

## Assessment of Supplementary Nutrition Service Utilization at Anganwadi Centres in Rural Area of District Bareilly

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### Abstract

**Background:** The Integrated Child Development Services (ICDS) scheme was launched in 1975, to provide holistic development of children through a package of services aimed at reduction of child malnutrition, morbidity and mortality.

**Objectives:** To find out available infrastructure at Anganwadi Centers. To study the utilization of supplementary nutrition service by beneficiaries at Anganwadi Centers. To find out the reasons given by beneficiaries for not utilizing supplementary nutrition service.

**Materials and method:** A Cross sectional observational study conducted at Bareilly in 22 Anganwadi Centres selected by multi-stage sampling technique. Selected Anganwadi Centres were visited and selected Anganwadi workers and beneficiaries were interviewed.

**Observations:** 85% of lactating mothers, 83.6% of pregnant women, 78.8% of adolescent girls, 61% of children in the age group >6 months upto 3 years and 50.6% of beneficiaries in the age group >3 years upto 6 years received supplementary nutrition.

**Conclusion:** Utilization of supplementary services was found to be highest among lactating mothers followed by pregnant women and lowest among beneficiaries in the age group >3 years upto 6 years.

**Keywords:** Anganwadi Centres, Child, Supplementary Nutrition

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### Introduction

Integrated Child Development Services (ICDS) Scheme was launched on 2 October, 1975 – the 106<sup>th</sup> birth anniversary of Mahatma Gandhi—the Father of the Nation. ICDS is the most unique programme for early childhood care and development encompassing integrated services for development of children below six years, expectant and nursing mothers and adolescent girls living in the most backward, rural, urban and tribal areas<sup>1</sup>. ICDS provides health, nutrition, immunization, preschool education, health and nutrition education, and referral services to young children and their mothers. ICDS also empowers mothers to take better care of their children<sup>2</sup>.

The programme provides a well-integrated package of services through a network of community-level Anganwadi Centres (AWC). The Anganwadi, literally means a courtyard play centre, located within the village itself, the Anganwadi Worker (AWW) is the

main functionary of the centre and there is also an Anganwadi Helper (AWH) to assist the worker. The target groups receive supplementary feeding support for 300 days in a year. Besides, severely malnourished children are given special supplementary feeding and referred to medical services<sup>3</sup>.

### Objectives

1. To find out logistics available for providing supplementary nutrition at Anganwadi Centres.
2. To study the utilization of supplementary nutrition service by beneficiaries at Anganwadi Centres.
3. To find out the reasons given by beneficiaries for not consuming supplementary food.

### Materials and Method

The present cross-sectional observational study was conducted at Anganwadis in rural block of Bareilly district. The entire Bareilly district was covered under ICDS. There are total fifteen functioning ICDS blocks. One rural block (Bhojipura) was selected randomly for present study. There are 156 Anganwadi Centres (AWCs) in Bhojipura block, out of this 22 Anganwadi Centres which are under field practice area of rural health training centre of Shri Ram Murti Smarak Institute of Medical Sciences are selected for the study. All the AWCs were visited and their respective Anganwadi workers were interviewed.

Study population consisted of Anganwadi worker (AWW), beneficiaries in the age group >6 months up to 3 years, 3 upto 6 years, pregnant ladies, lactating mothers and adolescent girls under Anganwadi Centre (AWC) of selected villages.

The sample size required for the beneficiaries was calculated by using a population proportion with specified relative. For this purpose "Sample size Determination in health studies- a practical manual by WHO" was used. A rough estimate of anticipated population proportion was usually sufficient to calculate the sample size. In this study it was not possible to estimate prevalence (P), so a figure of 0.5 (i.e.50%) was used, which was the "safest" choice for the population proportion since the sample size required was largest when P = 0.5<sup>4</sup>.

$$\text{Sample size} = \frac{3.84 P \times Q}{d^2}$$

Where, P = Anticipated population proportion (50%)

Q = 100 – Anticipated population proportion = (50%)

d = Relative Precision (10%)

**Sample size = 384**

Assuming 10 percent loss to sample because of non-response, final sample size was calculated 423 beneficiaries. From each village 5 beneficiaries of each group was selected randomly to interview, so from one village 20 beneficiaries (5 beneficiaries × 4 groups) were interviewed. A total of 440 (20 beneficiaries × 22 villages) were interviewed.

In every village there are three Adolescent girls (AG) registered at a time in AWC for duration of 6 months. So from each village all the three adolescent girls were interviewed from each village. So a total of 66 (3 AG × 22 villages) adolescents were interviewed in the study. Total 506 (440 + 66) beneficiaries were interviewed.

**Observations**

In the study it was seen that 63.6% of AWCs were having pucca type of construction, 36.4% were running in own building and 63.6% were running in primary school buildings. All the AWCs were having class rooms but 54.5% of the AWCs do not have the facility of kitchen and 22.7% of AWCs have store room facility. Only 18.2% of AWCs have toilet facility and none of the AWCs had electricity supply. (Table 1)

Regarding utilization of supplementary service it was seen that 85% of lactating mothers received supplementary nutrition on the day of visit, followed by pregnant women (83.6%), adolescent girls (78.8%), followed by beneficiaries in the age group >6 months up to 3 years (61.0%), and least percentage of group which received SN were beneficiaries in the age group of >3 years up to 6 years (50.6%). So maximum service gap was seen in children in the age group of >3 years

up to 6 years (49.4%) and minimum service gap was present in lactating mother (15.0%), as per the record of Anganwadi worker. (Table 2)

On interviewing the beneficiaries the results obtained regarding utilization of supplementary nutrition showed that 63.6% of beneficiaries in the age group >6 months up to 3 years, only 6.8% received the service in the age group >3 years up to 6 years, 25.8% of pregnant women and 17.5% of lactating mothers and only 24.2% of adolescent girls have utilized the supplementary nutrition services. Highest percentage of consumption of supplementary food was found to be among adolescent girls (93.7%) and lowest among lactating mothers (27.2%). (Table 3)

While analyzing the factors affecting the consumption of supplementary food by beneficiaries in the age group >6 months up to 3 years it was seen that factors such as age, gender and caste came out to be statistically significant so it means they influence the feeding of supplementary nutrition by beneficiaries. (Table 4)

There were different reasons given by beneficiaries for not consuming supplementary nutrition. Majority of beneficiaries gave the reason that they do not like that taste of supplementary food, followed by 'supplementary nutrition not good for health'. It was seen that 47.7% of lactating mothers told 'poshahar decreases lactation' so they do not consume it. (Table 5)

**Table 1: Availability of Logistics for Providing Supplementary Nutrition Service. (n=22)**

Type of facility	Number (percent)
<b>Separate closed kitchen</b>	
Present	10 (45.5 %)
Absent	12 (54.5 %)
<b>Store</b>	
Present	5 (22.7 %)
Absent	17 (77.3 %)
<b>Supply of supplementary food</b>	
Adequate	13 (59.1 %)
Inadequate	09 (40.9 %)
<b>Cooking utensils</b>	
Available	06 (27.3 %)
Not Available	16 (72.7 %)
<b>Water storage container</b>	
Available	16 (72.7 %)
Not Available	06 (27.3 %)

**Table 2: Number of Beneficiaries Getting Supplementary Nutrition (SN) Services at Anganwadi Centres as Per AWW Record**

Beneficiaries	Number of beneficiaries registered	Number of beneficiaries received SN in last week (n) (percent)	Service gap* (percent)
> 6 months upto 3 years	1354	826 (61.0 %)	528 (39.0 %)
> 3 years upto 6 years Children (Hot cooked food included)	1332	674 (50.6 %)	658 (49.4 %)
Pregnant women	306	256 (83.6 %)	50 (16.3 %)
Lactating mothers	280	238 (85.0 %)	42 (15.0 %)
Adolescent girls	66	52 (78.8 %)	14 (21.2 %)

\* Service gap = number of beneficiaries registered – number of beneficiaries received on day of visit.

**Table 3: Utilization of Supplementary Nutrition Service as told by Beneficiaries**

Beneficiaries	Number of beneficiaries interviewed	Number of beneficiaries not utilized service (%)	Number of beneficiaries utilized service (%)	Consume the supplementary food (%)
Mothers of > 6 months upto 3 years	110	40 (36.4%)	70 (63.6 %)	60 (85.7%)
Mothers of > 3 years upto 6 years Children	110	102 (93.2%)	8 (6.8%)	8 (100%)
Pregnant women	110	82 (74.2%)	28 (25.8%)	23 (82.2%)
Lactating mothers	110	91 (82.5%)	19 (17.5%)	5 (27.2%)
Adolescent girls	66	50 (75.8%)	16 (24.2%)	15 (93.7%)

**Table 4: Factors Affecting the Consumption of Supplementary Food by Beneficiaries in the Age Group >6 Months Upto 3 Years**

Factors	Feed the Supplementary food		Value*	'p' value
	Yes (n= 60)	No (n= 10)		
<b>Age</b>				
< 12 months	8	4	0.35	0.008
12-24 months	30	0		
> 24 months	22	6		
<b>Gender</b>				
Male	22	8	0.29	0.01
Female	38	2		
<b>Religion</b>				
Hindu	44	8	0.05	0.65
Muslim	16	2		
<b>Caste</b>				
General	14	2	0.38	0.007
Other Backward Class (OBC)	36	2		
Schedule Caste (SC) & Schedule Tribe (ST)	10	6		
<b>Mother's Education</b>				
Illiterate	34	8	0.16	0.16
Literate	26	2		
<b>Mother's Occupation</b>				
Housewife	58	10	0.07	0.59
Others	2	0		
<b>Father's Occupation</b>				
Farmer	16	6	0.25	0.15
Labour	18	2		
Other	26	2		

\* Contingency coefficient, 'p' value < 0.05 is significant

**Table 5: Reasons Given by Beneficiaries for Not Consuming**

## Supplementary Nutrition

Beneficiaries	Reasons*	Number (percent)
<b>&gt;6 months upto 3 years (n= 22)</b>	Do not like the taste of poshahar	16 (72.7 %)
	Poshahar is not good for health	11 (68.4 %)
<b>&gt;3 years upto 6 years (n= 12)</b>	Do not like the taste of food	10 (83.3 %)
	Food is unhygienic and bad in quality	07 (58.3 %)
<b>Pregnant women (n= 30)</b>	Do not like the taste of food	26 (86.6 %)
	Poshahar is not good for health	13 (43.3 %)
<b>Lactating mothers (n= 59)</b>	Do not like the taste of food	47 (79.6 %)
	Poshahar decreases lactation	28 (47.4 %)
<b>Adolescent girls (n= 14)</b>	Do not like the taste	14 (100 %)

\*Multiple Reasons

## Discussion

The present study showed that 45.5% of AWCs have facility of kitchen. Similar findings were seen by a report published by National Council of Applied Economic Research in 2001<sup>5</sup> which showed that nearly 50% of AWCs had facility of kitchen. Comparable to the result, the report of the Comptroller and Auditor General of India in 2012-2013<sup>6</sup> found that 64.5% of AWCs were having kitchen facility. In comparison to the present study results Chaudhari A et al. in their study in 2014<sup>7</sup> revealed that 54.2% of AWCs had kitchen facility.

The present study has shown that storage facility were present in 22.7% of AWCs. Almost similar results were seen in study conducted by Haque S et al.<sup>8</sup> that storage facility was present in 29% of AWCs. On the other hand, the results showed in the report of the Comptroller and Auditor General of India in 2012-2013<sup>6</sup> that storage facility was present in 44.6% of AWCs.

The present study showed that 59.1% of AWCs had adequate supply of supplementary food. On the other hand, the results showed in a study conducted by Dixit S et al. in 2010<sup>9</sup> revealed that there was shortage of supplementary nutrition in all assessed AWCs. In contrast to the present study results, Thakre MM et al. in 2011<sup>10</sup> in their study showed that there was adequate supply of supplementary nutrition in all AWCs (100%). In comparison to our results, a study done by Madhavi H et al. in 2011<sup>11</sup> there was adequate supply of supplementary nutrition in 86.6% of AWCs. On the contrary Haque S et al. in their study in 2013<sup>8</sup> found that supply of supplementary nutrition was inadequate in all AWCs.

The present study revealed that cooking utensils were present in 27.3% of AWCs. Dixit S et al. in 2010<sup>9</sup> showed similar results that cooking utensils were present in 24.4% of AWCs. On the contrary Sharma M et al.<sup>12</sup> found in their study that all the AWCs had adequate number of utensils.

In the present study it was seen that, 85% of lactating mothers received supplementary nutrition on the day of visit, followed by pregnant women (83.6%),

adolescent girls (78.8%), followed by beneficiaries in the age group 7 months to 3 years (61.0%), and least percentage of group which received SN were beneficiaries in the age group of 3 to 6 years (50.6%). So maximum service gap was seen in children in the age group of 3 to 6 years (49.4%) and minimum service gap was present in lactating mother (15.0%). Comparable to the results of our study, Singh D et al. in 2013<sup>13</sup> found that 81.13% of 0 to 3 years, 87.68% of 3 to 6 years, 86.38% of pregnant women, 89.56% of lactating mothers were getting the supplementary nutrition. Alim F et al. in their study in 2012<sup>14</sup> found that 76.4% of children had received the supplementary nutrition through ICDS. On the other hand, as per the report of State Institute of Health and Family Welfare, Rajasthan in 2010<sup>15</sup> a study conducted in 6 blocks showed that 75%, 98.1% and 100% of children received supplementary nutrition in Kumher, Rajgarh and Kolayat blocks respectively. a study conducted by Sharma M et al. in 2013<sup>16</sup> showed that 96.1% beneficiaries in the age group of 6 months to 3 years were getting supplementary nutrition, 93% of beneficiaries in age group of 3 to 6 years were getting supplementary nutrition, 92% of pregnant women and 93% of lactating mothers were getting supplementary nutrition.

## Conclusion

Though the findings are restricted to a few ICDS project areas and AWCs, they help in providing some insight into the existing situation. A holistic approach is needed to optimize the functioning of the scheme, identifying various issues concerning the scheme as a whole will help in reworking the policies related to women and child development. Still it is important that appropriate measures to strengthen the services provided under the scheme be taken with immediate effect so that the scheme realizes its full potential. Further efforts must be made by the Government to ensure that the objectives of ICDS are reached to the poor and the needy.

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