

ORIGINAL ARTICLE

Community level workers: awareness generation for improving children's healthReetu Sharma¹, Premila Webster², Sanghita Bhattacharya³

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Abstract

Background: Routine immunisation and Vitamin A supplementation are two of many services offered by Government of India to reduce child mortality and morbidity. The three groups of community level workers (CLWs) i.e. Auxiliary Nurse Midwives from health department, Anganwadi Workers from women and child development department and Accredited Social Health Activists (ASHAs) are responsible for raising awareness and demand for these services. **Objectives:** The paper assesses the knowledge and participation of CLWs in generating awareness about the two services namely immunisation and Vitamin A supplementation among eligible mothers; and mother's knowledge on these two services. **Methods:** The study was conducted in 16 villages of two administrative blocks of Udaipur district in Rajasthan. Multistage purposive sampling was used for study area selection. Data collection was done using mixed methods-1) observations of 16 Maternal and Child Health and Nutrition days; 2) questionnaire based survey of 46 CLWs; and 3) questionnaire based survey of 321 programme beneficiaries i.e. infant's mothers. **Results:** Limited knowledge of CLWs and their participation in awareness generation activities for the two services was noticed, which was also reflected in the poor knowledge among mothers on the two services. **Conclusion:** The study results may partially explain the poor child immunization in Rajasthan. Initiatives to increase CLWs' knowledge of child immunization and Vitamin A supplementation; and increasing their participation in awareness generation activities need serious consideration by the healthcare system to improve immunization coverage

Key Words

Community level workers, Child immunisation, Vitamin A supplementation, ASHAs, Awareness generation

Introduction

Poor immunisation coverage (44 %) is an important determinant of high infant mortality rate (IMR of 57) in India (1,2) Rajasthan, the north western state of India, has only 27% children completely immunised with an IMR of 63 (3,4) Hence Rajasthan is one of the high priority states for National Rural Health Mission (NRHM), an umbrella health reforms programme of

Department of Health and Family Welfare (DHFV) of the Government of India (GoI) (5).

According to WHO, an infant should be given BCG (Bacillus Calmette-Guérin), DPT I, II and III (Diphtheria, Pertussis, Tetanus), OPV 0, I, II and III (Oral Polio Vaccine) and Measles vaccines within one year from birth to be called "completely" immunised. The measles immunisation is accompanied with the 1st of the nine doses of

Vitamin A. In India and Rajasthan, these vaccines and micronutrients are given at institutions or at community level. Routinely, the Maternal and Child Health and Nutrition (MCHN) days are organised once a month in each village of specified population size for complete immunization(6). Periodically, Polio camps and Vitamin A supplementation campaigns are also organised to cover children up-to five years of age for additional Polio and the eight remaining Vitamin A doses.

The Accredited Social Health Activists (ASHAs)-village level female workers working in the NRHM, supported by the Auxiliary nurse midwives (ANMs)-female workers from DHFW are responsible for ensuring complete immunisation at the community level. Additionally, Anganwadi workers (AWWs) -village level female workers working under the Department of Women and Child Development (DWCD) are also responsible for supporting ANMs and ASHAs in ensuring complete immunisation. Thus all the three groups of CLWs have a joint responsibility for complete immunisation by jointly generating awareness in the community for the same. Since 2005, while ASHAs are mainly responsible for community awareness activities, the support and participation of the other two groups is also prescribed (7). Considering such common goals and functions of the three groups of CLWs, a doctoral study (2009-2014) was conducted in Rajasthan to explore the coordination among these three groups of CLWs.

Aims & Objectives

This paper limits to only the following objectives:-

1. Assess the knowledge of CLWs on child immunization and Vitamin A supplementation;
2. Assess the participation of CLWs in awareness generation for these services; and
3. Assess the knowledge of the eligible mothers on the two services.

Material and Methods

The main doctoral study used a range of quantitative and qualitative methods (including in-depth interviews) but the findings presented in this paper are only based on two questionnaire based surveys and field observations.

Study area: The study was conducted in 16 villages of two administrative blocks of Udaipur district in Rajasthan. The area selection was based on multistage purposive sampling. The reason for first selecting Rajasthan and then Udaipur from

Rajasthan was that both are classified as high priority zones under NRHM, due to their high IMR-63 (Rajasthan), 62 (Udaipur) against 57 (India) (8).

The two blocks selected from Udaipur were primarily rural with one that had >80% tribal population and the other that had >80% non-tribal but rural population. From two selected blocks, eight PHCs (four per block) were selected based on their geographical representation of the block and proportion of rural population covered. A total of 16 sub-centres from eight PHCs (two per PHC) were then selected based on their population coverage; availability of ANM; and ANM's years of work experience. Finally, 16 villages from 16 sub-centre's (one per sub-centre) were selected based on their population coverage; the availability of AWC, AWW, ASHA; and years of work experience of AWW and ASHA. Census 2001 of GoI and block level data from the two departments were used in this selection.

Respondents and events: A cross sectional survey was conducted with 46 CLWs and 321 mothers of infants from the 16 villages. The average response rate in surveys was above 90%. The drop-outs were mainly due to respondent's non-availability at the time of surveys. The rationale to include above number of CLWs was based on the government norm of availability of one ASHA, one ANM and one AWW over the population of 700-1000 per tribal or rural village. For identifying infant's mothers, all those listed in the routine village registers of the CLWs were considered. Apart from surveys, 16 MCHN days (one per village) were observed. The details of the MCHN days were obtained from block offices to plan field visits.

Study instruments: For both surveys, separate structured questionnaires were used whereas for MCHN days, an observation checklist was used. The tools were bilingual and were piloted before final field administration. The CLWs' tool included questions to assess their knowledge on child immunisation and Vitamin A supplementation whereas mother's tool included questions to assess CLW's participation in awareness generation activities and their own knowledge of the two services. The MCHN day observation checklist also included observation of any awareness generation activities conducted by CLWs and participation of the CLWs in these activities.

Data collection, management and analysis: The data collection took place between October and December 2012. Each CLW questionnaire took about

35 minutes to administer whereas the mother's took about 20 minutes. For MCHN days, the observations were made from the time of the start to closing of the MCHN day. Data was entered in Microsoft Excel and the analysis was also done using the same. Double data entry was done to check data entry errors.

Ethical Considerations: The Public Health Foundation of India Institutional Ethics Committee (PHFI, IEC) approved the research. Informed verbal rather than written consent was taken from the study participants because of the reluctance to sign a paper format observed among the participants. Any compulsion for written consent would have biased the data quality. All CLWs and mothers were interviewed at their residence to ensure their comfort and confidentiality.

Results

Limited knowledge among CLWs: [Figure 1](#) presents and compares the knowledge of CLWs on eight child immunisation and Vitamin A related questions. Differences in the knowledge of the three groups of CLWs was seen. While the average 88% of the ANMs correctly answered the questions asked, only 59% of ASHAs and 36% of AWWs could do so. All CLW groups were least (<45%) aware about "total number of Vitamin doses to be given to a five year child" whereas maximum (>75%) awareness was seen in all groups on Polio immunisation. Less than 75% of the ASHAs were aware on any child immunisation or vitamin A related questions except Polio immunisation.

Poor participation of CLWs in awareness generation activities: To assess the participation of CLWs in community awareness generation activities, findings from the MCHN day observations and mothers' survey were compared ([Table 1](#)). Both methods collected information on whether any awareness generation activities are organised by CLWs and if organised, who of the three groups of CLWs participate in these. Both methods showed that such activities are organised only in about one third cases. Similar to the knowledge gradient, both methods used here also showed differences in the participation of CLWs in such activities i.e. the ANMs (24-31%) followed by ASHAs (10-12.5%) and least by AWWs 8-12.5%).

Poor knowledge among the mothers: To assess the knowledge among the mothers, questions on diseases prevented by immunisation and Vitamin A

given to infants were asked. The percentage of mothers who correctly named various diseases prevented by immunisation and Vitamin A is shown in [Figure 2](#). It shows that less than one third of the mothers had knowledge about the diseases prevented by immunisation and Vitamin A given to their infants. The knowledge of Polio was found better (31%) than Tuberculosis (20%), Measles (18%) and others (3-10%). Only an average of 6% of the mothers correctly named diseases prevented by the DPT vaccination. Similarly, only 5% of the mothers correctly named the disease prevented by Vitamin A supplementation in children.

Discussion

The study appears to show a link between "knowledge of the service provider", "knowledge transfer by these providers through awareness generation activities to the beneficiaries" and "knowledge among the beneficiaries". The fourth and final dimension i.e. "service coverage" also seems to follow the chain. This can be substantiated from the child immunisation and Vitamin A coverage data from National Family and Health Survey (NFHS)-III on Rajasthan.

The NFHS III data shows that the coverage of Polio immunisation and BCG (65%, 68%) was higher, followed by Measles (43%), DPT (39%) and Vitamin A (16%) in Rajasthan. The same sequence but better coverage is observed at the country level. Poor complete immunisation in Rajasthan (18% less than overall country figures) and poor (<25%) Vitamin A coverage in both-Rajasthan and at country level are also noted from NFHS-III.

Thus putting together the findings from this study on the four dimensions conveys a link between them. The following evidence substantiates this link. The comparatively better knowledge of all groups of CLWs and infants' mothers of Polio immunisation seem to reflect in its better coverage (65%) in Rajasthan when compared with other vaccines or Vitamin A. The knowledge of CLWs and mothers on BCG that ranked next to Polio may also partially explain its good coverage (68%) in Rajasthan. Similarly, the poor knowledge of all groups of CLWs and infant's mothers on Vitamin A supplementation seemed to reflect its poor coverage (16%) in Rajasthan.

But the question arises that when the organisation and participation of CLWs in awareness generation activities was found poor from this study, what could have contributed to this "knowledge transfer" among

mothers and hence better “coverage of Polio and BCG immunisation than other vaccines.

For eradication of Polio in India and its states, various awareness generation activities were organised from time to time under Polio campaigns. The communication strategy of these camps included the use of range of communication tools, channels and stakeholders for community awareness. All this could have contributed to better knowledge, vaccine coverage and hence Polio eradication from India in 2014. In case of BCG, the vaccine is given to new-borns at birth, especially in the case of institutional deliveries. With increasing rate of institutional deliveries in Rajasthan from 21.5% (NFHS-II) to 32% (NFHS-III), more and more mothers are likely getting in touch with the formal healthcare institutions and personnel (9). This could be facilitating knowledge transfer thus better knowledge among mothers on BCG and hence better coverage of BCG vaccine (10).

The limited knowledge of CLWs and mothers along with poor Vitamin A coverage in Rajasthan needs no explanation. The nutrition sector, until recently, was always neglected in comparison to the health sector (11,12,13). While Polio camps received political, programmatic and media attention, Vitamin A biannual campaigns did not. Thus the knowledge transfer and service coverage of Vitamin A mainly depends on the CLW's routine efforts rather than any additional support like in case of Polio and BCG immunisation. Hence the limited knowledge, organisation and participation of CLWs in Vitamin A related activities seem to reflect in the poor knowledge among mothers on Vitamin A and thus Vitamin A coverage in the state.

Finally, the study using different methods, shows limited knowledge and participation of key local CLWs, especially ASHAs and AWWs in child immunisation and Vitamin A awareness generation activities. Other studies have also shown lack of awareness among ASHAs about "awareness generation and counselling" as one of their important roles. These studies also showed ASHA's poor participation in this activity (14,15,16). Hence the under-utilisation of these two groups of local CLWs, especially ASHAs whose core functions are knowledge building, awareness and demand generation, could be an important factor for overall poor knowledge among mothers hence service demand and hence coverage. Thus this “knowledge provider” to “knowledge recipient” disconnect could be one of the reasons for about 73% incompletely immunised children in Rajasthan.

Conclusion

The study showed limited knowledge among CLWs, mainly ASHAs and AWWs on child immunization

(except Polio vaccination) and poor knowledge among all the three categories on Vitamin A. Not just the knowledge, various study methods used in this study also showed limited organization and hence participation of CLWs in awareness generation activities to bring awareness among beneficiaries on child immunization and Vitamin A. This has probably resulted in poor knowledge among programme beneficiaries about the two services. The study findings showed that less than one third of the mothers were aware about the diseases prevented by immunisation and Vitamin A given to their infants. Finally, the evidence from a nationally representative study (NFHS III) on poor service coverage i.e. proportion children with full immunization and Vitamin A in Rajasthan conveys a linkage between all the four parameters discussed in this paper i.e. “knowledge of service provider”, “knowledge transfer by these providers through awareness generation activities to the beneficiaries” “knowledge among the beneficiaries” and “service coverage”. Thus the study concludes that "knowledge and awareness" may contribute to better service demand and coverage.

Recommendation

Under the National Health Mission in India, the CLWs are expected to be the main source and channel for generating health awareness in the community, improving communities' knowledge and motivating them to access the health system and programs. The study findings have shown a low level of knowledge among the CLWs particularly ASHA who is the first point of contact in the community. There is a need for improved induction and periodic refresher training for CLW's on knowledge about benefits of health programs like immunization, their counselling and communication skills. Alongside, periodic monitoring, supportive supervision and incentives for jointly organizing community awareness activities can contribute in CLW's coordinated engagement with the communities in generating awareness on health and nutrition services. The success story of Polio program due to multi-stakeholder and innovative communication strategy can be replicated for other routine immunization programs to improve awareness, demand and hence service coverage.

Limitation of the study

As part of the formative stage of the study, it was found that study participants hesitated to sign on

written consent forms or for that matter any written document due to various types of inherent fears. In the interest of the study, study ethics committee was approached and an approval for informed verbal consent was taken. Also, while many other studies referred in the discussion section from other parts of India present similar results, it is important to state that the primary findings presented in this paper are based on the case study of Rajasthan and hence cannot be generalized to entire India.

Relevance of the study

The study adds to the existing literature that advocates for investing in improving knowledge and skills of CLWs in health promotion as this forms a bridge for improving service demand at the community level and accountability in the system to improve service delivery.

Authors Contribution

RS: Conceptualization, study design, execution/data collection, data analysis, writing manuscript, submission and correspondence. PW: Participated in study conceptualization, research design, data analysis, review of the data analysis reports. SB: Participated in study conceptualization, research design, data analysis, review of the data analysis reports, review and suggestions on the manuscript.

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Tables

TABLE 1 AWARENESS GENERATION TASKS UNDERTAKEN BY CLWS

Observation from MCHN Days (N=16)		Mothers' response from survey (N=321)	
MCHN days where any awareness generation/counselling/advice in group/in-person on child immunisation was observed	5 (31.2%)	Any awareness generation/counselling/advice done by any CLW on/other than MCHN day	88 (27.4%)
MCHN days where ANM's participation in awareness generation/counselling/advice in group/in-person on child immunisation was observed	5 (31.2%)	Any awareness generation/counselling/advice done by ANM on/other than MCHN day	77 (23.9%)
MCHN days where ASHA's participation in awareness generation/counselling/advice in group/in-person on child immunisation was observed	2 (12.5%)	Any awareness generation/counselling/advice done by ASHA on/other than MCHN day	33 (10.3%)
MCHN days where AWW's participation in awareness generation/counselling/advice in group/in-person on child immunisation was observed	2 (12.5%)	Any awareness generation/counselling/advice done by AWW on/other than MCHN day	25 (7.7%)

Figures

FIGURE 1 CLW'S KNOWLEDGE ABOUT CHILD IMMUNISATION AND VITAMIN A

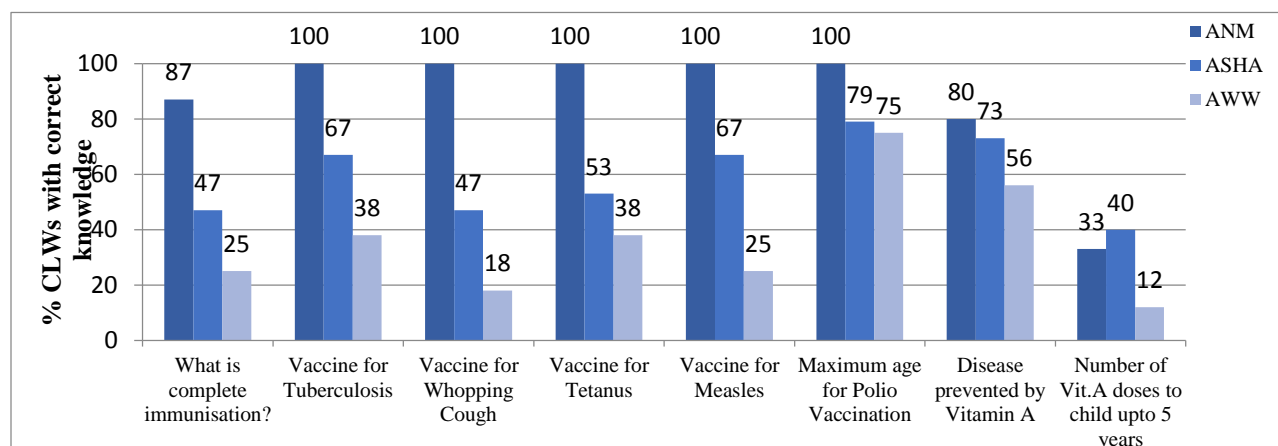


FIGURE 2 MOTHERS' KNOWLEDGE ON THE DISEASES PREVENTED BY VACCINATION AND VITAMIN A

