by 176 (73.33%), 169 (70.42%), 165 (68.75%) respectively. Out of total 240 children, 211 (87.75%) had taken measles vaccines.

It was seen from table – 1 that only 65% (156) children were fully immunized. More male were fully immunized i.e. 72.72% (88) as compared to female i.e. 57.14% (68).

Table 1: Gender wise vaccination coverage

Vaccination Status	Boys		Girls		Total	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
BCG	121	99.58	118	99.15	239	99.58
DPT1	119	98.35	117	98.32	236	98.33
DPT2	116	95.87	116	97.48	232	96.67
DPT3	116	95.87	113	94.96	229	95.42
OPV0	120	99.17	107	89.92	227	94.58
OPV1	118	97.52	114	95.80	232	96.67
OPV2	116	95.87	114	95.80	230	95.83
OPV3	116	95.87	111	93.28	227	94.58
HEP1	97	80.17	79	66.39	176	73.33
HEP2	93	76.86	76	63.87	169	70.42
HEP3	92	76.03	73	61.34	165	68.75
Measles	107	88.43	104	87.39	211	87.92
Fully immunized	88	72.72	68	57.14	156	65

Table 2: Dropout rate

Dropout rate (%)	Boys	Girls	Total
BCG-Measles	10.83	11.86	11.34
BCG-DPT3	3.72	4.22	4.17
DPT1-DPT3	2.52	3.41	2.96
DPT1-Measles	10.06	11.11	10.58
HEP1-HEP3	5.15	7.59	6.25

Vaccine dropout of BCG-Measles was highest i.e. 11.34%, followed by DPT1-measles i.e. 10.58%. For BCG-DPT3 it was 4.17%, DPT1-DPT3 it was 2.96% and for HEP1-HEP3 it was 6.25. It was also observed that dropout rate was somewhat higher in female child as compared to male child.

From table 3 it was seen that fully immunized status was higher among male child as compare to female child. This difference was found statistically significant ($\chi^2=6.405$, $df=1$, $p=0.011$). Similarly, fully immunized children were more in Hindu religion compared to other religion and this difference was also statistically significant ($\chi^2=7.567$, $df=1$, $p=0.006$). However, there was no association between educations of mother with immunization status of child. Similarly socioeconomic class had no association with immunization status.

Table 3: Association between various demographic factors & immunization status

Demographic factor	Fully Immunization status*		Chi Square value	P value
	Yes	No		
Sex of children				
Male	88(72.72%)	33(27.28%)	6.405	0.011
Female	68(57.14%)	51(42.86%)		
Religion				
Hindu	137(68.84%)	62(31.16%)	7.567	0.006
Other	19(46.34%)	22(53.66%)		
Education of mother				
Illiterate	36 (66.66%)	18(33.34%)	0.091	0.955
Up to primary	68 (64.76%)	37(35.24%)		
More than primary	52 (64.19%)	29(35.81%)		
Socioeconomic class				
High class**	8 (47.06%)	9 (52.94%)	2.589	0.108
Lower class**	148 (66.36%)	75(33.64%)		

*-Not a single child was totally unimmunized.

**High class includes class I & II and Lower class includes class III to V.

DISCUSSION

In our study we found that 65% children were fully immunized. A study conducted by Govani et al, showed that 74.1% children were fully immunized which was higher than our study [5]. Similar study conducted by Masood et al, showed coverage of fully immunized children was 72%, which was also higher than our findings [6].

National statistics (NFHS III) reflects fully immunized children as 45.2% in Gujarat state.

DLHS-3 statistics of Jamnagar district showed fully immunization coverage was 55.1%. Coverage of present study was higher as compared to NFHS-3 & DLHS-3.

Our study showed that fully immunized status was higher among male child as compare to female child. This difference was found statistically significant.

Sharma et al, in their study showed the proportion of fully immunized children was higher in females (27.3%) than in males (23.4%), however the difference was statistically not significant [7].

Our study denoted Vaccine dropout of BCG-Measles was highest i.e. 11.34% while Govani et al showed

the same was 14% which is slight higher than our findings [5].

Dropout rate of DPT1-measles was i.e. 10.58% in our study which was lower as compared Govani et al, i.e.16% [5]

Dropout rate for HEP1-HEP3 was 6.25% in our study.

Dropout rate for BCG-DPT3 & DPT1-DPT3 were 4.17% & 2.96% respectively & the values for the same rate were 18.6% & 20% respectively in study by Govani et al [5].

It was also observed that all the dropout rates mentioned above were somewhat higher in female child as compared to male child that matches with the results of Govani et al [5].

It was seen that fully immunized status was higher among male child as compare to female child. This difference was found statistically significant. Similar finding was seen in study by Govani et al, but it was statistically insignificant [5].

Similarly, fully immunized children were more in Hindu religion compared to other religion and this difference was also statistically significant.

However, there was no association between educations of mother with immunization status of child. Similarly socioeconomic class had no association with immunization status.

CONCLUSION

Vaccination coverage shows gradual improvement from NFHS-3 to DLHS-3 to present scenario(Fully immunized 65% in this study) but at the same time reflects poor utilization (dropout rate is around 11%). Coverage was higher among male children as compared to female children which indicate the existence of gender difference in utilization of immunization services in our study areas. Utilization of immunization services was higher in Hindu community as compared to other community due to some reason.

REFERENCES

1. Ministry of Health & Family Welfare, Government of India: Immunization Handbook for Medical Officers (revised edition 2009), New Delhi: Dept. of Health & Family Welfare, Govt. of India; 2009. p. 15

2. Handbook for Vaccine & Cold Chain Handlers 2010, Department of Health & Family Welfare, Ministry of Health and Family Welfare Government of India; 2010. p. 2
3. Coverage evaluation survey in Jamnagar slum areas; Feb 1999.
4. Ministry of Health & Family Welfare, Government of India: Immunization Handbook for Medical Officers (revised edition 2009), New Delhi: Dept. of Health & Family Welfare, Govt. of India; 2009. p. 7
5. Govani K J, Sheth J K, Bala D V. Immunization Status of 12-23 months Children in Rural Ahmedabad. Healthline. 2013; 4(1):38-42.
6. Arshiya Masood, S Dwivedi, G. Singh, M A Hassan, Arun Singh. Assessment of immunization status of children between 12-23 months in Allahabad district. National Journal of Community Medicine. 2011; 2(3):346-8
7. Sharma R, Desai VK, Kavishvar A. Assessment of immunization status in slums of Surat by 15 clusters multi indicators cluster survey technique. Indian J Community Med 2009; 34:152-4

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