

Community Engagement for JE and AES prevention and control

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This project is part of multi-component intervention project of ICMR where in one of the components NARI aims to test an innovative, participatory model for better access to JE/ AES information, screening, and preventive health care for people residing in Gorakhpur district in Uttar Pradesh, India. This research cum intervention study endeavours to 1) increase the capacity of local communities to participate in their own preventive health care 2) Establish community structure and build its capacity to provide support for JE prevention and control 3) Actively translate findings to improve uptake of JE immunisation and other prevention and control measures.

Study design: This is a mixed method experimental intervention study. The study is being conducted in 3 blocks of Gorakhpur district and 3 blocks from Deoria district in the state of Uttar Pradesh in India.

Process: The project was initiated with community needs assessment using qualitative research methods (QRM). QRM was useful in understanding the local culture, health belief, hygiene practices and gaps in community engagement. It also helped in building linkages with local stakeholders and community. Subsequently, qualitative data was used to develop survey questionnaire. The quantitative data (survey) provided information on community practices pertaining to hygiene, safe drinking water and health seeking behaviours regarding fever, diarrhoea and/ or convulsions among children and adolescents. The study extensively involves community consultative approach.

Baseline formative research: Formative research (baseline survey) was conducted in Gorakhpur-intervention arm (Campierganj, Chargawan, Bhathat Blocks) and Deoria – control arm (Gauri Bazar, Baitalpur, Desai blocks). The baseline survey sought to understand drinking water sources, practices, hand washing practices, use of soap, waste disposal, beliefs, practices – gender-specific practices regarding use of toilets, obstacles to use toilets, soap, JE vaccination, health services availability, healthcare seeking behavior, perceptions, beliefs about

causes of JE/AES, personal protection measures, knowledge and practices regarding prevention.

Sampling: The respondents were the caregivers of the children. Systematic random sampling technique was used to conduct the surveys. Households having at least 1 child 0-15 years of age were selected for the survey. The sample for which data was collected was 2142 respondents.

Lessons learnt from baseline:

- Local community uses umbrella term '*Navki bimari*' for acute encephalitis syndrome (AES). Hence it important to note that community understanding of the symptoms is clear regarding brain fever. To prevent and control this umbrella term is useful and non-technical. Hence education pertaining to any AES either because of JE or any other pathogen can be imparted for prevention and control of '*Navki bimari*'. Vaccination awareness needs to be maximized among communities through behavioral interventions.
- Culturally appropriate strategies, which could impact communities' "pathways of treatment" need to be developed and implemented.
- Hygiene behaviors were poor; open defecation was common.
- ASHAs were not able to approach the marginalized and peripheral communities. There was low awareness of JE vaccination day among marginalised community. Hence local peers need to be developed who could bring in community ownership of the program leading to higher acceptability and thus behavior modification.
- This exercise has actually helped in developing community engagement training modules for JE/ AES prevention and control specifically for rural community in Uttar Pradesh.

Intervention-Community Engagement Module [CEI]: Lessons learnt from baseline survey was utilized to develop community engagement module. The activities and stories in the sessions refer to local issues and community itself rises to the occasion to bring in change. Scientifically, this approach is called as Participatory approach. The local community members have been trained as 'Peer Volunteer' who engage community into health and hygiene promotion behaviors delineated in community engagement module which is developed in Hindi language. The module is pictorial, having six sessions and uses adult education model of delivery. This

model is expected to bring in community ownership and result into improvement in health seeking behaviors, hygiene and JE vaccination behaviors.

Endline survey: An endline survey is being conducted to study the impact of the intervention. Endline survey is being conducted in Gorakhpur-intervention arm (Campierganj, Chargawan, Bhathat Blocks) and Deoria – control arm (Gauri Bazar, Baitalpur, Desai blocks). The end line survey seeks to understand following:

- Change in uptake of immunization
- reduction in incidence of JE/ AES
- improved hand washing and sanitation practices
- proportion of community members showing documented evidence of activities associated with different components of CEI program

Sampling and data collection: Population proportional allocation sampling is used for selecting households from the study areas where intervention was implemented. End line survey is ongoing. A total of 1752 households will be surveyed. The end line survey had been initiated in Bhathat block in Gorakhpur in February 2017 and completed in March 2017. End line survey for Chargawan and Campierganj have also been initiated

Preliminary analysis of the end line survey (for a sample of 160 respondents) is delineated in the table below. The study respondents were women and most of them were home makers. The majority of the household income was through labour (41%).

Table 1-Demography		
	Frequency	%
Main occupation of the respondent		
Homemaker	154	93.9
Agriculture (own land)	2	1.2
AWW/ASHA/ANM/Sahayak/Peer	1	0.6
Laborer (Agriculture, brick kiln)	3	1.8
Other	2	1.2
Total	162	
Main occupation of the household		
Agriculture (own land)	20	12.2
Small business	10	6.1
Service (govt. /private)	6	3.7
Laborer (Agricultural land, brick kiln)	67	40.9
Other	59	36.0
Total	162	

Key findings:

End line survey after the CEI is ongoing. We are presenting preliminary findings of the end line survey completed for Bhathat block (Table). Table below shows both baseline and end line data.

Table 2: Parameters studied during preintervention (baseline) and post intervention (end line).

Parameters studied during end line	Baseline (n=2142)		End line (n=163)	
	Frequency	%	Frequency	%
Main Source of drinking water	-	-	3	1.8
<i>Dabbe waala paani</i> (RO water)	1767	82.5	143	87.2
Shallow hand pump	272	12.7	16	9.8
India mark II hand pump (sarkari nal)	103	3.8	-	-
Other				
Total	2142		162	
Methods of water purification of those who use shallow hand pump				
Boil	55	2.5	13	9
Electronic filter	18	1.0	0	0
Strain with cloth	1	0	1	0.6
Nothing	1428	66	129	90.2
Others	265	14	-	-
Total	1767		143	
Method of discarding solid waste (garbage)				
Throw it in the nearby drains	375	17.5	11	6.7
Dispose off in public common place (Ghoora)	-	-	9	5.5
Throw it just outside the house	1515	70.7	93	57.1
Bury	53	2.5	1	.6
Throw it in the pond or water bodies			22	13.5
Burry in the fields	53	2.5	-	-
Missing data	31	1.4	-	-
Other	115	5.4	26	16.0
Total	2142		162	
Availability of toilet facility at home				
Yes	446	20	49	30.2
No	1691	78.9	113	69.7
Missing data	5			

Total	2142		162	
Handwashing with soap After/Before each of the following activities				
After defecating	1728	80.7	148	90.8
Before eating food	1214	56.7	78	47.9
After cleaning the child who had defecated	1679	78.4	146	89.6
Before you prepared food	1235	57.7	71	43.6
Before feeding food to your child	798	37.3	79	48.5
After you had handled cow dung, dirt	1597	74.6	110	67.5
Youngest child eligible to receive First dose of JE vaccination (1 year or above)				
	(n=1573)		(n=131)	
JE Dose 1 received	929	59.1	85	64.9
Data collected from Vaccination card	951	60.5	67	51.1
The facility where the child would be taken FIRST for care or treatment for child				
Sub center, PHC/CHC	320	15	17	10.4
Bangali doctor/ jholachaap doctor	1697	79.2	65	39.9
District Hospital/ medical college	105	4.9	45	27.6
Private qualified medical practitioner (Private facility, nursing homes)			21	12.9
Pharmacy shop	-	-	13	7.4
Will not take anywhere, child will recover by its own	-	-	1	0.6
Others	20		-	-
Total	2142		162	
The facility where the child would be taken FIRST for care or treatment if the child gets convulsions				
Sub center, PHC/CHC	<i>Question not asked during baseline</i>		21	12.9
ASHA			1	0.6
Bangali doctor/ jholachaap doctor			44	27.0
District Hospital/ medical college			69	42.3
Private qualified medical practitioner (Private facility, nursing homes)			19	11.7
Pharmacy shop			6	3.7

Will not take anywhere, child will recover by its own	1	0.6
Total	162	

Summary preliminary findings of end line survey

Drinking water

1. There is a need to strengthen drinking water treatment to make it safer especially the hand pumps. *Qualitative data also demonstrated non acceptance for Mark II hand pumps because of logistic reasons, taste and color of the water.*
Of 162 respondents in the endline survey, 143 (87.2%) used a shallow hand pump, 90% of these did not use any drinking water purification method. There are no differences observed in the drinking water habits of the respondents during the baseline and the endline survey.

CEI session on use of deep bore hand pump water needs to be modified to make it more acceptable to the community. Problem solving exercises and community structures need to be built to engage community into treating drinking water for better safety.

Solid Waste

2. CEI has been successful in practices associated with solid waste management.
Fifty seven percent of the respondents disposed off solid waste by throwing it out of the house, this figure has declined from the baseline survey where 70% of the respondents disposed off solid waste by this method.

CEI sessions on waste management can be scaled up in Gorakhpur region.

Toilet facility

3. Hygiene behaviour related to use of toilet has improved.
The number of houses having a toilet facility at home has increased from 20% to 30.2% percent for the end-line survey.

Still messages and activities need to be strengthened on this aspect as there have been socio-cultural issues pertaining to the practice of open defecation. Messages as well as toilets need to be built around that. For example from qualitative data this behaviour emerges as a structure for socialising. Women who are under 'purdah', use this early morning ablutions as an opportunity talk with each other. Hence ladies toilets away from

home might be more acceptable to women. Location would be important. For example water source could be another critical factor for use of toilets.

Hand washing

4. Handwashing practices related child's care such as after attending a child who has defecated and before feeding the child has risen after CEI implementation. However, other aspects of handwashing has gone down (although data is still small right now) indicating a need to give equal weightage to all aspects of handwashing. CEI sessions needs to include equal weight on all content of hand washing.

Health seeking: Treatment

5. The health seeking behaviour showed that community prefers to go to community doctors/ ojha/ Bangali doctor etc as first point of care. Even for treatment of convulsions, i.e. when child is serious, Jhola chap or Bangali doctors are accessed (27%) for treatment. These come after government facility (43%). The CEI session had story telling session which made audience to reflect on what went wrong in case of demise of the sick child? This story had was quite acceptable and it increased the reflections in the audience. The health seeking behaviour is showing a changing trend.

Twenty seven percent of the respondents during the survey in 2017 as opposed to the baseline survey in 2015 reported that they would prefer taking the child to the government health facility in case the child fell ill.

Health seeking: Prevention-JE vaccination

6. At end line, data shows that first dose of JE vaccination given to children above 9 months of age had changed from 59% to 65% in the Bhatath block. The state average of JE vaccination in Uttar Pradesh reports 51% of the children to have received at least one dose of JE vaccination ⁽¹⁾

Reference:

- 1) Murhekar MV, Ranjan P, Selvaraju S, Pandey A, Gore MM, Mehendale SM. Low coverage and acceptable effectiveness of single dose of Japanese encephalitis vaccine, Gorakhpur division, Uttar Pradesh, India, 2013. *J Infect* 2014; 69 : 517-20.