Research Article

Appraisal of integrated management of neonatal and childhood illness program in two districts of Assam

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ABSTRACT

Background: Integrated management of neonatal and childhood illness (IMNCI) is an important reproductive and child health strategy to lower infant and neonatal mortality in the country. In India, Assam is one of the states with very high infant mortality. **Objectives:** Assess the status of IMNCI implementation in Barpeta and Nalbari district/s of Assam. **Materials and Methods:** A rapid appraisal of IMNCI was undertaken in Nalbari and Barpeta districts of Assam. Qualitative survey methods and secondary data analysis was used. Interview of stakeholders, observation of services, logistic, and supervisory support to the program was assessed. The data were manually analyzed for thematic areas. **Results:** Logistics and drug support were good. Gaps in program implementation were found at all level. Integrated Child Development Services involvement lacked clear direction. **Conclusion:** An intersectoral resource intensive program requires supportive environment for implementation.

KEY WORDS: Integrated Management of Neonatal and Childhood Illness; Infant Mortality Rate; Neonatal Mortality Rate; Appraisal; Assam

INTRODUCTION

Integrated management of neonatal and childhood illness (IMNCI) is an important initiative under reproductive and child health program. Although there is a steady decline in infant mortality (40/1000 live birth) in India, the neonatal death rate has remained more or less the same.[1] Most of the reduction in mortality over the last decade has been in children between the age of 1 month and 5 years. Assam with an infant mortality rate of 54 is one of the highest in the country.[1] Currently, almost two-third of infant mortality comprises neonates, most of who die within the 1st week of life.[2] IMNCI adapted from the global integrated management of childhood illness (IMCI) package, formed the central strategy for child survival. It is a strategy to reduce neonatal and childhood illness and deaths and promote healthy growth and development. It emphasizes on a continuum of care approach from appropriate child care practice at home, child care services in the community by health workers, namely, auxiliary nurse midwife (ANM) and Anganwadi workers (AWW) to facility level care by doctors. It includes interventions to improve the health worker case management skills, make the health system functional to support case management and preventive services and improvement in family and community health practices in child care and care-seeking. IMNCI in India focuses on community-based rather than facility-based health-care providers. It was first piloted by UNICEF and the Government of India in selected blocks of six districts in different states from the end of 2002-2004. Since 2005, it has been introduced in RCH program. Reviews of IMNCI across various states in India have found variable results. A cluster randomized control trial by Bhandari et al., in 18 clusters in Haryana, India, with a sample of 29667 births in intervention clusters and 30813 in control clusters found that implementation of the IMNCI

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resulted in substantial improvement in infant survival and neonatal survival in those born at home and recommended that IMNCI should be a part of India's strategy to achieve the millennium development goal on child survival.[3] The evaluation of IMNCI in Panchkula district of Haryana found that adherence of IMNCI guidelines for management of under-five children was not satisfactory after implementation.[4] An assessment of the implementation of IMNCI in India by Mohan et al. and IPEN Study by Arora et al[5,6] found that poor supervision and inadequate essential supplies affected the performance of trained workers. They recommended that based on the early experience of IMNCI implementation in different states of India, measures needs to be taken to improve supportive supervision. Assam is implementing IMNCI in 23 districts. In Assam, no field-based review has been carried so far. The study was taken with the overall objective to assess the status of IMNCI implementation in Barpeta and Nalbari district/s of Assam and with following specific objectives.

- Assess knowledge and skills of health and Integrated Child Development Services (ICDS) workers/supervisors using IMNCI protocols
- Assess support provided by the health and ICDS systems to health and nutrition workers in terms of training (initial and refresher), maintenance of supplies, record keeping, and supportive supervision
- Identify good practices, gaps, and bottlenecks in implementation.

MATERIALS AND METHODS

A rapid appraisal of the program was performed. The districts were purposively chosen. In each district, two blocks were randomly chosen. Two primary health center (PHCs) in each block (one well performing and another one poorly performing) were selected. Two subcenters under each PHC were visited, and all the Anganwadi centers under a subcenter were visited. Thus, a total of 12 ANM, 38 AWW, 8 supervisors of the department of health, 8 supervisors of ICDS, 4 subcenters, 18 Anganwadi centers, and 2 PHCs covered in each district. The period of data collection was from March to June 2014.

At the district level, IMNCI Nodal Officer and Director Social Welfare Officer ICDS were interviewed to understand the status of the IMNCI in the districts, overall performance, supervision and monitoring system, and constraints in implementation of IMNCI.

At the PHC, IMNCI drugs availability, logistics support, recording and reporting formats, supervisory system, and practice of IMNCI by ANM and health supervisors was looked into. Medical Officers and supervisors were interviewed to understand the processes and inputs for IMNCI implementation.

At the subcenter and Anganwadi center, ANM and AWW were interviewed to get inputs on training and subsequent activities, case management skills, logistic review, and examination of secondary records for IMNCI practice. Information was collected through interview and observation using structured interview schedule and observation checklist. The data were manually analyzed, and common thematic areas from interviews were obtained. The Institutional ethical committee permission was obtained.

RESULTS

Coverage and Trained Manpower

Barpeta district has a total of 16,93,190 population spread across 900 revenue village. Health services are provided through a network of 264 subcenters and ICDS services provided through a network of 2970 Anganwadi center. The district has over the years trained a workforce of 437 ANM (76%), 639 AWW (21.5%), 27 health supervisors, and 29 ICDS supervisors spread in 48 batches.

Nalbari district has a total of 7,69,919 population spread over 426 revenue village. Health services are provided through a network of 121 subcenters and 1639 Anganwadi center. The district has also trained 311 ANM (95%), 473 AWW (28.8%), 46 health supervisors, and 29 ICDS supervisor.

Training of participants was as per the training modules and guidelines formulated by Ministry of Health and Family Welfare, Government of India [7,8] All workers had good recall of the training. They commented that this was the best training attended. The training material was easy to understand, method of training was participatory, and the facilitators were very supportive. It enhanced their knowledge, skill, and confidence. No follow-up training either supervisor or health was conducted in any of the districts.

Equipment

All subcenters had weighing scale for infant and children, clinical thermometer, 1 L capacity jar. In PHCs, the infant weighing tray was available for weighing of infants, but this tray was available in the labor room and immunization clinic. No such tray was available in the Outdoor Patient Department (OPD). For weighing of older children, the bathroom scale was available in OPD of PHCs. However, due to routine rush during OPD hours, weighing were performed when absolutely necessary.

Anganwadis had weighing scales supplied from ICDS. Mini Salters scale, Salters scale or new bathroom scale combining both was available. None of the Anganwadis had a clinical thermometer, 1 L jar or access to effective IMNCI drugs.

Drugs

Health facilities were assessed for availability of pediatrics co-trimoxazole preparation, paracetamol preparation, pediatric IFA formulation, ORS packet, GV paint, Vitamin A solution. All health facilities had sufficient supply. The sources of drugs are the subcenter drug kits and general medicine supply to health facilities.

Anganwadi facilities did not receive above drugs from any source. The yearly drug kit which is available to them under ICDS is not supplied in a regular manner. Immediately after training AWW that practiced IMNCI met the need by taking from subcenter or PHC. This arrangement worked for a very short time of about 3 months and was given up.

Others (Case Sheet, Reporting Formats)

Case sheets in the form of a booklet were supplied to them at the time of training. Thereafter for a considerable time span, no booklet was supplied. New modified booklet was received by the district 2 months back and is in the process of distribution. Only two ANM reported completion of the first booklet and in the absence of recording form discontinued the practice of IMNCI.

Practice and Skill of Worker

All workers started IMNCI practice for the initial 2-3 months immediately after training and abandoned the process in the absence of supervision and supportive environment. At present, the trained ANMs interviewed in the PHC said they practiced IMNCI in principle. They ask questions as trained in IMNCI without case record form or chart booklet usage. On examining the record book supplied to them after the training did show the case record book with a few recorded cases 2-3 months after training and erratically in between. The number of cases sheets were grossly low for commenting on analysis, but a review of these sheets shows that they were incomplete/partially filled, inaccurate or incomplete in classification or if accurate in classification inaccurate in case management and advice. AWW started the practice of for the initial 2-3 months immediately after training. In the absence of supervision, logistics support all Anganwadis discontinued practice. The trained MO of the PHC did not practice IMNCI due to OPD patient load.

Demonstration of Skill of ANM/AWW

Health and nutrition worker who reported practice of IMNCI was given a recording form and the chart booklet and asked to demonstrate the practice of IMNCI in a child attending OPD. None of the workers followed the sequential approach as outlined in IMNCI. The practice of clinical skill during the examination was incomplete. Despite, the supportive environment created by the investigators none of the workers carried out the structured approach of examining a child.

Reporting System in Health System

All subcenters sends a monthly report to the concerned block in a format given by the district. The format contains information on a number of sick child assessed, treated, referred, and home visits made. None of the ANMs could show complete documented record of the above information send by them in the monthly reporting format. There is no record of reported figures in the subcenter registers and most figures are from the personal record diary of the ANM.

Reporting System in ICDS System

AWW in the initial 2-3 months of training reported their performance to ANM who reported the data in the monthly reporting format. When the AWW abandoned IMNCI practice, this process was discontinued. Interview of block and district level program health officials also confirm lack of any reporting from Anganwadi or the ICDS system.

Supervision and Monitoring Support

All supervisors received 8 days basic training and 2 days supervisors training. Supervisors of health reported supervision of IMNCI practice by workers. There is no separate supervisory visit for IMNCI but as a part of routine immunization. The supervisor did not have a structured format for supervision and was at best confined to examining the case record booklet. Supervisors of the ICDS system could not start the system in field. There was neither system of joint supervision nor supervisory meeting between health and ICDS. No separate review was conducted for IMNCI either at the block or district monthly meetings.

Home Visits by Health Worker

IMNCI emphasizes home visit by health workers on specified days after birth in normal and low birth weight babies. In a total of 37 newborn in the ANMs areas only 2 (5.4%) were low birth weight babies. 9 (24.3%) babies were paid three visits. None of the workers made home visit as specified in IMNCI.

DISCUSSION

Both the district had trained more than 50% workforce. Training was as per guideline and valued highly by the health and nutrition workers. Equipment needed for practice of IMNCI was found deficient. PHC lacked weighing scale, and Anganwadi centers were found deficient in clinical thermometer and 1 L capacity measuring jar. Drugs necessary for IMNCI practice was found at all PHC and subcenters. None of the Anganwadi centers had the necessary IMNCI drugs. Case sheet and reporting formats were in short supply. IMNCI was not practiced actively by ANM or AWW, and they could not demonstrate case management as outlined in

case sheet in IMNCI. A monthly report was submitted by subcenters. There was no reporting system in ICDS. There was no supervisory system for IMNCI implementation. Home visit by health workers was erratic and not as scheduled.

The findings of this study are in similar lines to studies carried elsewhere in India. The evaluation of IMNCI in Panchkula district of Haryana found that adherence of IMNCI guidelines for management of under-five children was not satisfactory after implementation IMNCI.[4] Supervision and monitoring are crucial for a program implementation. There was poor support at all levels. A similar finding was reported by Mohan et al.[5] found that poor supervision and inadequate essential supplies affected the performance of trained workers. Multi-country evaluations (MCE) of the IMCI also found poor health systems support for IMCI.[10] Post-training follow-up and supervision was poor. A study in Java, Indonesia also reported high importance accorded to IMCI by health workers, but poor found poor logistic and supervisory support.[11] This study is in sharp contrast to that by Bhandari et al.[3] who found the effective implementation of IMNCI in field. However, the area studied by them had strong supervisory support, incentives to health workers for performance and drug depots in village. IMNCI training has increased the knowledge, skill, and confidence of health and nutrition worker. Duyen et al., in a meta-analysis has also reported improvement in health workers skill in those who practiced IMNCI.[12] Similar observation was made by other authors in West Bengal.[13] In Assam, health and nutrition workers started practice of IMNCI in the community. However, in the absence of a supportive environment, this enthusiasm waned of early. The supportive supervision needed to provide support and direction was absent in both health and ICDS. In a skill-based training as IMNCI initial supervisory support is very vital to guide the worker. Supervisor's training was conducted but after the training supervisors were not clear about their role in the program as no formal system or guidelines of supervision was developed. There was not clear defined role of ICDS in the implementation of IMNCI. AWW were not clear about how to practice, whom to look for support, where to report, etc., and hence discontinued the process. ICDS supervisors also were not clear about their role and stake in the program. With lack of clear directive and guideline, they failed to bring in a system for sustaining IMNCI. The weakest link was the absence of coordination between health and ICDS at all levels. No working links developed between ANM/AWW, LHV/ICDS supervisor.

The study has highlighted operational problems in IMNCI implementation in Assam. To the best of our knowledge, this is the first such study in the state. The data collection was performed by the authors. This may have interfered with a demonstration of IMNCI practice by ANM and AWW. Furthermore, the observation was based to a few facilities, and this may interfere with the generalization of results to the state. However, this aspect has been taken care of to a limited extent by selecting a well performing PHC in the district.

A program that requires intersectoral coordination will require role clarity and supervision. This is very crucial when program implementation starts in the field. A resource intense program like IMNCI should not be aimed for universal coverage but as a targeted approach in areas with poor child health indicators.

CONCLUSION

Reports of effective implementation of IMNCI in the community are very few. In the presence of a supportive environment, IMNCI can be practiced by nutrition workers in areas with poor access to routine functional health services. IMNCI if effectively implemented can strengthen health system.

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