

## Original Research Article

# Infrastructure evaluation of anganwadi centres in Kalaburagi city: a cross sectional study

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## ABSTRACT

**Background:** ICDS scheme represents one of the largest programmes, which is a symbol of India's commitment to its children, providing pre-school education on one hand and breaking the today vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality on the other hand.

**Methods:** The present study was taken up to assess the infrastructure and services of anganwadi centers. Community based cross sectional observational study was conducted by involving 92 anganwadi centers in Kalaburagi city.

**Results:** Out of 92 AWCs studied, 52 (56.5%) were belonged to Government set up whereas 40 i.e.; 43.5% were on rental basis. Safe drinking water was available in 81 i.e.; 88% of AWCs, toilet facility was available in 34 i.e.; 37% of AWCs. Adequate outdoor space was available in 54 i.e.; 58.7% of AWCs. Adequate indoor space was available in 72 i.e.; 78.3% of AWCs. Adequate kitchen space was available in 65 i.e.; 70.7% of AWCs. Adequate food storage facility was available in 70 i.e.; 76.1% of AWCs and in 22 i.e.; 23.9% it was not adequate. In 30 i.e.; 32.6% of AWCs, source of fuel use was LPG.

**Conclusions:** Safe drinking water was available in majority of AWCs. Almost one third of anganwadi have inadequate space. Majority of anganwadi have maintained sufficient number of registers. Outdoor and indoor game kits and equipment's were available at majority of AWCs.

**Keywords:** Anganwadi centres, Infrastructure, Evaluation, Performance, Services

## INTRODUCTION

India is a multicultural nation with high-level of regional inequality, health and nutritional inequality, social hierarchy, which are pervasive and persistent.<sup>1</sup> After Independence, Government of India realized the utmost urgency and importance of giving highest priority to develop human resources and found it most essential to evolve a national program for the overall development of the children who constitute the most precious asset of country's future.

Countries who have learnt to invest on its human resources are today the most progressive and developed nations.

India has also recognized this and has made several efforts to improve the quality of its human resources. The Constitution of India provides a framework for care and protection of women and children and it mentions that States shall make special provisions for their benefits [Article 15(3)].<sup>2,3</sup> According to WHO classification of 14 sub regions, India comes in the South East Asian Region (SEAR), which is characterized as high child and adult mortality.<sup>1</sup>

Integrated Child Development Services (ICDS) is a unique National Health Programme. It was initiated by the Government of India under the Ministry of Social and Women's Welfare on 2<sup>nd</sup> October 1975, in pursuance of the National Policy for Children.<sup>5</sup>

## Objectives

The objective of this study was to assess the infrastructure of anganwadi centres.

## METHODS

The present community based cross sectional observational study was carried out in 92 randomly selected anganwadi centers in Kalaburagi city during the study period from January 2017 to June 2018.

### Inclusion criteria

Randomly selected anganwadi centres were included.

### Exclusion criteria

Anganwadi centre that is non-functional or AWC without anganwadi worker were excluded.

### Sample size

Kalaburagi city is divided into 5 sectors (strata) i.e. North (A), South (B), East (C), West (D) and centre. There are total 460 AWCs in Kalaburagi city. By stratified sampling techniques, proportional stratified sampling plan, the number of AWCs drawn from each strata (sector) is proportional to the size of the strata i.e. the population is divided in 5 groups. Their respective sizes being 13,15,20,30 and 25% of the population and a sample of 460 drawn. The desired proportional sample may be obtained in the following manner. 10% sector A, 15% sector B, 20% sector C, 30% sector D and 25% sector E corresponding to 9,14,18,28 and 23 AWCs respectively. Thus, a sample of 92 AWCs are selected by using lottery system.

### Sampling technique

Simple random sampling was done.

### Methods of collection of data

Permission from Municipal corporator and CDPO (Child Development Project Officer) was taken before start of study and promised to share the data with them. Anganwadi workers and helpers were explained about the purpose of the study. After taking the verbal consent, they were interviewed using a predesigned and pretested questionnaire regarding infrastructure of AWCs. For infrastructure assessment, questions related to facilities at AWCs like rented or owned, toilet, washing, cooking, food storage, electricity, utensils, fuel, and water availability etc. were included.

### Ethical clearance

The study protocol was approved by the Institutional Human Ethical Committee.

## Data analysis

Data was collected by using a structure proforma. Data entered in MS excel sheet and analysed by using SPSS 24.0 version IBM USA. Qualitative data was expressed in terms of proportions.

## RESULTS

Out of 92 AWCs studied, 52 (56.5%) were belonged to Government set up whereas 40 i.e.; 43.5% were on rental basis. Safe drinking water was available in 81 i.e.; 88% of AWCs and in 11 i.e.; 12% it was not available. Toilet facility was available in 34 i.e.; 37% of AWCs and in 58 i.e.; 63% it was not available.

Adequate outdoor space was available in 54 i.e.; 58.7% of AWCs and in 38 i.e.; 41.3% it was not adequate. Adequate indoor space was available in 72 i.e.; 78.3% of AWCs and in 20 i.e.; 21.7% it was not adequate. Adequate kitchen space was available in 65 i.e.; 70.7% of AWCs and in 27 i.e.; 29.3% it was not adequate. Adequate food storage facility was available in 70 i.e.; 76.1% of AWCs and in 22 i.e.; 23.9% it was not adequate. In 30 i.e.; 32.6% of AWCs, source of fuel use was LPG, followed by kerosene stove in 22 (23.9%) AWCs, LPG and kerosene in 21 i.e.; 22.8% of AWCs, LPG and firewood in 17 i.e.; 18.5% of AWCs and exclusive use of firewood in 2 AWCs i.e.; 2.2%. Utensils were available in sufficient quantity in 75 AWCs i.e.; 81.5%.

All anganwadi centres (100%) have maintained registers like survey registers, pregnancy and lactating women service registers, child service registers, Immunization registers, IFA and vitamin A register, birth and death register, mothers meeting registers, medicine stock registers, food stock registers, take home ration service registers. 4 AWCs each did not have adolescent girls meeting registers and growth chart register.

3 AWCs each did not have supervision cum visitors register and other stock register.

**Table 1: Distribution according to status of AWCs.**

Status of AWCs	Frequency	Percentage (%)
<b>Rented</b>	40	43.5
<b>Government</b>	52	56.5
<b>Total</b>	92	100.0

**Table 2: Distribution according to availability of safe drinking water.**

Safe drinking water	Frequency	Percentage (%)
<b>Available</b>	81	88.0
<b>Not available</b>	11	12.0
<b>Total</b>	92	100.0

**Table 3: Distribution according to availability of toilet facility.**

Toilet facility	Frequency	Percentage (%)
Available	34	37.0
Not available	58	63.0
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 4: Distribution according to space adequacy (outdoor).**

Outdoor space	Frequency	Percentage (%)
Adequate	54	58.7
Not adequate	38	41.3
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 5: Distribution according to space adequacy (indoor).**

Indoor space	Frequency	Percentage (%)
Adequate	72	78.3
Not adequate	20	21.7
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 6: Distribution according to space adequacy (kitchen).**

Kitchen	Frequency	Percentage (%)
Adequate	65	70.7
Not adequate	27	29.3
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 7: Distribution according to space adequacy (food storage).**

Food storage	Frequency	Percentage (%)
Adequate	70	76.1
Not adequate	22	23.9
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 8: Distribution according to type of fuel used.**

Type of fuel used	Frequency	Percentage (%)
LPG	30	32.6
LPG+ kerosene	21	22.8
LPG+ firewood	17	18.5
Kerosene stove	22	23.9
Firewood	2	2.2
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 9: Distribution according to availability of utensils.**

Utensils	Frequency	Percentage (%)
Sufficient	75	81.5
Not sufficient	17	18.5
<b>Total</b>	<b>92</b>	<b>100.0</b>

**Table 10: Distribution according to type of registers maintained.**

Register name	Yes		No	
	N	%	N	%
Survey	92	100.0	0	0.0
Pregnancy and lactating women service	92	100.0	0	0.0
Child service	92	100.0	0	0.0
Immunization	92	100.0	0	0.0
IFA and vitamin A	92	100.0	0	0.0
Birth and death register	92	100.0	0	0.0
Mothers meeting	92	100.0	0	0.0
Adolescent girls meeting	88	95.7	4	4.3
Supervision cum visitors	89	96.7	3	3.3
Attendance	92	100.0	0	0.0
Other stock	89	96.7	3	3.3
Medicine stock	92	100.0	0	0.0
Food stock	92	100.0	0	0.0
Take home ration service	92	100.0	0	0.0
Growth chart	88	95.7	4	4.3

## DISCUSSION

### *Evaluation of infrastructure*

#### *Building facility*

In our study, out of 92 AWCs studied, 52 (56.5%) were belonged to Government set up whereas 40 i.e.; 43.5% were on rental basis. Similar findings were observed by studies conducted by Selvi et al, Chudasama et al, reported majority of AWCs were housed in government buildings.<sup>6,7</sup>

In studies conducted by Seema et al revealed 36.91% and 15% of AWCs respectively were housed in community buildings.<sup>8</sup>

#### *Safe drinking water facility*

Safe drinking water was available in 81 i.e.; 88% of AWCs and in 11 i.e.; 12% it was not available. Studies conducted by Ranjan et al.<sup>9</sup>

#### *Toilet facility*

In contrary, studies conducted by Malik et al, Saravana Selvi et al, Chudasama et al, Ranjan reported availability of toilet facility in majority of AWCs.<sup>6,7,9,10</sup>

#### *Fuel facility for cooking*

In our study, majority of anganwadi centres (53%) use LPG with kerosene stove firewood for cooking, only 30% use LPG, while the rest do not have the supply of LPG. In the study conducted by Merta et al only 41.9% of AWCs had LPG supply for cooking while majority (47.9%) used

firewood and 10.2% used kerosene stove for cooking.<sup>8</sup> In the study conducted by Thakur et al 98% of AWCs had LPG as cooking fuel.<sup>9</sup>

#### **Availability of utensils**

In the current study utensils were available in sufficient quantity in 75 AWCs i.e.; 81.5%.

Similar findings were noted from the studies conducted by Selvi et al, evaluation study of ICDS program conducted in Meghalaya.<sup>6</sup>

#### **Maintaining of registers**

All Anganwadi centres (100%) in our study have maintained registers like survey registers, pregnancy and lactating women service registers, child service registers, immunization registers, IFA and vitamin A register, birth and death register, mothers meeting registers, medicine stock registers, food stock registers, take home ration service registers. In the studies conducted by Madhavi et al, Malik et al reported majority of the AWWs 73.3%, 68-100% and 57.6% respectively maintained registers.<sup>2,10</sup>

#### **CONCLUSION**

Safe drinking water was available in majority of AWCs. Almost one third of Anganwadi have inadequate space. Majority of Anganwadi have maintained sufficient number of registers. Outdoor and indoor game kits and equipments were available at majority of AWCs.

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