ABSTRACT

ABSTRACT

In Gujarat the prevalence of underweight (47%) and stunting (42%) among children under 3 years is as high as the national average (NFHS-3 2005-06). India's primary policy response to child malnutrition, the Integrated Child Development Services (ICDS) program, is well-conceived and well-placed to address the major causes of child undernutrition in India. It has long been realized that the government sector alone in ICDS expansion is inadequate and that there is a need for involving voluntary organizations in its implementation. To understand NGOs' implementation of ICDS and the factors responsible for impeding and improving the quality of its implementation, using the Health Systems Research (HSR) Methodology becomes crucial. There have been few rigorous evaluations of the ICDS program's impact on nutritional status or health behaviors and also little is known of what is the quality of services implemented by NGO within the overall system. Hence, the present study was undertaken with the **overall objective** to adapt the Health Systems Research methodology to study selected nutrition services (Growth Monitoring (GM), Supplementary Feeding (SF), *Rab* supplementation and Nutrition Health Education (NHE)) of the NGO managed-ICDS in rural Vadodara and to strengthen the system for improved implementation and monitoring of these selected services. The focus was especially on strengthening capacity of ICDS to improve Infant and Young Child Feeding (IYCF) practices in the community.

This research consisted of two phases.

- Phase I was the situational analysis – current implementation of selected ICDS services in the NGO system which formed the basis of the intervention
- Phase II was capacity building training intervention towards enhanced implementation of ICDS in the NGO system and its process-impact evaluation

Phase I

Functionary perspective (20 randomly selected Anganwadi workers (AWW)) was studied in terms of:

- IYCF knowledge and practices; profile of AWWs; knowledge related to ICDS services (through interviews)
- Quality of implementation of selected ICDS services by the NGO (through interviews and observations)

Beneficiary perspective (among all available 115 children (6-35 months) from 4 (out of 40) randomly selected ICDS anganwadi centers) was studied in terms of:

- Perceptions and practices of mothers on IYCF; resources for Care; morbidity profile of children; nutritional status of children and mothers; hygiene of mother, child and environment; food and nutrient intake on random sub sample of 60 children.

Phase II

Intervention: To strengthen the quality of ICDS in the NGO system with regard to implementation of nutrition care services, interventions such as capacity building training workshop, modification of job functions and monitoring system were conducted. Training

workshop focused on improving communication skills of AWWs to inturn improve Nutrition Health Education and Communication service and IYCF practices of mothers.

Process Evaluation (Functionary perspective): 35 AWWs held Nutrition Health Education-Communication (NHEC) group meetings in their respective AWCs and imparted IYCF messages to mothers using flash cards. These sessions were critically observed and on-the-spot guidance was given to each AWW. Besides post training follow up and strengthening skills of AWWs, other aspects of ICDS management were also observed such as implementation of SF, GM, review and monitoring by the supervisors. Qualitative research methods within the HSR framework were used for process evaluation.

Impact Evaluation (Beneficiary perspective): An indepth study was carried out to assess whether the enhanced NHEC had any impact on the beneficiaries, the *Intervened Group* (IG) (N=40 mothers) from "good performing AWCs" and the *Control Group* (CG) (N=30 mothers) from "poor performing AWCs", were compared.

RESULTS

Phase I

Functionary Perspective: Majority of the AWWs had satisfactory knowledge related to objectives and benefits of selected *ICDS services* (GM, SF and NHE) and *IYCF practices*. However, *continuous unstructured observations* and *spot observations* at AWCs revealed that quality of implementation of ICDS services was poor; significant time was spent in filling records and registers. On average the AWCs functioned only for $2^{1/2}$-3 hours instead of $4^{1/2}$ hours of regular AWC time. The NGO provided additional inputs in terms of medical services through a hospital; infrastructural support by providing materials for improving quality of pre-school activities and hygiene of children and AWCs; good quality food ration for 1-6 year children and *rab* supplementation program especially for children 7-12 months.

Beneficiary perspective: Mothers were from poor communities and were undernourished (BMI< 18: 58%). Most mothers were not aware of the objectives of nutrition related *ICDS services* (GM, SF and NHE); and did not perceive any change in health status of their children on receiving these services. Further, above 50% were not following the recommended *IYCF practices*, that is – were giving prelacteals, discarding colostrum, delaying initiation of BF, not practicing exclusive BF, timely initiation of CF or active feeding. Above half (>50%) children reported to be ill.

Nutrient intake among children: Children met <60% RDA for calories and <30% RDA for iron calcium, vitamin A, vitamin C.

Nutritional status of the children: Prevalence of underweight (WAZ<-2z) was 66%, stunting (HAZ <-2z) was 70% and wasting (WHZ <-2z) was 28%.

Comparison between children regularly attending AWCs (REG-AWC, N=36), vs. those Irregularly Attending (IREG-AWC, N=27) revealed that IREG-AWC mothers had suboptimal IYCF knowledge and practices compared to REG-AWC mothers. Though the

intake of all nutrients (mean percent RDA) of children in REG-AWC group was higher than IREG-AWC group and the micronutrient intake (iron, calcium, vitamin A and vitamin C) was nearly double compared to IREG-AWC, the prevalence of morbidity and undernutrition (underweight and stunting) were equally high in both groups (>60%).

Phase II:

Process and Impact Evaluation of the Intervention

Process evaluation: The HSR approach enabled the assessment of changes in Quality of Care (QOC) during implementation of selected nutrition services in NGO system.

Observations during NHEC sessions revealed that very few meetings were conducted well (5/35 meetings, mean score: 8 out of 10). Unfortunately, a majority of the AWWs (30/35 meetings observed, mean score: 1.5 out of 10) were seen to be weak in their communication skills. These AWWs did not appear to be interested in conducting the meetings; did not inform the women in advance and did not follow up to ensure attendance; had not prepared the IYCF messages well.

Post intervention knowledge of AWWs regarding ICDS services improved: AWWs could correctly recall the messages regarding GM service; more than half (60-80%) could remember the standard measurements of cooked foods; more AWWs stated that mothers learnt about *rab* preparation and good hygiene practices; utilization of ICDS services increased; majority of them (85%) stated using flash cards during the NHEC meetings. Further, there was a very significant improvement in the knowledge of AWWs regarding child feeding and care practices however; there was not much improvement in the quality of implementation of GM, SF, Rab supplementation and NHE services as revealed through *spot observations.* Their communication and counseling skills also did not show any substantial improvement.

Monitoring and supervision also remained weak after the intervention, as none of the NGO authorities took charge of monitoring and maintaining the quality of enhanced ICDS services.

Impact Evaluation of the Intervention on Beneficiaries

There was very little improvement in the knowledge of intervened (IG) mothers regarding the GM service. Even after the intervention, 90% of the mothers had not seen the growth chart. Although a majority could state the benefits of SF there was no improvement in utilization of *rab* program as a majority (70%) remained unaware even post intervention. *NHE service:* a significantly higher proportion (50%) of the mothers reported to attend NHE meetings, however, more than half (64%) of them found no difference in the health status of their children due to this service, which is not surprising as sustained and effective NHE is required before nutritional status improvement can be expected.

In the Intervened villages (IG), 60% eligible mothers attended the NHEC meetings. There was a significant improvement after the intervention in knowledge of the IG mothers as

regards: initiation of CF at 6 months; feeding fruits, vegetables to children and importance of active feeding. Further, among the IG mothers the positive change in knowledge was even better in the NHEC attended mothers (AT-NHEC) than in NHEC not attended (NAT-NHEC) mothers.

Food and Nutrient intake: In IG, there was a significant rise in the intake of energy giving foods and in case of CG, the intake of none of the foods showed a significant increase. There was significant rise in the nutrient intake of IG children and the RDAs met were higher than that seen in the CG children.

Change in Nutritional Status of Children: The prevalence of *underweight* in both IG and CG after the intervention remained the same (IG: 60% & CG: 60%) as in pre intervention whereas, *stunting* increased in CG with no change in IG children. Further, the proportion of severely stunted IG children decreased (60% to 54%), whereas the proportion increased in CG (39% to 48%). The prevalence of *wasting* increased in both IG and CG after the intervention whereas, proportion of severe wasting decreased in IG and further increased in CG children. Thus, the intervention helped to atleast maintain the nutritional status of the intervened children whereas in absence of intervention nutritional status among the control children deteriorated. If the NGO had taken more active interest in strengthening ICDS, perhaps the impact on nutritional status would have been more significant.

Overall, the study results indicate that trained and motivated functionaries can bring about major improvement among mothers and a simple monitoring system can be a valuable tool to track progress. The utilization of services by the beneficiaries can further improve and the impact can be further enhanced if NGOs actively give support and give adequate priority to ensuring quality of implementation in ICDS that they are managing.