

## Evaluation of the Integrated Child Development Services Scheme in a Hilly Tribal District of Manipur: A Cross-Sectional Study

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### Abstract:

**Introduction:** The Integrated Child Development Services (ICDS) Scheme, the largest program for promotion of maternal and child health nutrition in India, is operational for more than four decades.

**Objective:** To evaluate Integrated Child Development Services Scheme in Kangpokpi District of Manipur in terms of input, process and outcome indicators. **Method:** A community-based cross-sectional study was conducted at a tribal hilly district of Kangpokpi in Manipur. The study included ICDS staff and beneficiaries of 35 randomly selected Anganwadi Centres (AWCs). Data related to ICDS was collected by using interview schedules and checklists. The descriptive data were expressed in terms of mean, standard deviation and percentage. Association between important background characteristics and Anganwadi centre attendance was analysed using chi-square test. Ethical clearance was obtained from the institutional Ethic Committee of JNIMS, Imphal before conducting the study (study period: May 2018 to April 2021) **Results:** Input indicators: The study found that 86% anganwadi centres were run in anganwadi worker's own house. Two-thirds of the anganwadi workers (65.7%) were found to have separate toilet and 22.9% had separate kitchen. Process indicators: Even though the proportions of beneficiaries accessing services from anganwadi centres were high, the number of days Supplementary Nutrition (SN) was provided in a month was comparatively low (mean: 2.97 and SD: 0.618 for under-6 children and mean: 1 and SD: 0.000 days for adolescent girls, pregnant women and lactating mother in a month) due to frequent interruption of supplementary nutrition supply. There was no supplementary nutrition stock in 74.3% of the anganwadi centres on the day of visit. Outcome indicators: Regarding the nutritional status 90% of Under-6 children were found to be normal, 9% underweight and 0.6% severely underweight. **Conclusion:** The Integrated Child Development Services Programme in the study area was found to have several short-comings both in terms of inputs and process. There were not only inadequate facilities and infrastructure, but the anganwadi centres also lacked essential equipment like weighing machines and medicine kits, rendering a vital activity like growth monitoring to be almost completely absent. Supervisory visits were far below satisfactory.

**Key words:** Anganwadi Center, Evaluation, Integrated Child Development Services, Tribal district.

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**Introduction:**

The Integrated Child Development Services (ICDS) Scheme, the largest program for promotion of maternal and child health nutrition in India, was launched on 2<sup>nd</sup> October 1975 in pursuance of the National Policy for Children.<sup>[1,2]</sup> On the same day, it was introduced in the state of Manipur with a pilot project at Ukhrul Tribal Development (TD) Block. As on march 2020, there were 43 functional ICDS projects in Manipur with 11,510 Anganwadi Centers (AWCs).<sup>[3, 4]</sup> At the Block level, the Child Development Project Officer (CDPO) is the overall in-charge of implementing the program. Each block has, on an average 100 anganwadi centres. To facilitate supervision, the blocks are further divided into 4-5 circles depending upon the number of anganwadi centres. Each circle has a Supervisor who monitors 20-25 anganwadi centres. At the village level, the package of health, nutrition and educational services are provided at the anganwadi centres which are the focal points for integrated child development service delivery that normally operates daily for 4 ½ hours except on Sundays and holidays.<sup>[5]</sup>

Yet, even after more than four decades of implementation, the success of ICDS program in tackling maternal and childhood problems still remain a matter of concern.<sup>[6]</sup> The need for revitalization of ICDS had been recommended for bringing better maternal and child health (MCH) especially in rural areas.<sup>[7]</sup> Various studies in other parts of the country had attempted evaluating its impact for nutritional status and child morbidity, but the input, process and output status of AWCs and also the service constraints were not assessed much.<sup>[8]</sup>

Again as per the latest Rapid Survey on Children: Manipur Fact Sheet, Report 2013-2014, there seems to be a big gap between the awareness level of ICDS services and reported coverage of the services.<sup>[9]</sup> Also, in spite of having a well-structured ICDS system in the state of Manipur, the health and nutritional status of women and children as reflected in the National Family Health Survey-5 (NFHS-5) report were still far below the satisfactory level.<sup>[10]</sup> It was worse in the tribal hilly districts.

Hence, it was felt important to evaluate the ICDS scheme not only in terms of the program output, but

also in terms of the input and process of the program in the hilly districts inhabited by tribal population. This might help in finding out program areas which need impetus so that the desired goals of the program can be achieved. The study further aimed to determine association between important background characteristics and service utilization.

**Method:**

A community-based cross-sectional study was conducted in the hilly tribal District of Kangpokpi in Manipur during the period May 2018-April 2021. The District had three Tribal Development (TD) Blocks viz. Kangpokpi, Saitu Gamphajol and Saikul.<sup>[11]</sup> Hence, there were three ICDS blocks in the district. Each ICDS block was headed by one Child Development Project Officer (CDPO).

The study population consisted of the service providers viz. the Child Development Project Officer (CDPO), the Sector Supervisors, and the Anganwadi workers (AWWs). For data triangulation, the beneficiaries of ICDS project viz. the Mothers/ Caretakers of Children aged less than 6 years, Pregnant women (PW), Lactating mothers (LM) and Adolescent girls were also included. Those beneficiaries who were not willing to participate and those who could not be contacted on the day of visit were excluded.

Out of the existing three CDPOs, one was randomly selected. All the supervisors working under her project area were included. Further five AWWs working under each of these supervisors were selected by using simple random sampling method. Also, all the PWs and LMs from the selected AWC villages were included as study participants. Lastly, five children aged 6 months to 6 years and five adolescent girls (AGs) residing in each of the selected AWC villages were selected by convenience method. As for the children below 6 years their mothers/care takers were the respondents.

The Operational definitions used were<sup>[12,13]</sup>

- a. Input indicators: No. of projects, sectors, AWCs, manpower position (sanctioned, filled, vacant), etc.
- b. Process indicators: Regularity of receipt and supply of Supplementary Nutrition (SN)/Kits to AWCs, No. of beneficiaries enrolled versus

accessing services, average number of days open in a month, average number of days SN was provided

- c. Outcome indicators: proportion of beneficiaries getting services like Non-Formal Primary School Education (NFPSE), SN, Iron and Folic Acid (IFA), deworming, proportion of undernourished children, etc.

Separate and pre-tested interview schedules translated into the local language were used to collect information at different levels (DPO, CDPO, Supervisors, AWWs and program beneficiaries). Checklists were used for physical verification of the AWCs and its infrastructures. Weight measurement for children (aged < 6 years) was done by using WHO certified weighing machine (Tanita HD-351) scales.

Collected data were entered in MS-excel and later were transported to IBM SPSS Version 22 (Customer ID: 224116) for analysis. Descriptive data was expressed in terms of mean, standard deviation and percentage. Chi-square test was used for checking association between service utilization and important socio-demographic variables. p value of less than 0.05 was considered statistically significant.

Ethical clearance for the study was obtained from the institutional Ethic Committee of JNIMS, Imphal before conducting the study. Informed consent was taken from the study subjects. For adolescent girls aged less than 18 years, verbal assent along with informed consent from their guardian were taken. Confidentiality of information was maintained.

**Results:**

For Evaluation of ICDS, Saitu Gamphazol Tribal Development Block was selected as the study-place. This Block had 08 ICDS sectors. All the selected service providers (1 CDPO, 07 Supervisors and 35 AWWs) and beneficiaries (60 PWs, 100 LMs, 178 AGs and 176 Under-6 children) participated in the study. There was no refusal.

**Input Indicators:**

The lone CDPO of the ICDS Project was a qualified one and had undergone induction training at the time of joining but no further refresher training was taken.

Six Sector Supervisors were in place taking care of the 08 Sectors. Out of them, four (66.7%) had undergone both induction and refresher trainings while the remaining two (33.3%) had undergone only induction training. Out of the total 35 respondent AWWs, 32 (91.4%) were class-X passed and majority (31; 88.6%) had induction training but only 21 of them (60%) had received refresher training.

Regarding ownership of the AWC building, majority (30; 86%) were run at AWW's own houses and less than one-tenth (3; 8.6%) were run in Government buildings and two (5.7%) were run in government school buildings.

Out of 35 anganwadi centres included in the study 27 (77.1%) anganwadi centres didn't have separate kitchen and more than one-third (12; 34.3%) did not have separate toilet. It was also found that tapped water supply facility was available only in three-fourths (27; 77.1%) of the AWCs. Regarding logistic supply, all the centers had crockery items and at least some of the NFPSE materials. WHO growth chart was available in 19 (54.3%) AWCs, Weighing Machine in nine (25.7%) and tricolor tape in three (8.6%) AWCs. However none of the centers had basic Medicine kits. Stock of SN was available only in one-fourth (9; 25.7%) of the centers.

**Process Indicators:**

**Table 1: Process indicators for evaluation of ICDS**

Indicators	Number	Percentage
Number of hours AWCs opened in a day		
1 hour	8	22.9
2 hours	22	62.9
3 hours	5	14.3
Number of days SN provided in a month		
< 7 days	6	17.1
7- 14 days	22	62.9
> 14 days	7	20.0
Number of months SN supply interrupted		
2 months	10	28.6
3 months	20	57.1
4 months	5	14.3

Acceptability of SN by beneficiaries		
Very much	27	77.2
By some	4	11.4
Only by a few	4	4.0
Number of VHSND meetings conducted at AWCs during past one year		
Once	10	28.6
Twice	9	25.7
Thrice	1	2.9
No meeting	15	42.9
Supervisory visit to AWCs during the past one year		
By CDPO		
No visit	28	80.0
One time	7	20.0
By supervisors		
Monthly	2	5.7
Bimonthly	3	8.6
Quarterly	26	74.3
Half yearly	2	5.7
Once in a year	2	5.7
Weight monitoring of under-6 children (n=176)		
Weight not checked	160	91.0
Weight checked	16	9.0

Of the 35 selected AWCs, only five (14.3%) used to open it for three hours a day. Again only seven (20%) could provide SN for more than 14 days per month. The receipt of SN was found to be irregular in all the selected AWCs, some getting even an interruption of four months in between. But the quality of the SN was perceived to be acceptable in 27 (77.2%) AWCs. Slightly more than one-fourth of the AWCs (10; 28.6%) use to hold Village Health Sanitation and Nutrition meetings once in the past one year while another one-fourth (9; 25.7%) held it twice whereas no such meetings took place in majority of the AWCs (15; 42.9%).

Supervisory visits seemed to be inadequate. A majority (28; 80%) AWCs never got any visit by the CDPO in the last one year and 26 (74.3%) of the AWCs receiving Supervisory visits from the Sector Supervisor on quarterly basis.

Weight monitoring of Under-6 children as reported by the mothers/caretakers was found to be dismal (16; 9%). (Table 1)

### Outcome indicators

**Table 2: Distribution of beneficiaries getting various services from AWCs**

Beneficiaries	Types of services				
	Supplementary Nutrition (%)	Primary School Education (%)	De-Worming (%)	Iron Folic Acid (%)	Growth Monitoring (%)
6 months-3 years children (n=66)	66 (100)	-	60 (90.9)	-	2 (3)
3-6 years children (n=110)	110 (100)	109 (99.1)	110 (100)	-	14 (12.7)
Adolescent girls (n=178)	177 (99.4)	6 (3.4)	92 (55.6)	-	-
PW (n=60)	59 (98.3)	-	-	7 (11.6)	-
LM (n= 100)	95 (95%)	-	-	-	-

Of all the services provided at AWCs, SN was the most commonly accessed service by the beneficiaries. The proportions of beneficiaries who accessed SN were under-6 children (100%), Adolescent Girls (99.4%), Pregnant Women (98.3%) and Lactating Mother (95%). Of the total 178 respondent Adolescent girls, 176 (99%) used to attend twice in a month on average and received SN. Almost all Pregnant Women respondents (58, 97%) were enrolled in the AWCs on twice monthly basis. But they used to get SN only once in a month. It was also seen that, of the total 100 Lactating Mother respondents almost all (98; 98%) were found to be enrolled at AWCs. They also used to receive SN once in a month.

**Table 3 : Association between mother’s socio-economic background and number of days Under- 6 children attended AWC (n=176)**

Socio-economic factor	Number days Under-6 children attended AWC			p value
	< 7 Days (%)	7-14 Days (%)	>14 Days (%)	
Mothers' educational level				
Under matric	24 (28.6%)	43 (51.2%)	17 (20.2%)	0.005
Matriculated	10 (10.9%)	43 (51.2%)	17 (20.2%)	
Monthly family income (INR)				
<8000*	22(23.4%)	42 (44.7%)	30 (31.9%)	0.06
≥8000	12 (14.6%)	51 (62.2%)	19 (23.2%)	

\*INR 8000 was the median family income

Non formal education was available to almost all the children aged 3-6 years (109; 99.1%). Again Deworming services were received by all Under-6 children and more than half (55.6%) of Adolescent Girls. Tablet Iron Folic Acid were received only by one-tenth of the Pregnant Women (7; 11.6%) whereas this facility was not made available to other types of beneficiaries. Growth monitoring of children was done only to 16 (9%) children. (Table 2)

A total of 16 (9%) and 1 (0.6%) of the Under-6 children were found to be underweight and severely underweight.

Children whose mother educational level are senior secondary and above used to attend AWCs more frequently compared to children of mothers educated below senior secondary school. This association was found to be statistically significant (P=0.005). However there was no significant association between the number of days under-6 children attended AWC and their family income (p value=0.06).

**Discussion:**

Integrated child development services scheme in which anganwadi centres are the focal point for delivery of services, has been considered as one of the largest and unique grass root early childhood development programme to address health,

nutrition and development needs of children, pregnant women, nursing mothers and adolescent girls.

The present study shows that 86% AWCs were run in AWWs’ own houses. This is in contrast to study findings made in other developed states of India. In Gujarat 82.1% AWCs were run in Government’s own building<sup>[12]</sup> while in a study conducted in Odisha found that 72.2% AWCs were run in its own Government buildings.<sup>[14]</sup> This shows that the situation in this hilly tribal district of Manipur needs to be improved more.

In the present study 22.9% AWCs had separate kitchen which was much less than the finding in the study done by Joshi K et al (84%).<sup>[15]</sup> Two-thirds of AWCs (65.7%) were found to have separate toilet which is similar to the finding (64.6%) made by study conducted by Chudasama RK et al in Gujarat.<sup>[12]</sup>

We found that almost all the AWWs were matriculate and above by education. This is comparable with the finding made by Patil SB et al but was better than study finding made by Gotakar S et al in which 37.7% were under matriculate.<sup>[16,17]</sup>

In the present study 88.6% of the AWWs were found to have undergone induction training while 60% of them have received refresher trainings. This

finding is comparable with what other researchers have found in other parts of India.<sup>[18,19]</sup>

Growth charts and weighing machines were available in 54% and 25.7% of AWCs respectively and only 9% of the Under-6 children had their weights monitored. This finding is very dismal if compared to findings made from studies done in Gujarat, Uttarakhand, West Bengal and Punjab.<sup>[12,20-22]</sup>

The proportion of beneficiaries availing SN although not regularly given was almost 100% among all types of beneficiaries. The scenario is comparable with earlier studies done in other states.<sup>[12]</sup>

The present study found that Village Health Sanitation and Nutrition Days were given low priority. Almost half of the AWCs had no VHSND conducted in the last one year. This is very less if compared to other study findings.<sup>[23]</sup>

To improve the functioning of the AWCs in this hilly tribal district, handholding the AWWs in the form of supervisory visits by the CDPO and Sector Supervisors is vital. Yet, it was found that, the CDPO had visited only one-fifth of the AWCs in the last one year. Supervisor visits were also on quarterly basis in three-fourths of the AWCs. This was worse than what was reported from a study done in Bihar where CDPO visits 40% of AWCs at least once during the last quarter and Sector Supervisors visit one-third of the AWCs every month.<sup>[24]</sup>

The study found that the number of under-6 children attending AWCs was more in children whose mothers education level were senior secondary school and above 52.3% (92, 176) compared to those children whose mothers educational level were below senior secondary school, 47.7% (84, 176).

#### **Limitation:**

Present study findings might be biased as the study is limited to only one block of a hilly tribal district and so may not be applicable to all the hilly tribal districts of Manipur. Further studies involving more districts and more blocks are needed to know more accurate information regarding ICDS scheme.

#### **Conclusion and Recommendation :**

The ICDS Programme in the study area was found to have several short-comings both in terms of inputs and process. Not only were the facilities and infrastructure inadequate, but the AWCs also lacked essential equipment like weighing machines and medicine kits, rendering a vital activity like growth monitoring to be almost completely absent. The performance of AWCs and maternal and child health services delivered by AWCs needed improvement. There were gaps in terms of manpower (2 supervisors and 19 posts of AWHs were lying vacant). The supply chain of SN needed to be made more regular so that there was no long-term interruption. Most of the time, availing SN may be the main reason why beneficiaries attend AWCs.

The poor status of PSE activities in AWCs, almost non-existence of health check-up of beneficiaries and necessary referral of sick children and not conducting any VHSNDs at the AWCs needed to be promptly addressed.

Growth monitoring and growth chart maintenance was very poor due to unavailability or no functioning of weighing machines, as a result nutritional status of the beneficiaries' children cannot be assess properly and report/register not updated in most AWCs. There is a need to make functioning weighing and growth chart available at all AWCs and regular update growth chart and growth monitoring register.

Handholding supervisory visits need to be more frequently made so that the system is revitalized in this hilly tribal district.

#### **Declaration:**

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Conflict of Interest: Nil

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