

## Original Article

## RAPID APPRAISAL OF ROUTINE IMMUNIZATION COVERAGE IN A NEWLY FORMED DISTRICT OF UTTAR PRADESH

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To assess the primary immunization status &amp; dropout rate.

To find out reasons for immunization default.

To study the difference, if any between high risk &amp; low risk block.

**Material & methods** A cross sectional, observational study was undertaken in two blocks (Patiyali and Amanpur) of Kanshi Ram Nagar District by interviewing 210 respondent mothers in each block, by using '30' cluster sampling technique with help of predesigned, pretested schedule.**Result:** The percentages of fully immunized children were 50% in Patiyali & 44.08% in Amanpur block. ANM & ASHA were observed as main informer to the community. Immunization status was poor in Muslims and in female children. The highest covered antigen found was BCG and lowest was DPT-3 in both the blocks. The overall dropout rate was 36.52% for Patiyali & 32.96 % for Amanpur block. The main reasons for dropout identified were, non-cooperation of health workers and community were not aware about the need of Immunization in both the blocks. However the differential findings in among the blocks were statistically not significant.**Conclusion** However lesser number of children were left untouched for immunization services but the percentage of incomplete immunization was found high due to poor cooperation of health worker and unawareness about need of immunization in community

Key Words: immunization, cluster, Sampling Technique

**Introduction**

Immunization is a proven cost effective intervention to reduce the child mortality & morbidity. The goal of immunizing children against major diseases responsible for child mortality and morbidity is indeed a noble one. However, it is not an easy task to achieve. In a developing country like India, the sheer logistics of the numbers of the target population that stretches across geographically diverse regions make universal immunization of children a Herculean task. However, the health sector of this country is making admirable achievements in that several millions of potential life years have been saved from getting lost to vaccine preventable diseases through the universal immunization program (UIP). All vaccines under the routine immunization programme are provided free-of-charge. However, the figures for the coverage of routine immunization (RI) are lagging. The current level of coverage of 'fully-immunized' children under the national immunization programme is quite low, as pointed out by the coverage evaluation survey by UNICEF 2009<sup>(2)</sup> as 61.1% were fully immunized.

A new district, Kanshi Ram Nagar was created in Uttar Pradesh, on 15 April 2008 with in Etah district. The parent district has very poor health statistics, fully immunized children only 18.1% as per DLHS-<sup>(1)</sup> 3.As because of new district, area specific data is not available. This study was carried out to assess the status of routine immunization.

**Materials and Methods**

It was a community-based cross-sectional study undertaken in 1<sup>st</sup> May 2010 to 31<sup>st</sup> May 2010. The respondents were mother/ or caregiver of under five year children. Medical Intern and Postgraduate students of SPM department of our institute have collected the data. Study was undertaken in two blocks (Patiyali and Amanpur) of Kanshi Ram Nagar District. 210 respondent mothers/or caregiver was interviewed in each block, by using '30' cluster sampling technique with help of standard schedule as used in NRHM programme. District is divided into seven administrative blocks of which four blocks, which are located in Gangetic area, are polio affected. For study, purpose two block-one polio affected and other polio unaffected were selected by lottery methods in each selected block, list of villages with their population were taken from district health authority. Among these village list, 30 cluster villages were selected using proportion to population size(PPS) technique. From each cluster 7 mother's /or caregiver were interviewed. The anonymity of the respondents was assured and their verbal consent was taken. The responses were fed into a computer-based spreadsheet. The Proportions of responses to various questions regarding Routine Immunization were calculated.

**Results**

During the survey, all of the surveyed houses were found marked during last SID. Most of the respondents (>80%) accepted that immunization cards were provided but nearly half of them could be able to produce it at the time of home visit. ASHA & ANM were found to be as main informer about RI day while 15-17% of respondents told that they have not been informed about this at all. Despite the higher coverage of BCG (84-86%), the percentage of fully immunized did not cross 50% and this was found 50% in Patiyali and 44% in Amanpur. Even 14% children in Patiyali and 8% children in Amanpur could not be contacted for immunizations i.e. were unimmunized. 47% children in Amanpur and 35% in Patiyali have missed out one or more doses of primary immunizations which tell the problem of drop out. The immunization status were better among male children. The overall dropout rate was calculated as 36% for Patiyali and 33% in Amanpur. However the overall immunization status including booster doses among eligible children was found as 40% in Amanpur & 36% in Patiyali. Among Muslims the percentage of fully immunized was 40% and in Hindu's, it was 50% in Patiyali while none of Muslim children in Amanpur was found fully immunized. The main reason observed for dropout or being unimmunized was non cooperation of the Health worker followed by session was not held regularly in last 3 months and people being not aware about its need in Patiyali block, while in Amanpur, it was fear of AEFL, non cooperation of health workers and not aware about need.

**Table-I-Status of immunization card**

Items	Patiyali	Amanpur
Card allotted		
Yes	171 (81.43)	180(85.31)
No	39(18.57)	31(14.69)
Current possession		
Yes	82(47.95)	87(48.33)
No	89(52.09)	93(51.67)

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Table –II- Parents informed about RI day by whom

Informer	Patiyali		Amanpur	
	No.	%	No.	%
ANM	48	22.86	40	18.96
ASHA	87	41.43	103	48.82
AWW	28	13.33	18	8.53
Others	10	4.76	18	8.53
None	37	17.62	32	15.17
Total	210	100.00	211	100.00

Table III : Status of Antigen received for immunization among children

Vaccines	Patiyali n = 210				Amanpur n =211			
	Yes	%	No	%	Yes	%	No	%
BCG	178	84.76	32	15.24	182	86.26	29	13.74
OPV-0	152	72.38	58	27.62	133	63.03	78	36.97
OPV-1	152	72.38	58	27.62	161	76.30	50	23.70
OPV-2	129	61.43	81	38.57	139	65.88	72	34.12
OPV-3	117	55.71	93	44.29	122	57.82	89	42.18
DPT-1	152	72.38	58	27.62	164	77.73	47	22.27
DPT-2	130	61.90	80	38.10	139	65.88	72	34.12
DPT-3	117	55.71	93	44.29	123	58.29	88	41.71
Measles	113	53.81	97	46.19	122	57.82	89	42.18
OPV -booster	39	28.67	97	71.32	36	25.71	104	74.28
DPT-booster	39	28.67	97	71.32	36	25.71	104	74.28

Table-IV- Drop-Out Rate vaccine

Vaccine	Patiyali (%)	Amanpur (%)
OPV 1-OPV3	23.03	24.22
DPT1-DPT3	23.03	25.00
Overall(BCG-MEASLES)	36.52	32.96

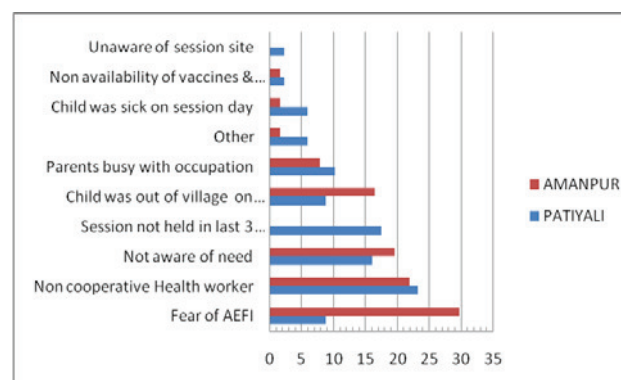
Table V : Primary immunization status of the children

Status	Patiyali		Amanpur	
	No.	%	No.	%
Fully immunized	105	50.00	93	44.08
Partially immunized	74	35.24	100	47.39
Unimmunized	31	14.76	18	8.53

TableVI : Religion and Sex wise primary immunization status

Items	Patiyali			Amanpur		
	Fully immunized (N-105)	Partially immunized (N-74)	Un-immunized (N-31)	Fully immunized (N-93)	Partially immunized (N-100)	Un-immunized (N-18)
Sex						
Male	57(52.78)	37(34.26)	14(12.96)	52(51.49)	52(52.49)	7(6.93)
Female	48(47.06)	37(36.27)	17(16.67)	41(37.27)	48(43.68)	11(10.00)
Religion						
Hindu	101(96.19)	71(95.94)	28(90.32)	93(100.00)	90(90.00)	16(88.88)
Muslim	4(3.81)	3(4.16)	3(9.68)	0(0.0)	10(10.00)	2(11.12)

Figures in parenthesis are percentage



**Discussion**

Routine immunization is important for polio but also for reducing the burden of mortality and morbidity. This Study was the part of study carried out in Kanshi Ram Nagar District titled as 'situation analysis of risk factors associated with occurrence of polio' in may 2010. In study it is found that all surveyed houses were marked during last polio round and more than 3/4<sup>th</sup> of respondent accepted that they received immunization card but only 47% of them were able to produce which is much higher than the DLHS-3<sup>(1)</sup> (2007-08) finding for Uttar Pradesh cited as 28.6% of the household were able to produce it however this was only 15% for its parent district i.e. Etah. It was observed that 50% in Patiyali and 44% in Amanpur children were fully immunized which is much higher than its parent district i.e. 11.7% as revealed by DLHS-3<sup>(1)</sup> but lower than the national figure i.e 61% as revealed in Coverage Evaluation Survey finding by UNICEF 2009<sup>(2)</sup> although the figure are nearer to Uttar Pradesh figure i.e. 40%. As for the individual antigen coverage concerned BCG ranked first with 84% coverage in Patiyali and 86% in Amanpur block. DPT3 coverage was found to be 55.71% and 58.29% in these blocks while measles coverage was found to be least with 53.81% in Patiyali and 57.82% in Amanpur block-. Data produced by NFHS-3<sup>(3)</sup>, DLHS-3<sup>(1)</sup>, Coverage Evaluation Survey -2009<sup>(2)</sup> pointed out the almost similar trends of antigen coverage. In present study calculated-drop-out rate for OPV1/OPV3, DPT1/DPT3 and overall i.e. highest (BCG)/ lowest (Measles) as 23%, 23% and 36% for Patiyali and 24%, 25% and 33% for Amanpur block. National fact sheet by UNICEF on coverage evaluation survey 2009<sup>(2)</sup> calculated the drop out rate for BCG/Measles as 15% which is lower than current findings. Immunization status was found better among hindu and male children which is in accordance with DLHS-3<sup>(1)</sup> findings. Non cooperation of health worker, irregularities of session, and not aware about need in Patiyali and fear of

adverse effect ,non cooperation of health worker and not aware about need in Amanpur were found as the main reason for immunization defaults. Khar et al<sup>(6)</sup> (2001), Mathew et al<sup>(7)</sup> (2002),Manjunathan and Pareek<sup>(5)</sup> (2003),Jain et al<sup>(4)</sup> (2006), coverage evaluation survey 2009<sup>(2)</sup> also cited out the similar reason.

#### **Conclusion**

However lesser number of children were left untouched for immunization services . The immunization status was better among hindu and in male children. The percentage of incomplete immunization was found high due to poor cooperation of health worker and unawareness to need of immunization in community

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