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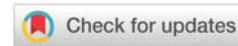
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## Research Article

# Integrated Child Development Services (ICDS) Scheme in India - a tired horse or an ignored one. An evaluation in a tribal district of Maharashtra, India

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## Abstract

**Introduction:** The lives of children and women are the true indicators of the strength of communities and nations. UNICEF considers Child Mortality rate as the single best indicator of social development and well-being. Integrated Child Development Services (ICDS) Scheme is one of the largest maternal and child health programs representing a symbol of India's commitment to its children. The anganwadi centre (AWC) is the grassroot functionary of ICDS and the program is executed through dedicated cadre of female workers named Anganwadi workers (AWWs). Still India records high infant, child and maternal mortality rates. Also, frequent malnutrition related deaths in the state of Maharashtra has raised questions on the implementation of these programmes. This study was conducted to evaluate the functionality of Anganwadi Centres in terms of infrastructure and logistics and assess the satisfaction of Anganwadi workers.

**Methodology:** This was a community based cross-sectional descriptive study in the tribal district of Palghar in Maharashtra. Universal sample of all the Anganwadi centres under the randomly selected PHC was adopted for the study. Data for the study was collected by using personal interview technique with the help of a semi structured questionnaire and by self-observation using a standard checklist. The data collected was analysed using appropriate descriptive statistics with the help of Epi info.

**Result:** Only just about half of the AWCs were functioning in their own building. Among infrastructure and logistics, registers for record keeping was found to be most deficient (88.9%) followed by presence of electricity and baby weighing machine (77.8%). Availability of separate kitchen and storeroom and regularity of supplementary nutrition supply was seen deficient in 69.4% of AWCs. Growth card was the most available amenity (100%) followed by adult weighing machine which was present in 91.7% of AWCs and drinking water facility in 86.1%. Toilet was present in only about half of the AWCs studied.

Among the various problems accounting for poor job satisfaction among AWWs, some of the prominent were, lack of own anganwadi building, inadequate space for activities, lack of teaching materials, problems in eliciting the Supplementary Nutrition Programme (SNP) due to inadequacy or irregularity of the supplementary nutrition supply, and absence of separate kitchen. Other problems faced were low government and community involvement, increased workload and a modest honorarium.

**Conclusion:** Studies conducted across the country, has observed that various factors contributed to the efficient service delivery of ICDS. Our study exposes some key factors that affect the effective implementation of the scheme and the felt needs of its implementers at the grass root level.

## Introduction

Children are the future pillar of any nation. It is now globally acknowledged that for economic development of any country, investment in the health and welfare of children is the supreme asset [1]. UNICEF considers Child Mortality rate as the single best indicator of social development and well-being

and Infant mortality rate is often regarded as a barometer for overall welfare of a community or country [2].

India is the second most populous country in the world where 13.12 percent of her population lies in the tender age bracket of 0-6 years [3]. Catering to this proportion of population needs an inordinate measure.

Several specific programmes have been conceptualized and implemented since early fifties in India. These were gradually replaced by broad, multisectoral and developmental programmes with inter-sectoral coordination resulting in Integrated Child Development Services (ICDS) Scheme. Today ICDS scheme represents one of the largest program, a symbol of India's commitment to its children and mothers [4]. It's beneficiaries include children up to 6 years of age, pregnant and lactating mothers, adolescent girls and all females of reproductive age group of 15 to 45 years. The Scheme offers a package of six services; supplementary nutrition, pre-school education, nutrition and health education, Immunization, basic health check-up and referral services [5].

The anganwadi centre (AWC) is the grassroot functionary of ICDS [6]. It is the focal point for delivery of the entire package of child development and maternal services. The program is executed through dedicated cadre of female workers named Anganwadi workers (AWWs), who are chosen from the local community and given training in health, nutrition and child-care. She is assisted by a helper [7].

Anganwadi workers are the most important and often-ignored essential link of Indian healthcare. Being the functional unit of ICDS programme which involves different groups of beneficiaries, the AWWs, conduct various different types of job responsibilities.

In spite of all these, majority of children in India have underprivileged childhoods starting from birth. The current Infant Mortality and Under-five mortality rates are 32 and 45 per 1000 live births respectively [8]. The International Food Policy Research Institute (IFPRI) released its Global Hunger Index (GHI), rating 118 countries based on four components: under-nourishment, child wasting, child stunting and child mortality. India was ranked 97 on the list, worse than its neighbors Nepal, Bangladesh and Srilanka [9].

The frequent news of deaths related to malnutrition in Maharashtra has raised questions on the implementation of these programmes [10]. Three districts had reported 1,274 child malnutrition deaths within 10 months in 2015 [11]. More recently, in Palghar district alone more than 800 deaths have been reported in the past two years 2018-19 [12].

Amongst several others, operational challenges have been considered as one of the important problems faced by the programme [9].

To ensure smooth functioning of the services, it must have its basic infrastructure & required logistics and a proper working atmosphere for the Anganwadi worker to deliver the services optimally.

In lieu of all these, a study was conducted to evaluate the functionality of Anganwadi Centres in terms of infrastructure and logistics and assess the satisfaction of Anganwadi workers to look these problems at face value.

## Materials and methods

This was a community based cross-sectional descriptive

study in the tribal district of Palghar in Maharashtra. The Primary Health Centers in the district were enumerated and a simple random sample was drawn using a computer-generated random number table. Universal sample of all 36 Anganwadi centres under the randomly selected PHC was adopted for the study.

Data was collected using personal interview technique with the help of a semi structured questionnaire and by self-observation using a standard checklist. After acquiring permission from the Child Development Project Officer (CDPO) of the designated block, a meeting was held with the Supervisor of the selected anganwadi centres. A visit and interview schedule was prepared by contacting each anganwadi worker. Before the interview, the subjects were informed about the scope and nature of the study and were fully assured of confidentiality.

The data collected was analyzed using appropriate descriptive statistics with the help of Epi info.

## Results

A total of 36 AWCs were observed for infrastructure and available logistics and the AWWs were interviewed regarding service implementation and job satisfaction.

Relevant findings of the study are given in the subsequent paragraphs.

Age of the anganwadi workers ranged from 26 to 61 years ( $42.75 \pm 9.45$  years). As per the norm, all the AWWs were females and literate with minimum qualification of secondary education. 10 (27.2%) were graduates. The gamut of experience ranged from 1 year to 36 years ( $14.76 \pm 9.83$  years).

It was found that majority of the anganwadi workers (66.7%) belonged to the same locality as their anganwadi centres, as is the required norm. But the remaining 33.3% belonged to different wards or villages and had to commute from certain distances daily (Table 1-4).

Regarding the available infrastructure, though majority 32 (88.9%) of the AWCs were functioning in a pucca building, only about half 19 (52.8%) were functioning in their own

**Table 1:** Demographic profile of the anganwadi workers.

| Anganwadi workers(n= 36)      | Classification   | Frequency(%) |
|-------------------------------|------------------|--------------|
| 1. Age                        | 25 - <36         | 11(30.6)     |
|                               | 36 - <55         | 22(61.1)     |
|                               | ≥ 55             | 3 (8.3)      |
| 2. Education                  | Secondary        | 19(52.8)     |
|                               | Higher secondary | 7(19.4)      |
|                               | Degree           | 10(27.8)     |
| 3. Work experience            | 1 - <10 years    | 14(38.9)     |
|                               | 10 - <20 years   | 10(27.8)     |
|                               | ≥ 20 years       | 12(33.3)     |
| 4. Belonging to same locality | Yes              | 24(66.7)     |
|                               | No               | 12(33.3)     |



building, whereas the remaining 17 (47.2%) were running their anganwadis in inadequate arrangements (Figure 1).

Electricity connection was present in only 8 (22.2%) AWCs and Around half of the AWCs studied did not have toilet facility.

Only 11 (30.6%) AWCs had separate rooms for PSE activity, kitchen and storeroom; and indoor space for hosting daily activities was reported inadequate by 23 (63.9%) AWCs.

Most of the AWCs 22 (61.1%) had a signboard indicating the presence of the anganwadi centre and majority 31 (86.1%) had access to drinking water.

All the AWCs were accessible by road but 10 (27.8%) out of them were accessed by kutchra road.

Regarding the available logistics, availability of registers for record keeping was a problem almost every AWCs were facing. 32 (88.9%) AWCs did not have adequate registers for the huge number of records they are needed to maintain.

**Table 2:** Available Infrastructure In AWCs.

| Anganwadi Center(n= 36)             |                | Frequency(%) |
|-------------------------------------|----------------|--------------|
| A. Building                         | Own            | 19(52.8)     |
|                                     | Not own        | 17(47.2)     |
| B. Type of building                 | Pucca          | 32(88.9)     |
|                                     | Semi           | 3(8.3)       |
|                                     | Kutchra        | 1(2.8)       |
| C. Accessible by which type of road | Pucca          | 26(72.2)     |
|                                     | Kutchra        | 10(27.8)     |
| D. Vehicle reachable                | Yes            | 36(100)      |
|                                     | Only 2 wheeler | 4(11.1)      |
| E. Sign-board                       | Yes            | 22(61.1)     |
|                                     | No             | 14(38.9)     |
| F. No. of rooms                     | <3             | 25(69.4)     |
|                                     | ≥3             | 11(30.6)     |
| G. Adequate space                   | Yes            | 23(63.9)     |
|                                     | No             | 13(36.1)     |
| H. Electricity                      | Yes            | 8(22.2)      |
|                                     | No             | 28(77.8)     |

| I. Drinking Water & Hygiene |                                |                 |
|-----------------------------|--------------------------------|-----------------|
| A. Access to drinking Water | Yes                            | 31(86.1)        |
|                             | Within premises                | 14(45.2%), N=31 |
|                             | Outside but within 50 meters   | 17(54.8%), N=31 |
| B. Source                   | No                             | 5(13.9)         |
|                             | Hand pump                      | 17(54.8), N=31  |
|                             | Piped water                    | 11(35.5), N=31  |
|                             | Well                           | 1(3.2), N=31    |
| D. Toilet                   | Bore well of neighbour's house | 2(6.5), N=31    |
|                             | Yes                            | 19(52.8)        |
|                             | No                             | 17(47.2)        |

**Table 3:** Available Logistics.

| I. Supplementary nutrition      |          |            |
|---------------------------------|----------|------------|
| A. Separate Kitchen             | Yes      | 11(30.6)   |
|                                 | No       | 25(69.4)   |
| B. Adequate Cooking utensils    | Yes      | 19(52.8)   |
|                                 | No       | 17(47.2)   |
| C. Whether SN supplies adequate | Yes      | 14(38.9)   |
|                                 | No       | 22(61.1)   |
| D. Regular supply of SN         | Yes      | 11(30.6)   |
|                                 | No       | 25(69.4)   |
| E. THR supplied                 | Yes      | 35(97.2)   |
|                                 | No       | 1(2.8)     |
| F. Acceptability of THR         | Yes      | 18(50)     |
|                                 | Somewhat | 5(13.9)    |
|                                 | No       | 13(36.1)   |
| II. Medicines                   |          |            |
| A. Medicine Kit available       | Yes      | 19(52.8)   |
|                                 | No       | 17(47.2)   |
| III. Anthropometry              |          |            |
| A. Adult Weighing machine       | Yes      | 33(91.7)   |
|                                 | No       | 3(8.3)     |
| B. Baby Weighing machine        | Yes      | 8(22.2)    |
|                                 | Working  | 4(50), N=8 |
|                                 | No       | 28(77.8)   |
| C. Growth card                  | Yes      | 36(100)    |
|                                 | No       | 0(0)       |
| IV. Education                   |          |            |
| A. Learning aid tools           | Yes      | 36(100)    |
|                                 | No       | 0(0)       |
| B. Posters                      | Yes      | 15(41.7)   |
|                                 | No       | 21(58.3)   |
| V. Storage                      |          |            |
| A. Separate store room          | Yes      | 11(30.6)   |
|                                 | No       | 25(69.4)   |
| VI. Record keeping              |          |            |
| A. Adequate registers           | Yes      | 4(11.1)    |
|                                 | No       | 32(88.9)   |

Supplementary nutrition was found adequate in only 14 (38.9%) AWCs and almost half 19 (52.8%) did not have adequate cooking utensils.

Medicine kit was available in only about half of the AWCs, 19 (52.8%). 3 out of these AWCs were using last year's remaining supply.

In majority of the AWCs 33 (91.7%) adult weighing machine was present but in 21.2% cases the machine had to be adjusted frequently to get the correct measure. Baby weighing machine was present in only 8 (22.2%) AWCs, out of which only 4 (50%) were functional.

All the AWCs had learning aid tools like pictures, puzzles, building blocks etc but posters were present in only 15 (41.7%) AWCs.

Growth card was the most available amenity and present and adequate in all the AWCs.

Regarding job satisfaction of AWWs, it was gauged by personal interview concerning various factors viz work environment, cooperation from various stakeholders, distance of their home from workplace, honorarium offered and the

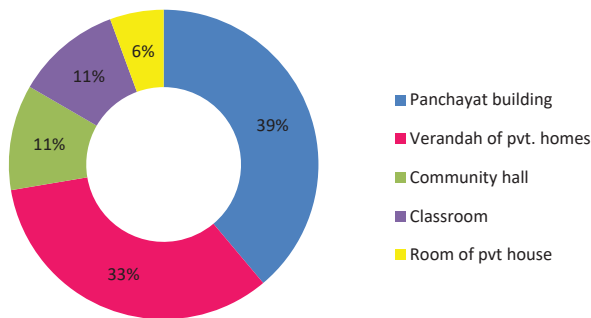


Figure 1: Distribution of Non-Self-Owned AWCs.

Table 4: Satisfaction of AWWs.

| Satisfaction(N=36)                        |                       | Frequency(%)         |          |
|---|-----------------------|----------------------|----------|
| 1. Distance between residence & workplace | < 2 km                | 12(33.3)             |          |
|   | 2-5 km                | 18(50)               |          |
|   | > 5km                 | 6(16.7)              |          |
| 2. Satisfied with honorarium              | Very satisfied        | 0(0)                 |          |
|   | Somewhat satisfied    | 3(8.3)               |          |
|   | Somewhat dissatisfied | 6(16.7)              |          |
| 3. Receive honorarium on time             | Very dissatisfied     | 27(75)               |          |
|   | Yes always            | 1(2.8)               |          |
|   | Most of the time yes  | 4(11.1)              |          |
| 4. Cooperation from                       | Most of the time no   | 14(38.9)             |          |
|   | Never                 | 17(47.2)             |          |
|   | i. Colleagues         | All the time         | 32(88.9) |
|   |                       | Most of the time yes |          |
|   | Most of the time no   | 2(5.6)               |          |
| ii. Community                             | Not at all            |                      |          |
|   | Uncertain             |                      |          |
|   | All the time          | 29(80.6)             |          |
|   | Most of the time yes  | 2(5.6)               |          |
|   | Most of the time no   | 5(13.9)              |          |
| iii. Govt. Officials                      | Not at all            |                      |          |
|   | Uncertain             |                      |          |
|   | All the time          | 13 (36.1)            |          |
|   | Most of the time yes  | 15 (41.7)            |          |
|   | Most of the time no   | 6 (16.7)             |          |
| 5. Treatment received from Beneficiaries  | Not at all            | 2 (5.6)              |          |
|   | Uncertain             |                      |          |
| 6. Too many activities                    | Respectful            | 34(94.4)             |          |
|   | Cordial               | 2(5.6)               |          |
|   | Strongly agree        | 6(16.7)              |          |
|   | Somewhat agree        | 18(50)               |          |
|   | Somewhat disagree     | 8(22.2)              |          |
| 7. Induction Training                     | Strongly disagree     | 4(11.1)              |          |
|   | Uncertain             |                      |          |
|   | Yes                   | 29(80.6)             |          |
| 8. Refresher Training                     | No                    | 7(19.4)              |          |
|   | Yes                   | 24(66.7)             |          |
|   | No                    | 12(33.3)             |          |

various problems they faced carrying out various activities of anganwadi work.

The distance between residence & workplace ranged from 0.2 to up to 16 kilometers with average of 3.2 kilometers. 8 (16.7%) AWWs lived at a distance of more than 5 kilometers.

None of the AWWs were very satisfied with the honorarium they received. Majority 27 (75%) were very dissatisfied. Most 19 (86.1%) AWWs did not receive their honorarium on time and 17 (47.2%) promulgated that they 'never' received on time.

24 (66.7%) AWWs felt they had too many activities to participate that it was difficult to handle all.

88.9%, 86.1% and 77.8% of the AWWs reported to receive cooperation from their colleagues/ helpers, community and other government officials respectively. Majority of the AWWs were treated with respect and only 2 (5.6%) reported to be treated cordially.

Around 80% of the AWWs had received induction training during their joining. Refresher training was attended by only 66.7% of AWWs.

### Discussion

Studies conducted across the country, has observed that various factors contributed to the efficient service delivery of ICDS.

Present community based descriptive study explores the availability of infrastructure and logistics in the AWCs and the job satisfaction of AWWs, all of which are central to efficient service delivery under ICDS.

The AWWs had mean age of 42.75± 9.45 years with mean duration of experience of 14.76±9.83 years. All the AWWs were literate with majority (52.7%) having secondary education and 27.2% of them were graduates. 66.7% AWWs were local.

### Infrastructure of AWCs

Where majority (88.9%) of the AWCs were functioning in a pucca building, only about half (52.8%) of the AWCs had their own dedicated building. Remaining (47.2%) AWCs were running in inadequate accommodations. This is slightly better than the national average of 42.5% AWCs functioning in their own buildings [13]. In a similar study it was found that 63.6%

AWCs were having pucca type of construction but only 36.4% AWCs were running in their own building [14]. In surveys conducted by Niti Ayog and Ministry of Women and Child Development, it was found that only around 40% of the AWCs were functioning in their own building [15,16].

Accessibility was found better in our study where all the AWCs were connected by road. Also, most of the AWCs (61.1%) had a signboard indicating the presence of the anganwadi centre. An appraisal study on ICDS gathered that, about 97% AWCs in urban areas, 93% in rural areas and 74% in tribal areas were connected by roads and hence most of the AWCs (60%) were found to be easily accessible [17]. In another study conducted, 76.5% AWWs said that beneficiaries had no complaints regarding accessibility to AWCs [18]. In an evaluation survey conducted by the Program Evaluation Organization (PEO), it was found that the sign boards establishing the presence of the AWCs were not fixed in 38% of AWCs at the time of survey [19]. Accessibility and convenience is an important factor in determining the utilization of services. A study carried out in Mumbai showed that, in rural and tribal areas, children did not avail of the pre-school education programmes at AWCs due to distance [20].

Of the 36 AWCs studied, only 11 (30.6%) AWCs had  $\geq 3$  rooms with separate rooms for PSE activity, kitchen and storeroom. 63.9% AWWs reported inadequacy of indoor space. Unavailability of separate space for cooking and storage, and inadequate space for indoor activities was also found in several earlier studies [13-17]. Yet in another such study, 72% of the AWC reported that they had adequate space for indoor activities [21].

It was an infelicitous finding that only 22.2% AWCs had electricity connection and a working light bulb or tubelight. This was similar to finding reported by another survey where only 32.4% AWCs had electricity connection [16]. Our study finding was better than that of a previous study in Rural Area of Bareilly District where none of the AWCs had electricity supply [14]. Whereas a study in rural area of Gulbarga district found that all the AWCs had electricity connection but none of them had fan [13].

Majority (86.1%) of the AWCs in our study had access to drinking water. This was similar to other previous studies [15,21]. However, in several other studies potable water was available only in about half of the centres [16,19,22]

Around half of the AWCs studied did not have toilet facility. In 6 AWCs it was reported that children go in the open and AWW and helper do not go while on duty. In 5 AWCs they used the toilet of Zilla Parishad school near which the AWCs were located. Children and AWW & helper of one AWC were using public toilet which was situated close to the AWC. Similar findings were noted in earlier studies [13,19,21,22]. Some studies have reported availability in as low as 10% of the AWCs [23].

## Logistics in AWCs

Supplementary nutrition (SN) is an important component

of ICDS. SN was found adequate only in 14 (38.9%) AWCs. In majority of AWCs with inadequate supplies, the AWWs reported that they had to buy the supplies themselves; some bought using their own ration cards and some by using miscellaneous fund allotted to them. The rice grains they got from ICDS at worth of 6.75 rupees per kilogram, they had to buy at the price of 25 rupees per kilogram. Similar finding was noted in another study where, 75% centers recorded supply constraints [23]. Whereas in another study, supply of supplementary food was found adequate in 59.1% of AWCs [14].

Except 1 AWC, Take Home Ration (THR) was supplied in all the AWCs. On questioning regarding the acceptability of the THR provided, it was found that it was accepted well only in 50% of the cases. Among the AWCs with low or no acceptance, majority of the AWWs relayed that the kids don't like the THR supplied. Two of them told that children don't even take it home and eventually they are eaten by rats. Several AWWs reported that when they go for home visits they see the untouched packets lying around in the beneficiaries' homes. It was reported that few kids even throw it away. This was in contrast to a previous study where 79.8% AWWs reported that food was totally acceptable to children and mothers, around 7% found only some of the items served as acceptable, and 11% did not find the food items served as acceptable [17]. Higher acceptance by beneficiaries was also noted in other studies [24,25]. This could be due to cultural differences and change in the quality and type of THR provided over time.

Regarding the utensils required for supplementary nutrition, almost half of the AWCs in our study did not have adequate cooking utensils. 2 of the AWCs reported to have borrowed some utensils from other anganwadi centres. It was found that in 2 AWCs, the AWW and the helper cook at home and brought food in their 'dabbas' (tiffins) for the children. This was similar to another study where utensils for serving were either not available or were inadequate (if available) in most of the AWCs [19]. In yet another study cooking utensils were available in only 27.3% of AWCs [14].

In our study, medicine kit was available in only around half of the AWCs, 19 (52.8%). 3 of these AWCs had last year's remaining supply. It was found that 1 medicine kit was shared by 3 to 5 AWCs. The medicines of the kit were either distributed among them or they were stored in one AWC and taken from there when required. In 17 (47.2%) AWCs there were no medicine kit available. 4 of these centres had not received the kit since several years ranging from 2 to 7 years. In 2 centres they had previous year's supply which had expired. This was similar to another study where 50% AWWs complained of supply constraints in food and medicine [26]. In several other studies medicines were either not available or were inadequate in most of the AWCs [4,19,21]. A study reported that medicine kit was found to be hardly replenished on a regular basis [9].

On inspection, the kit consisted of oral rehydration therapy (ORS) packets, paracetamol, gentian violet, thermometer, electric weighing scale with hook, timer. (picture) One AWW pointed out that earlier the kit used to contain many useful basic medicines but now more of other stuff like gauge pad,

bandage etc. are rather provided in the kit which are not as helpful.

Regarding the logistics for growth monitoring, majority of the AWCs (91.7%) of our study, adult weighing machine was present but in 21.2% cases the machine had to be adjusted frequently to get the correct measure. Baby weighing machine was present in only 8 (22.2%) AWCs, out of which only 50% were functional. This was in contrast to a previous study where only 51.6% AWCs had functional adult weighing scale whereas greater number of AWCs (72.4%) had functional baby weighing scale [16]. In another study, working weighing scale was present in 80% of AWCs [13].

Growth card was available and adequate in all the AWCs. Whereas a previous study reported presence of adequate growth cards in only 53.3% AWCs [13].

It was a welcome observation that all the AWCs had learning aid tools like pictures, puzzles, building blocks etc. It was noted that all of them were given by Gram mangal, a non-governmental organization which works to provide holistic education to the rural and tribal children of Palghar and Dahanu Talukas. ICDS provided only with play materials like a slide, a horse, balls and a cycle to some AWC; most of which were reported to be old and damaged. Posters were present only in 41.7% of AWCs and most of them were provided by ICDS. Similarly, in another study most of the AWWs mentioned that they were not getting proper teaching aids other than charts and some toys [27]. Different study reported that teaching aids were found available at the AWCs in the form of charts and posters but the condition of these aids was bad [28]. According to a survey report majority of the AWCs had adequate posters and charts, but toys/models were found to be available in only 33% of the AWCs [19].

Availability of registers for record keeping seemed to be a problem almost every AWW were facing. 32 (88.9%) AWCs did not have adequate registers for the huge number of records they are needed to maintain. Almost all of AWWs had bought notebooks by themselves. Taking xerox copies of the registers was having a huge impact on the financial constraints of the AWWs.

### Job satisfaction of Awws

In our study, none of the AWWs were very satisfied with the honorarium they received. it was observed that majority of the AWWs (86.1%) reported to not receive it on time. Similar findings were reported in a study where 96% AWWs mentioned that they did not receive payment on time, so some workers did not feel motivated to come to the center every day [22]. Similarly in another survey, 90% AWWs received their salary irregularly [26].

Successful execution of the program requires cooperation among various stakeholders. 88.9% of the AWWs in our study reported to have had cooperation from their colleagues/ helpers all the time. Cooperation from the community was present in 86.1% of the cases while 13.9% reported no cooperation from

community most of the time. One AWW described that when she needed help to put up posters high in the walls of her AWC, no one in the community came forward. When enquired regarding cooperation from other government officials, 28 (77.8%) AWWs gave a positive response while 8 (22.2%) AWWs relayed no cooperation. One said that they only give hope. It was found that majority of the AWWs in our study were treated with respect and only 2 (5.6%) AWWs reported to be treated cordially. Several AWWs divulged that they were treated respectfully during house visits and also several of them stated that they were acknowledged even if they met out of context. Though lacking, cooperation among various stakeholders was high compared to previous studies [18,21,22]. Subsequently in another study the AWWs mentioned problems in eliciting community participation and indifferent attitude of the community [25]. In yet another study, only 18 (56%) Gram Panchayats extended help to AWWs in organizing cultural functions in AWCs to attract public participation [24].

When asked if they felt they had too many activities to participate that it was difficult to handle all, 66.7% AWWs agreed with it. They mentioned that they often had to multitask and that it was difficult to adjust. It was mentioned by at least 11.1% AWWs that there were too much of writing work demanded of them. Several workers pitched in that other works like cooking, writing records, attending meetings were hindering the work of teaching and caring for the kids. In a similar study it was found that AWWs faced problems of extraneous work assignments such as formation and grading of SHGs, survey works, preparation and distribution of emergency feeding, etc [9].

Around 80% of the AWWs had received induction training during their joining and refresher training was attended by 66.7% of AWWs. This number was higher than in some previous studies [16,28]. Whereas other similar studies showed higher number of AWWs who received training [22,24]. It is noteworthy that refresher training was mostly missed. In a study, only 42.5% AWWs had received refresher training [16]. Similarly in a study in three tribal districts of Rajasthan, most of the AWWs had only basic training, but none had gone for refresher course [29].

When asked their view regarding the training, few of them mentioned that it was more theoretical than practical and not that much helpful unlike training by gram mangal where they held more activities, group discussions, role play etc.

Thus, various factors are at play for the optimal delivery of services of ICDS. Along with output indicators like beneficiary satisfaction, decline in mortality rates, increase in immunization rates etc, input indicators like the available Infrastructure and logistics, job satisfaction and perception of the anganwadi workers are equally important as these are imperative for good service delivery.

### Conclusion

All the AWWs were literate females but only 66.7% of them were local.



Only just about half of the AWCs were functioning in their own building and the other half were carrying out their daily activities through temporary makeshift arrangements. Accessibility to the AWCs was found to be good,

Registers for record keeping was found to be most deficient (88.9%) followed by presence of electricity and baby weighing machine (77.8%). Availability of separate kitchen and storeroom and regularity of supplementary nutrition was seen deficient in more than half of AWCs. Growth card was the most available amenity (100%) followed by adult weighing machine (91.7%) and drinking water facility (86.1%). Toilet was present in only about half of the AWCs studied.

Among the various problems accounting for poor job satisfaction among AWWs observed in the study, some of the prominent were, lack of own anganwadi building, inadequate space for activities, lack of teaching materials, problems in eliciting the Supplementary Nutrition Programme (SNP) due to inadequacy or irregularity of the supplementary nutrition supply, and absence of separate kitchen. Other problems faced were low government and community involvement, increased workload and a modest honorarium.

### Limitations

Due to constraints in resources, we could not assess other aspects of the programme like outcome assessment or impact evaluation. We also could not assess the perspectives of supervisors, CDPO and other implementers at state level.

However, we believe that our study does expose key factors that affect the effective implementation of the scheme and the felt needs of its implementers at the grass root level.

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