Evaluation of Integrated Child Development Services Program in Rajasthan, India

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ABSTRACT

Background: The Integrated Child Development Services (ICDS) scheme is the largest program for promotion of maternal and child health and nutrition. Aims: The present study is aimed to evaluate ICDS program in terms of infrastructure of anganwadi centers (AWCs), characteristics of anganwadi workers (AWWs), coverage of supplementary nutrition (SN), and preschool education (PSE) to the beneficiaries. Methods: A total of 39 AWCs from a rural area and 15 from the urban area were surveyed. AWWs were interviewed, and records were reviewed. Information was collected using a predesigned and pretested questionnaire. Results: In the selected AWCs, 88.9% were running in Pucca buildings, 38.9% had electricity, 35.1% had a separate kitchen, 1.8% had cooking gas, and toilets were available in 59.3% AWCs. All the AWW have received job training, 83.3% AWW have received refresher training. 38.8% AWW have received orientation training, 37% have received skill training in World Health Organization growth standards and 18.5% AWW have received skill training in mother and child health. 86.9% registered pregnant women, 90.7% registered lactating women, 72.6% registered adolescent girls were availing SN. 95.4% registered children 6 months to 3 years and 92.4% registered children 3-6 years of age were availing SN. Interruption in SN in last 6 months was seen in 22.2% AWCs. Appropriate and adequate PSE material was available in 59.2% AWCs. Conclusion: There are program gaps in the infrastructure of AWCs, training of AWW, coverage of SN, interruption in the supply of SN.

Key words: Evaluation, Integrated Child Development Services, preschool education, supplementary nutrition

INTRODUCTION

The Integrated Child Development Services (ICDS) scheme is the largest program for promotion of maternal and child health and nutrition in India. The scheme was launched in 1975 in pursuance of the National Policy for Children. The scheme has expanded in the last 27 years from 33 projects to 5171 blocks. ICDS is a multi-sectoral program and involves several government departments. The program services are coordinated at the village, block, district, state, and central government levels. The primary responsibility for the implementation of the program lies

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with the Department of Women and Child Development at the center and nodal department at the states, which may be Social Welfare, Rural Development, Tribal Welfare or Health Department or an Independent Department.[1]

The beneficiaries are children up to 6 years, adolescent girls, pregnant and lactating women, and women in the age group of 15-44 years. The beneficiaries of ICDS are to a large extent identical with those under the Maternal and Child Health Program. The program provides an integrated approach for converging all the basic services for improved childcare, early stimulation and learning, health and nutrition, water and environmental sanitation aimed at the young children, expectant and lactating mothers, other women, and adolescent girls in a community. ICDS program is the reflection of the Government of India to effectively improve the nutrition and health status of an underprivileged section of the population through the direct intervention mechanism. The program covers 27.6 million beneficiaries with supplementary nutrition (SN). The program services and beneficiaries have essentially remained the same since 1975.[1]

The scheme services are rendered essentially through the anganwadi worker (AWW) at a village center called “anganwadi center (AWC).” The ICDS has led to
1. Reduction in prevalence of severe grades of malnutrition and
2. Better utilization of services of national nutritional anemia prophylaxis program, and the national program for prevention of nutritional blindness due to Vitamin A deficiency.[2]

The present study is aimed to evaluate various aspects of ICDS scheme in Rajasthan such as the infrastructure of AWCs, baseline characteristics of AWWs, provision and coverage of services to the beneficiaries, SN in different districts of Rajasthan.

METHODS

Mahatma Gandhi Medical College and Hospital, Jaipur was selected by National Institute of Public Cooperation and Child Development (NIPCCD) from Rajasthan state for monitoring and supervision of ICDS scheme. The present study was conducted by the Department of Community Medicine, Mahatma Gandhi Medical College, Jaipur in the 9 out of 34 districts, selected by simple random sampling (lottery method) [Table 1].

The districts were surveyed from October 2013 to September 2014. In selected 9 districts, there are total 88 ICDS blocks and 15,188 AWCs. The program officer supervises and administers ICDS program at district level. Under Program Officer, there are 8-10 ICDS blocks each of which is supervised by Child Development

Program Officer (CDPO) and one such ICDS block covers around 100 AWCs.

Multistage random sampling was done. First, 1/2 ICDS blocks were selected from the 9 districts by simple random sampling (lottery method). In next stage, from each selected block, five AWCs were randomly selected. The CDPO of respective ICDS block was informed beforehand about the nature of visit and how many AWCs will be visited. No prior information was given to AWWs about the nature of the visit.

Due ethical clearance was taken from the Institutional Ethical Committee before conducting the survey. A total 54 AWCs were surveyed including 39 from a rural area and 15 from an urban area. An attempt was made to select not more than two AWCs from each of the supervisory circle. A team of three members including one Assistant Professor and two resident doctors from the Department of Community Medicine, Mahatma Gandhi Medical College, Jaipur visited the selected AWCs. AWWs were interviewed, and records were reviewed by using a predesigned and pretested questionnaire provided by NIPCCD, and the following information was collected:
1. Infrastructure of AWCs and sociodemographic characteristics of AWWs
2. Provision of various ICDS services to the beneficiaries
3. Coverage of services provided such as SN, preschool education (PSE), and NHED. AWC with constructed covered area of not <600 square feet was considered as having an adequate indoor space
4. Information was also collected about utilization of various services provided and issues related to program operation.

RESULTS

In urban areas 77.8% and in rural areas 94.4% of AWC were in Pucca buildings. In urban area, 22.2% of AWC
were situated in open space. Majority of the AWC in rural areas (47.2%) were constructed and owned by the government while the majority of AWC in urban areas (50%) were in rented buildings. Electricity was provided in 83.3% of AWC in urban area while it was provided in only 16.7% in rural areas. Sign board display was seen in 55.6% urban AWC in comparison to 52.8% rural AWC. 50% of AWC were located within the village in a rural area while 94.4% AWC were located within the locality in the urban area. Built size of AWC was adequate in 69.4% AWC in the rural area in comparison to only 38.9% in urban area [Table 2].

In the selected 9 districts of Rajasthan, 88.9% AWCs were in Pucca building, 33.3% of AWCs were owned and constructed by the government while 29.6% AWCs were in rented buildings. Electricity was provided in 38.9% AWCs while sign board display was seen in 53.8% AWCs. Of all the AWCs, 64.8% AWCs were located within village/locality while 25.9% were located with a distance of <100 m. Built in size was adequate in 59.2% AWCs [Table 2].

Separate kitchen was seen in 44.4% rural AWC while it was seen in only 16.7% urban AWC. There was no provision of cooking gas in rural AWC while cooking gas was provided in only 5.5% urban AWC. Separate space for storage was seen in 41.6% rural AWC in comparison to 22.2% urban AWC. Tap water supply was seen in 94.4% urban AWC in comparison to 52.7% rural AWC. Drinking water was stored in covered utensils in 83.3% rural AWC in comparison to 88.8% urban AWC. Toilet facility was not available in 44.4% rural AWC in comparison to 33.3% urban AWC. However, in 22.2% urban AWC toilet facility was available but not child-friendly. Separate toilet for girls was seen in 11.1% urban AWC in comparison to 5.5% rural AWC [Table 3].

In the selected 9 districts of Rajasthan, the separate kitchen was present in only 35.1% AWC while the provision of cooking gas was seen in 1.8% AWCs. Separate space for storage was seen in 35.1% AWCs. Hand pump was a source of drinking water in 29.5% AWCs while tap water supply was seen in 66.7% AWCs. In 85.1% AWCs, drinking water was stored in covered utensils. Toilet facility was not available in 40.7% AWCs. Separate toilet for girls was seen in 7.4% AWCs only [Table 3].

At rural AWC, 72.2% of AWWs had experience of more than 10 years while 55.6% of AWW in urban AWC has work experience of more than 10 years. In rural AWC, 33.3% of AWW have educational qualification below matric in comparison to 22.2% AWW in urban AWC. Only 5.5% AWW were postgraduate in rural AWC in comparison to 16.7% in urban AWC. All AWW (100%) had received job training in both urban and rural AWC. In both rural and urban AWC, 83.3% AWW each had received refresher training. In rural AWC, 44.4% AWW had received refresher training in comparison to 27.7% AWW in urban AWC. In rural AWC, 36.1% AWW had received refresher training in World Health Organization (WHO) growth standards in comparison to 38.9% in urban AWC. In rural AWC, 22.2% AWW had received skill training in mother and child health in comparison to 11.1% in urban AWC. Thus, in rural AWC more AWWs have work experience of more than 10 years, have received orientation training, and have skill training in mother and child health [Table 4].

In the selected 9 districts of Rajasthan, 66.7% AWW had work experience of more than 10 years while 25.9% AWW had experience of 5-10 years. Only 29.6% AWW had educational qualification below matric while 25.9% AWW were matriculate. All the AWW had received job

**Table 2: Infrastructure of AWC in selected districts of Rajasthan**

| Infrastructure of AWC | Urban (n = 18) | Rural (n = 36) | Total (n = 54) |
|-----------------------|---------------|---------------|---------------|
| **Type of building**  |               |               |               |
| Kachcha               | 0 (0)         | 1 (2.7)       | 1 (1.8)       |
| Pucca                 | 14 (77.8)     | 34 (94.4)     | 48 (88.9)     |
| Open space            | 4 (22.2)      | 1 (2.7)       | 5 (9.2)       |
| **Ownership**         |               |               |               |
| Construction by govern | 1 (5.5)       | 17 (47.2)     | 18 (33.3)     |
| Rent free             | 2 (11.1)      | 3 (8.3)       | 5 (9.2)       |
| School building       | 1 (5.5)       | 6 (16.7)      | 7 (12.9)      |
| Community building without rent | 1 (5.5) | 3 (8.3) | 4 (7.4) |
| Rented building       | 9 (50)        | 7 (19.4)      | 16 (29.6)     |
| Own house             | 4 (22.2)      | 0 (0)         | 4 (7.4)       |
| **Electricity**       |               |               |               |
| Yes                   | 15 (83.3)     | 6 (16.7)      | 21 (38.9)     |
| No                    | 3 (16.7)      | 30 (83.3)     | 33 (61.1)     |
| **Sign board display**|               |               |               |
| Yes                   | 10 (55.6)     | 19 (52.8)     | 29 (53.8)     |
| No                    | 8 (44.4)      | 17 (47.2)     | 25 (46.2)     |
| **Distance of AWC from the village** | | | |
| Within village        | 17 (94.4)     | 18 (50)       | 35 (64.8)     |
| <100 m                | 0 (0)         | 14 (38.8)     | 14 (25.9)     |
| 100-200 m             | 1 (5.6)       | 1 (2.7)       | 2 (3.7)       |
| More than 500 m       | 0 (0)         | 3 (8.3)       | 3 (5.5)       |
| **Built size of AWC** |               |               |               |
| Adequate              | 7 (38.9)      | 25 (69.4)     | 32 (59.2)     |
| Inadequate            | 11 (61.1)     | 11 (30.6)     | 22 (40.8)     |
| **Number of rooms**   |               |               |               |
| 1                     | 15 (83.3)     | 25 (69.4)     | 40 (74)       |
| 2                     | 3 (16.7)      | 6 (16.6)      | 9 (16.7)      |
| 3                     | 0 (0.0)       | 5 (13.8)      | 5 (9.2)       |

AWC: Anganwadi center
training, 83.3% had received refresher training. Only 38.8% of AWW had received orientation training, 37% had received skill training in WHO growth standards while only 18.5% AWW had received training in mother and child health [Table 4].

Of all the registered pregnant women, 90.9% pregnant women were availing SN in urban AWC while 85.5% pregnant women were availing SN in rural AWC. Of all the registered lactating women, significantly higher numbers of lactating women in rural AWC (96.4%) were availing SN in comparison to urban AWC (77.3%). Of all the registered adolescent girls, significantly higher numbers of girls (91.3%) were availing SN in urban AWC in comparison to rural AWC (66.5%). Of all the registered children 6 months to 3 years, significantly higher number of children were availing SN in urban AWC (97.6%) in comparison to rural AWC (94.6%). Of all the registered children 3-6 years of age, significantly higher numbers of children (98.4%) were availing SN in urban AWC in comparison to rural AWC (90.4%) [Table 5].

In the selected 9 districts of Rajasthan, of all the registered pregnant women, 86.9% pregnant women were availing SN. Of all the registered lactating women, 90.7% lactating women were availing SN. Of all the registered adolescent girls, 72.6% of the girls were availing SN. Of all the registered children 6 months to 3 years of age, 95.4% children were availing SN. Of all the registered children 3-6 years of age, 92.4% children were availing SN [Table 5].

Thus, it is seen that there is a statistically significant difference in availing SN by adolescent girls, children between 6 months to 3 years, and children 3-6 years of age in urban and rural area (better in urban area in comparison to rural area). Significantly, higher number of lactating women are availing SN in the rural area in comparison to the urban area [Table 5].

The quality of SN was satisfactory in 100% of urban and rural AWC. SN was acceptable to the beneficiary in all the rural AWCs while it was acceptable to the beneficiary in 94.4% urban AWCs. In rural area, 91.6% AWCs have adequate cooking utensils while 88.9% AWCs in the urban area have adequate cooking utensils. Adequate serving utensils were seen in all the AWCs in urban area while it was seen in 94.4% AWC in rural area. Interruption in SN in last 6 months was seen in 27.7% AWCs in the rural area in comparison to only 11.1% AWCs in urban area [Table 6].

Quality of SN was satisfactory in all the AWCs. SN was acceptable to 98.1% beneficiaries. Adequate cooking utensils were seen in 90.7% AWCs while 96.2% AWCs had adequate serving utensils. Interruption in SN in last 6 months was seen in 22.2% AWCs [Table 6].

Timetable for PSE was available in 94.4% urban AWCs and 86.1% rural AWCs. Appropriate and adequate PSE material was available in 38.8% urban AWCs and 69.4% rural AWCs. Appropriate and adequate PSE kit was available in only 16.7% urban AWCs and 66.6% rural AWCs. Guidebook issued by the state government for PSE was available in 88.8% urban AWCs and 91.6% rural AWCs. Only 16.7% parents were supporting in organizing PSE in urban AWCs, and 44.4% parents were supporting in organizing PSE in rural AWCs [Table 7].

Overall in the selected districts of Rajasthan, timetable for PSE was available in 88.8% AWCs, appropriate and adequate PSE material was available in 59.2% AWCs, appropriate and adequate PSE kit was available in 50% AWCs, and guidebook issued by state government for PSE was available in 90.7% AWCs. Overall, in 35.1% AWCs, parents were supporting in organizing PSE [Table 7].

| Table 3: Characteristics of AWC in selected districts of Rajasthan |
|-------------------------------|-----------------|----------------|--------------------|
| Characteristics of AWC        | Urban (n = 18)  | Rural (n = 36) | Total (n = 54)     |
| Separate kitchen              | Yes             | No             |                   |
|                               | 16 (44.4)       | 20 (55.6)      | 36 (66.4)         |
| Provision of cooking gas at AWC | Yes             | No             |                   |
|                               | 8 (22.2)        | 22 (61.1)      | 30 (55.6)         |
| Separate space for storage    | Yes             | No             |                   |
|                               | 15 (41.6)       | 21 (58.3)      | 36 (66.4)         |
| Source of drinking water      | Deep hand pump in AWC | Deep hand pump nearby AWC | Shallow hand pump | Tap water supply |
|                               | 0 (0)           | 0 (0)          | 0 (0)             | 17 (48.6)        |
| Drinking water storage        | Directly from source | Available     | Available but not usable | Available but not usable |
|                               | 1 (5.5)         | 8 (22.2)       | 2 (5.5)           | 4 (11.1)         |
| Toilet facility               | Available       | Not available  | Available but not usable | Available but not child-friendly |
|                               | 8 (44.4)        | 6 (33.3)       | 0 (0)             | 2 (5.5)          |
| Separate toilet for girls     | Yes             | No             |                   |
|                               | 2 (11.1)        | 34 (94.4)      | 36 (66.4)         |

AWC: Anganwadi center
DISCUSSION

In the selected 9 districts of Rajasthan, only 33.3% of AWCs were owned and constructed by the government while 29.6% AWCs were in rented buildings. Electricity was provided in 38.9% AWCs. Built in size was adequate in 59.2% AWCs. 90.7% AWW were within the distance of <100 m from the village. Separate kitchen was present in only 35.1% AWC while the provision of cooking gas was seen in 1.8% AWCs. Separate space for storage was seen in 35.1% AWCs. Hand pump was a source of drinking water in 29.5% AWCs while tap water supply was seen in 66.7% AWCs. Toilet facility was seen in 66.7% AWCs. A study conducted in Delhi, 52.5% respondents were dissatisfied with the services provided from the AWC with the most common reason being the poor accessibility of AWC and less space available.\[^{[1]}\]

In the present study, 66.7% AWW had work experience of more than 10 years while 25.9% AWW had experience of 5-10 years. Only 29.6% AWW had educational qualification below matric while 25.9% AWW were matriculate. All the AWW had received job training, 83.3% had received skill training. Only 38.8% of AWW had received orientation training, which had received skill training in WHO growth standards while only 18.5% AWW had received skill training in mother and child health. Proper training of AWWs improves the performance.\[^{[4]}\] Inadequate training of AWWs may be the reason for poor performance of AWCs.\[^{[5]}\] Thus, more emphasis should be given on orientation training and skill training of AWW in WHO growth standards and mother and child health.

In the present study, 86.9% registered pregnant women were availing SN, 90.7% registered lactating women were availing SN, 72.6% of registered adolescent girls were availing SN, 95.4% registered 6 months to 3 years old children, and 92.4% registered children 3-6 years were availing SN. Quality of SN was satisfactory in all the AWCs. SN was acceptable to 98.1% beneficiaries. 90.7% AWCs had adequate cooking utensils while 96.2% AWCs had adequate serving utensils. Interruption in SN was seen in 22.2% AWCs. Interruption in the supply of SN during last 6 months was reported in 61.7% AWCs. A study done by Bhasin et al. stated that 59.1% children were nonbeneficiaries of ICDS scheme.\[^{[6]}\] A study conducted in Delhi showed 66.7% AWCs had a poor quality of SN.\[^{[3]}\]

In the present study, it is seen that there is a statistically significant difference in availing SN by adolescent girls, children between 6 months to 3 years, and children 3-6 years of age in urban and rural area (better in urban

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Table 4: Characteristics of AWWs of the AWCs in selected districts of Rajasthan

| Characteristics of AWW | Urban (n = 18) | Rural (n = 36) | Total (n = 54) |
|------------------------|---------------|---------------|---------------|
| Experience             |               |               |               |
| 2-5 years              | 0 (0)         | 4 (11.1)      | 4 (7.4)       |
| 5-10 years             | 8 (44.4)      | 6 (16.7)      | 14 (25.9)     |
| >10 years              | 10 (55.6)     | 26 (72.2)     | 36 (66.7)     |
| Educational qualification |             |               |               |
| Below matric           | 4 (22.2)      | 12 (33.3)     | 16 (29.6)     |
| Matriculate            | 5 (27.7)      | 9 (25)        | 14 (25.9)     |
| 10+2                   | 1 (5.5)       | 6 (16.7)      | 7 (12.9)      |
| Graduate               | 5 (27.7)      | 7 (19.4)      | 12 (22.2)     |
| Postgraduate           | 3 (16.7)      | 2 (5.5)       | 5 (9.2)       |
| Received job training  |               |               |               |
| Yes                    | 18 (100)      | 36 (100)      | 54 (100)      |
| No                     | 0 (0)         | 0 (0)         | 0 (0)         |
| Received refresher training |         |               |               |
| Yes                    | 15 (83.3)     | 30 (83.3)     | 45 (83.3)     |
| No                     | 3 (16.7)      | 6 (16.7)      | 9 (16.7)      |
| Received orientation training |         |               |               |
| Yes                    | 5 (27.7)      | 16 (44.4)     | 21 (38.8)     |
| No                     | 13 (72.2)     | 20 (55.5)     | 33 (61.1)     |
| Skill training in WHO growth standards |     |               |               |
| Yes                    | 7 (38.9)      | 13 (36.1)     | 20 (37)       |
| No                     | 11 (61.1)     | 23 (63.9)     | 34 (63)       |
| Skill training in mother and child health |     |               |               |
| Yes                    | 2 (11.1)      | 8 (22.2)      | 10 (18.5)     |
| No                     | 16 (88.9)     | 28 (77.8)     | 44 (81.5)     |

AWCs: Anganwadi centers, AWWs: Anganwadi workers, WHO: World Health Organization

Table 5: Maternal and child health services at AWC in selected districts of Rajasthan

| Maternal and child health services | Urban (n = 18) | Rural (n = 36) | Total (n = 54) | \( \chi^2 \) (df) | \( p \) |
|-----------------------------------|---------------|---------------|---------------|----------------|------|
| Pregnant women availing SN/registered | 141/155 (90.9) | 384/449 (85.5) | 525/604 (86.9) | 3.00 (1) | 0.083 |
| Lactating women availing SN/registered | 113/146 (77.3) | 327/339 (96.4) | 440/485 (90.7) | 44.1 (1) | 0.000 |
| Adolescent girls availing SN/registered | 264/289 (91.3) | 600/901 (66.5) | 864/1190 (72.6) | 67.4 (1) | 0.000 |
| Children 6 months-3 years availing SN/registered | 497/509 (97.6) | 1305/1379 (94.6) | 1802/1888 (95.4) | 7.74 (1) | 0.005 |
| Children 3-6 years availing SN/registered | 322/327 (98.4) | 888/982 (90.4) | 1210/1309 (92.4) | 22.7 (1) | 0.000 |

AWC: Anganwadi center, SN: Supplementary nutrition
There is a need of regular visits of AWC to continue education sessions. There was gross under-joint visit was made. Only 11.8% AWWs were exposed to education sessions. This gross under-utilization of AWCs is well felt. A study conducted by Biswas and Chattapadhyay in Hooghly district, West Bengal showed that visits of AWCs by Health Workers, supervisors, and CDPO were very infrequent, and no joint visit was made. Only 11.8% AWWs were exposed to continue education sessions. There was gross under-utilization of AWCs.

A Nutrition and Health Day (NHD) can be organized converging the health and ICDS services on a single day to further improve the coverage of SN. A study conducted by Patnaik et al. in rural ICDS block in Madhya Pradesh showed that by organizing NHD, participation in the SN program has increased two to three folds. In the present study, a timetable for PSE was available in 88.8% AWCs, appropriate and adequate PSE material was available in 59.2% AWCs, and appropriate and adequate PSE kit was available in 50% AWCs. Overall, in 35.1% AWCs, parents were supporting in organizing PSE. A similar study conducted in Delhi, irregular PSE was seen in 57.1% AWCs.

There are program gaps in coverage of SN in children, its regular supply to the beneficiaries, in preschool activities coverage, recording of immunization, and regular health check-up of beneficiaries, and referral of sick children. There is a lack of facilities at the AWCs and poor knowledge among AWWs. Thus, a regular training and supportive supervision of the AWWs is recommended along with the availability of adequate facilities and infrastructures. A paradigm shift in training is required, making communication processes and counseling skills central to the training to ensure enhanced interaction between the AWWs and caregivers on infant and young child feeding practices.

The ICDS has a huge potential as a platform to provide comprehensive maternal and child services. Although there is a wide coverage under the ICDS blocks, many of them are not functioning optimally. Infrastructure and basic amenities, and training components need to be strengthened.

**CONCLUSION AND RECOMMENDATION**

In the selected AWCs, 88.9% AWCs were in Pucca building, electricity was provided in 38.9% AWCs, separate kitchen in 35.1% AWC, provision of cooking gas in 1.8% AWCs, toilet facility was available in 59.3% AWCs. All the AWW have received job training, 83.3% have received refresher training, 38.8% AWW have received orientation training, 37% have received skill training in WHO growth standards and only 18.5% AWW have received skill training in mother and child health. 86.9% registered pregnant women, 90.7% registered lactating women, 72.6% registered adolescent

### Table 6: SN at AWC in selected districts of Rajasthan

| SN                        | Urban (n = 18) | Rural (n = 36) | Total (n = 54) |
|---------------------------|---------------|---------------|---------------|
| Quality of SN satisfactory |               |               |               |
| Yes                       | 18 (100)      | 36 (100)      | 54 (100)      |
| No                        | 0 (0)         | 0 (0)         | 0 (0)         |
| SN acceptable to the beneficiary |         |               |               |
| Yes                       | 17 (94.4)     | 36 (100)      | 53 (98.1)     |
| No                        | 1 (5.5)       | 0 (0)         | 1 (1.9)       |
| AWC have adequate serving utensils |         |               |               |
| Yes                       | 16 (88.9)     | 33 (91.6)     | 49 (90.7)     |
| No                        | 2 (11.1)      | 3 (8.3)       | 5 (9.2)       |
| AWC have adequate cooking utensils |         |               |               |
| Yes                       | 18 (100)      | 34 (94.4)     | 52 (96.2)     |
| No                        | 0 (0)         | 2 (5.5)       | 2 (3.8)       |
| Any interruption in SN in last 6 months |         |               |               |
| Yes                       | 2 (11.1)      | 10 (27.7)     | 12 (22.2)     |
| No                        | 16 (88.9)     | 26 (72.2)     | 42 (77.8)     |

SN: Supplementary nutrition, AWC: Anganwadi center

### Table 7: Availability of PSE material at AWC in selected districts of Rajasthan

| PSE material                | Urban (n = 18) | Rural (n = 36) | Total (n = 54) |
|-----------------------------|---------------|---------------|---------------|
| Timetable for PSE           |               |               |               |
| Yes                         | 17 (94.4)     | 31 (86.1)     | 48 (88.8)     |
| No                          | 1 (5.5)       | 5 (13.8)      | 6 (11.1)      |
| Appropriate and adequate PSE material |         |               |               |
| Yes                         | 7 (38.8)      | 25 (69.4)     | 32 (59.2)     |
| No                          | 11 (61.1)     | 11 (30.5)     | 22 (40.7)     |
| Appropriate and adequate PSE kit |         |               |               |
| Yes                         | 3 (16.7)      | 24 (66.6)     | 27 (50)       |
| No                          | 15 (83.3)     | 12 (33.3)     | 27 (50)       |
| Guidebook issued by state government for PSE |         |               |               |
| Yes                         | 16 (88.8)     | 33 (91.6)     | 49 (90.7)     |
| No                          | 2 (11.1)      | 3 (8.3)       | 5 (9.2)       |
| Parents support in organizing PSE |         |               |               |
| Yes                         | 3 (16.7)      | 16 (44.4)     | 19 (35.1)     |
| No                          | 15 (83.3)     | 20 (55.5)     | 35 (64.8)     |

PSE: Preschool education, AWC: Anganwadi center

area in comparison to rural area). Significantly higher number of lactating women are availing SN in the rural area in comparison to the urban area.

In the present study, it was seen that there were very less visits of AWCs by health workers, supervisors, and CDPO. A study conducted by Biswas and Chattapadhyay in Hooghly district, West Bengal also showed that visits of AWCs by Health Workers, Supervisors, and CDPO were very infrequent, and no joint visit was made. Only 11.8% AWWs were exposed to continue education sessions. There was gross under-
girls were availing SN. 95.4% registered children 6 months to 3 years and 92.4% registered children 3-6 years of age were availing SN. Quality of SN was satisfactory in all AWCs. Interruption in SN in last 6 months was seen in 22.2% AWCs. Appropriate and adequate PSE material was available in 59.2% AWCs, appropriate and adequate PSE kit was available in 50% AWCs.

There are program gaps in the infrastructure of AWCs, training of AWW, coverage of SN, interruption in the supply of SN. The following measures can be taken to further improve the functioning of ICDS program in the state:

- Strengthening of the infrastructure of AWW should be done. Electricity should be provided in all AWCs, provision of cooking gas should be there, drinking water facility should be made available. All the AWCs should have toilet facility if possible there should be a provision of separate toilet for girls
- Though all the AWW have received job training, they should also receive orientation training, skill training in WHO growth standards, and skill training in mother and child health
- Coverage of SN should be improved among the beneficiaries, that is, pregnant women, lactating women, adolescent girls, children who are 6 months to 6 years of age
- SN should be acceptable to all the beneficiaries. There should be adequate cooking and serving utensils available at all the AWCs
- There should not be any interruption in SN in any AWCs of the state
- Appropriate and adequate PSE material and kit should be made available in all AWCs
- There should be regular visits of AWCs by Health Workers, Supervisors, and CDPO.

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There are no conflicts of interest.

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