



Original Article:

Evaluation of Supplementary Nutrition Activities under Integrated Child Development Services (ICDS) at Anganwadi Centres of Different Districts of Gujarat

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Abstract: Background: The ICDS program aims at enhancing survival and development of children from the vulnerable sections of the society. The present study was conducted to assess supplementary nutrition (SN) activities and its related issues at anganwadi centres. Material and methods: Total 60 anganwadi centres were selected including 46 anganwadi centres (AWCs) from rural area and 14 AWCs from urban area during April 2012 to March 2013 from 12 districts of Gujarat. Five AWCs were selected from one district randomly. Detailed information was collected related to beneficiary's coverage for SN, type of food provided under SN, and various issues related to supplementary nutrition at anganwadi centres. Results: High coverage of receiving SN among enrolled was reported in pregnant mothers (88.3%), lactating mothers (91.7%) and adolescents (86.7%). Only 25% AWCs were providing hot cooked food (HCF) to 3 to 6 years children. Less than half of the AWCs were providing ready to eat (RTE) food to 6 months to 3 years children (48.3%), pregnant (46.7%) and lactating (46.7%) mothers, and adolescents (45.0%). Total 38.3% AWCs reported shortage of SN supply, more in rural (41.3%) compare to urban (28.6%). Various problems were reported by anganwadi workers related to SN like lack of storage facility, non availability of separate kitchen, poor quality of food, irregular supply, inadequate supply, and fuel problem. Conclusion: The regular and adequate supply of SN will improve the provision of hot cooked food, ready to eat food and take home ration to the beneficiaries as per the norms, leading to improvement of overall nutritional status of the community.

Key Words: Anganwadi workers; Supplementary nutrition; ICDS

Introduction:

Launched on 2nd October 1975, today, Integrated Child Development Services (ICDS) scheme represents one of the world's largest and most unique programs for early childhood development. ICDS is the foremost symbol of India's commitment to her children – India's response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the other. [1] Integrated Child Development Services program continues to be the world's most unique early childhood development program, which is being satisfactorily operated since more than three decades of its existence. [2] The ICDS scheme is a long term development program for community and all efforts should be continued to strengthen to make it more successful. It serves as an excellent platform for several development initiatives in India. It serves the extreme underprivileged communities of backward and remote areas of the country. It delivers services right at the doorsteps of the beneficiaries to ensure their maximum participation. [3] The ICDS program aims at enhancing survival and development of children from the vulnerable sections of the society. As a world's largest outreach program targeting infants and children below six years of age, expectant and nursing mothers, ICDS has generated interest worldwide amongst academicians, planners, policy makers, administrators and those responsible for implementation. [4] The program includes a network of "Anganwadi Centre"

(AWC) literally courtyard play centre, provides integrated services comprising supplementary nutrition, immunization, health check-up, referral services to children below six years of age, adolescent girls and expectant and nursing mothers. High priority is accorded to the needs of the most vulnerable younger children under three years of age in the program through capacity building of care givers to provide stimulation and quality early childhood care. [2]

The program is executed through dedicated cadre of female workers named Anganwadi workers (AWWs), who are chosen from the local community and given 4 months training in health, nutrition and child-care. She is in charge of an Anganwadi centre (AWCs) and is supervised by a supervisor called Mukhyasevika. AWW is also assisted by helper who works with AWW and helps in executing routine activities at anganwadi centre.

One of the important services of AWCs includes Supplementary Nutrition Program (SNP). The SNP provides supplementary food to children between 6 months and 6 years of age, adolescent girls and pregnant and lactating mothers. [5] By providing supplementary feeding, the scheme attempts to bridge the protein-energy gap between the recommended dietary allowance (RDA) and average dietary intake (ADI) of children, pregnant and lactating women. Every beneficiary under supplementary nutrition (SN) is to be provided supplementary nutrition for 300 days a year. [6] The AWC provides different type of supplementary nutrition in form of hot cooked food (HCF), ready to eat food (RTE), and take home ration (THR) to the beneficiaries. The present study was conducted to assess supplementary nutrition activities and its related issues at anganwadi centres in different districts of Gujarat state, India.

Material and Method:

The government of India has decided to set up a regular monitoring and supervision mechanism of ICDS scheme through National Institute of Public Cooperation and Child Development (NIPCCD) with Monitoring and Evaluation unit in the Ministry of Women and Child Development. The national level monitoring of ICDS scheme is being done by the Central Monitoring Unit (CMU) set up at NIPCCD. The monitoring and supervision of the ICDS scheme at secondary and primary level involves state level monitoring, district level monitoring, project level monitoring and community level monitoring.[7]

At state level, various tasks relating to supervision and monitoring of the scheme is being undertaken with help of selected academic institutions like community medicine department of medical college, home science colleges. From Gujarat state with 25 districts, two institutions namely Community Medicine department, Government Medical College, Vadodara and Community Medicine Department, P D U Government Medical College, Rajkot were approved by NIPCCD. The present study was conducted by Community Medicine Department, P D U Government Medical College, Rajkot in 12 districts of Gujarat as directed by NIPCCD. The 12 districts were included namely Ahmedabad, Amreli, Bhavnagar, Gandhinagar, Jamnagar, Junagadh, Kutch, Mehsana, Patan, Porbandar, Rajkot, and Surendranagar.

As per the guidelines provided by NIPCCD, from selected 12 districts, three districts are to be visited in one quarter and so one district per month. From selected district, randomly one ICDS block was selected first. In next stage, from each selected block, five anganwadi centres were selected randomly. So total 60 anganwadi centres were selected including 46 AWCs from rural area and 14 AWCs from urban area during April 2012 to March 2013. An attempt was made to select not more than two anganwadi centres from each of the supervisory circle. A team of four members from Community Medicine Department, P D U Government Medical College, Rajkot visited the selected AWCs.

Each anganwadi centre was visited on a pre-informed fixed day. Anganwadi workers were interviewed using a pre-designed and pre-tested proforma at respective anganwadi centres. Detailed information was collected related to beneficiary's coverage for SN, type of food provided under SN, anganwadi worker's response and various issues related to supplementary nutrition at anganwadi centres. The government of India has provided the financial norms per beneficiary per day for expenditure under supplementary nutrition. [6] The collected data was entered and analyzed by using the Epi Info software version 3.5.1 (Centre for Disease Control and Prevention, Atlanta, Georgia, USA).[8]

Results:

From 12 districts of Gujarat, total 60 anganwadi centres were selected including 46 from rural areas and 14 from urban areas. Details of beneficiaries receiving supplementary nutrition from anganwadi centres included 6 months to 3 years and 3 to 6 years children, pregnant and lactating mothers, and adolescent girls (Table 1). In 70% anganwadi centres, all enrolled children of 6 months to 3 years were receiving the supplementary nutrition, which is 51.7% for age group 3 to 6 years (Table 1). High coverage of receiving SN among enrolled was reported in pregnant mothers (88.3%), lactating mothers (91.7%) and adolescents (86.7%). In 10% anganwadi centres, less than 50% of enrolled children were receiving SN.

Enrolled / Receiving food	Beneficiary – No. (%)				
	6 months–3 years	3 – 6 years	Pregnant women	Nursing mothers	Adolescents
100 %	42 (70.0)	31 (51.7)	53 (88.3)	55 (91.7)	52 (86.7)
80-99%	10 (16.7)	8 (13.3)	2 (3.3)	2 (3.3)	2 (3.3)
60-79%	1 (1.7)	10 (1.7)	5 (8.3)	2 (3.3)	4 (6.7)
50-59%	2 (3.3)	4 (1.7)	0	1 (1.7)	1 (1.7)
< 50%	5 (8.3)	7 (11.7)	0	0	1 (1.7)

Only 25% AWCs were providing hot cooked food (HCF) to 3 to 6 years children (Table 2). Less than half of the AWCs were providing ready to eat (RTE) food to 6 months to 3 years children (48.3%), pregnant (46.7%) and lactating (46.7%) mothers, and adolescents (45.0%). Combination of both HCF and RTE was provided to 3 to 6 year's children in 70.0% anganwadi centres.

Type of SN given	Beneficiary – No. (%)				
	6 months – 3 years	3 – 6 years	Pregnant women	Nursing mothers	Adolescents
Hot cooked food (HCF)	6 (10.0)	15 (25.0)	1 (1.7)	1 (1.7)	2 (3.33)
Ready to eat (RTE)	29 (48.3)	3 (5.0)	28 (46.7)	28 (46.7)	27 (45.0)
Both of the above	3 (5.0)	42 (70.0)	2 (3.33)	2 (3.33)	2 (3.33)
Take home ration (THR)	2 (3.33)	3 (5.0)	3 (5.0)	4 (6.7)	4 (6.7)

Anganwadi workers response to SN was assessed among visited 60 anganwadi centres. Supplementary nutrition was fully acceptable in 90% AWCs, with no acceptability in 1.7% AWCs (Table 3). Quality of SN was good (86.7%) and quantity adequate (95.0%) as replied by AWWs. Community participation was reported by AWWs in form of provide food

in 85% AWCs, but low in providing raw material (16.7%) and helping the AWWs in preparation/cooking of food.

Table 3: Anganwadi workers response to supplementary nutrition (SN) given at visited anganwadi centres

Variable	Rural (n=46) No. (%)	Urban (n=14) No. (%)	Total (n=60) No. (%)
Acceptability of SN			
Fully acceptable	43 (93.5)	11 (78.6)	54 (90.0)
Partially acceptable	3 (6.5)	2 (14.3)	5 (8.3)
Not acceptable	0	1 (7.1)	1 (1.7)
Quality of SN			
Good	42 (91.3)	10 (71.4)	52 (86.7)
Average	3 (6.5)	2 (14.3)	5 (8.3)
Poor	1 (2.2)	2 (14.3)	3 (5.0)
Quantity of SN			
Adequate	43 (93.5)	14 (100.0)	57 (95.0)
Inadequate	3 (6.5)	0	3 (5.0)
Type of community participation in SN			
Provide food	38 (82.6)	13 (92.9)	51 (85.0)
Provide raw material	6 (13.0)	4 (28.6)	10 (16.7)
Help in cooking	8 (17.4)	4 (28.6)	12 (20.0)

No shortage of SN supply was reported in 58.7% rural and 71.4% urban AWCs (Table 4). Total 38.3% AWCs reported shortage of SN supply, more in rural (41.3%) compare to urban (28.6%). Various problems were reported by anganwadi workers related to supplementary nutrition like lack of storage facility (21.7%), non availability of separate kitchen (16.7%), poor quality of food (15.0%), irregular supply (13.3%), inadequate supply (13.3%), and fuel problem (5.0%). Table 5 shows financial norms declared by government of India per beneficiary per day for expenditure on SN.

Table 4: Issues reported by anganwadi workers related to supplementary nutrition (SN) among visited anganwadi centres

Variable	Rural (n=46) No. (%)	Urban (n=14) No. (%)	Total (n=60) No. (%)
Interruption in supply of SN			
No interruption reported	27 (58.7)	10 (71.4)	37 (61.7)
Interruption in supply	19 (41.3)	4 (28.6)	23 (38.3)
Problems related to SN			
Separate kitchen not available	7 (15.2)	3 (21.4)	10 (16.7)
Irregular supply	6 (13.0)	2 (14.3)	8 (13.3)
Inadequate supply	6 (13.0)	2 (14.3)	8 (13.3)
Lack of storage facility	9 (19.6)	4 (28.6)	13 (21.7)
Poor quality of food	6 (13.0)	3 (21.4)	9 (15.0)
Lack of funds	1 (2.2)	0	1 (1.7)
Fuel problem	2 (4.3)	1 (7.1)	3 (5.0)
No problem reported	18 (39.1)	6 (42.9)	24 (40.0)

Table 5: Financial norms per beneficiary per day expenditure under supplementary nutrition

Category	With effect from October 2004	With effect from November 2008
Children aged 6-72 months	Rs. 2.00	Rs. 4.00
Severely malnourished children (6-72 months)	Rs. 2.70	Rs. 6.00
Pregnant women and lactating mothers	Rs. 2.30	Rs. 5.00

Discussion:

The global community has designated halving the prevalence of underweight children by 2015 as a key indicator of progress towards the Millennium Development Goal (MDG) of eradicating extreme poverty and hunger. However, it

appears that economic growth alone, though impressive, will not reduce malnutrition sufficiently to meet the MDG nutrition target. If this is to be achieved, difficult choices about how to scale up and reform existing nutrition programs or introduce new ones have to be made by the government of India and other agencies involved in nutrition in India.[8]

The Government of India formulated and adopted the National Policy for Children in 1974 besides formulating programs for children as a prominent part of national plans. Department of Women and Child Development formulated the National Plan of Action for Children in 1992 and in 2003, a National Charter for Children was adopted which refined India's policy commitments towards the child. Recognizing the need for early intervention to ensure the development of a young child's body, mind and intellect to its maximum potential, the Government of India started Integrated Child Development Services (ICDS), a centrally sponsored scheme which is a step towards responding to the child's needs in a comprehensive and holistic perspective.[2]

The ICDS program is formulated to enhance the health, nutrition and learning opportunities of infants, young children and their mothers, especially targeted for the poor and deprived. The goals of ICDS program are reduction of Infant Mortality Rate (IMR) to less than 60 per 1000, reduction in Child Mortality Rate (CMR) to less than 10 per 1000, and reduction in Maternal Mortality Rate (MMR) by at least 50%. [2] Various studies reported assessing and evaluating the functioning of anganwadi centres and anganwadi workers, but in present study attempt was made to evaluate the status of supplementary nutrition activities and issues related to it.

Supplementary nutrition leads to fulfilment of the deficiencies of calories, proteins, minerals and vitamins in the existing diets, avoiding cutbacks in the family diet and taking other measures for nutritional rehabilitation of severely malnourished children and also mothers. Supplementary nutrition is a high cost input of ICDS program. NIPCCD reported that ICDS program has reduced the prevalence of malnutrition, and brought significant change in the anthropometric measurements and nutritional status of children.[2]

Present study reported that coverage of all beneficiaries receiving supplementary nutrition among enrolled was high for pregnant women (88.3%) and lactating mothers (91.7%), and for adolescent girls (86.7%) at anganwadi centres indicating good rapport of anganwadi workers with adolescents and reproductive age female. But coverage of all enrolled children was not adequate for both 6 months to 3 years (70.0%) and 3 to 6 years (51.7%) age group. It indicates that the anganwadi workers have to give more emphasis to attract children from their community to anganwadi by providing other services like preschool education and also by celebrating nutrition and health education days.

A hot meal was served every day at the AWCs to children 3 years and older and a take home ration was given to pregnant and lactating women and children 6 months to 3 years old.[8] In present study, anganwadi centres were providing hot cooked food (HCF) mainly in 3 to 6 years children (25.0%), and ready to eat (RTE) food to other beneficiaries like 6 months to 3 years old children (48.3%), pregnant women (46.7%), lactating women (46.7%) and adolescent girls (45.0%); higher than previous study by NIPCCD (RTE – 33.3%). [2] The supply of take home ration in current study was very poor for all the beneficiaries of AWCs, which indicates inadequate supply of same from authority. Local authority has to give attention on this issue and provide timely supply of take home ration at AWCs. The state government has recommended supply of energy dense extruded fortified blended food (EFBF) to children of both 6

months to 3 years age (125 gms/day) and 3 to 6 years (185 gms/day).[9] Also provision of take home ration was made for adolescent girls, pregnant and lactation mothers (130-140 gms/day).

It has been proved that supplementary nutrition not only improves the nutritional level of children and reduces malnutrition, it also works as an incentive for promoting attendance of children and mothers to participate in the activities of AWCs and as such plays a vital role in ICDS program.[2] Acceptability of supplementary nutrition was reported in overall 90% of AWCs. Overall good quality (86.7%) and adequate quantity (95.0%) of SN supply was reported by the anganwadi workers. In last 6 months, interruption in supply of SN was reported in 38.3% AWCs, more in rural areas (41.3%) than in urban areas (28.6%) compare to NIPCCD (overall – 52.9%, rural – 52.0%, and urban – 45.0%).[2] The main reason for interruption in supply of SN was shortage of supply of SN material/food from the authority followed by non availability of separate kitchen, inadequate storage space, inadequate supply, fuel supply in present study. There were various such problems reported by NIPCCD for interruption of SN like delay in supply, transportation problem, weather conditions, project staff on leave, AWW / helper not in position, spoiled food. It was observed that interruption in supply of supplementary nutrition also affected the image of AWWs and credibility to the activities of AWCs, and had a negative impact on community support and participation. This will also impact on the delivery of other services due to poor attendance of children in anganwadi centres.[2]

The policy of providing the feeds at the AWCs needs to be reviewed regularly. The SN component was expected to attract the beneficiaries and make them available at the AWCs for other services [10], but interruption in supply of SN may affect the other services provided at AWCs. The non satisfaction regarding supplementary nutrition sometime has resulted in dissatisfaction among parents of overall ICDS services.[11,12]

Conclusion:

The study has reported interruption in supply of SN and also inadequate provision of SN foods to the beneficiaries. The regular and adequate supply of SN will improve the provision of hot cooked food, ready to eat food and take home ration to the beneficiaries as per the norms, leading to improvement of overall nutritional status of the community.

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