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Original Research Article

Assessment of infrastructure, manpower and functioning of an anganwadi centre of an urban area of south 24 parganas, West Bengal, India

Dey Rituraj, Sikder Rajib, Kundu Subha Sankha, Majumdar Kunal Kanti*, Joardar Goutam Kumar

Department of Community Medicine, KPC MCH, West Bengal, India

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***Correspondence:**
Dr. Kunal Kanti Majumdar,
E-mail: kunalmajumdar1@gmail.com

ABSTRACT

Background: ICDS is one of the flagship programmes of the Government of India. Proper utilization of ICDS services depend on factors like infrastructure, accessibility, availability of resources and satisfaction of the beneficiaries. ICDS services are essential for promotion of health and nutritional status of mothers and adolescents; psychological, physical, social development of children. The scheme is important to reduce morbidity, mortality, malnutrition, school dropouts among the beneficiaries. To assess the overall functioning, a cross sectional study was conducted in an Anganwadi Centre of South 24 Parganas district of West Bengal.
Methods: In 2019, a cross-sectional study conducted in an Anganwadi centre at Sonarpur block, South 24 Parganas, West Bengal. Out of 26 AWCs present in Sonarpur block, 1 AWC selected randomly for study. Data collected with a predesigned, pretested and structured oral questionnaire.
Results: AWC was in a shared club room with adequate infrastructure. Manpower adequate. Materials and equipment's adequate, well maintained. 91% children had available growth charts, 96% accurately plotted. 15% moderately undernourished, rest were normal. 54% children getting non formal preschool education. 64% mothers attending mothers' meeting. 93% of 6 months to 3 years of children, 87% of 3-6 years of children and 100% of the pregnant and lactating mothers were getting supplementary nutrition. 47% adolescents availing the IFA/ deworming services. Kerosene used for cooking fuel.
Conclusions: Few gaps identified related to growth monitoring, reporting of beneficiaries, delivering of some services. Those gaps need to be addressed for improved functioning of the AWC.

Keywords: Anganwadi centre, Functioning, Infrastructure, Manpower

INTRODUCTION

The Integrated Child Development Services (ICDS) Scheme was launched on 2nd October, 1975. It is one of the flagship programmes of the Government of India and it represents one of the world's massive and distinctive programmes for early childhood care and development. This scheme was introduced on an experimental basis in thirty three projects. During the 6th five year plan it was included under the new 20 point programme and achieved the status of a National Programme. It is a multi-sectoral venture aiming to deliver a combined package of services to the children of 0–6 years of age, pregnant and lactating mothers and adolescent girls. It is the prime representation of the nation's dedication to its children and nursing mothers, as a response to the challenge of delivering pre-school non-formal education on one hand

and breaking the dangerous, downgrading cycle of malnutrition, morbidity, reduced learning capacity and mortality on the other. All the children under 6 years of age, pregnant women and lactating mothers are eligible to avail the services under this scheme. BPL (Below poverty Line) is not a criterion for registration of beneficiaries under ICDS. The Scheme is universal for all categories of beneficiaries and in coverage. The beneficiaries under the Scheme are children in the age group of 0-6 years, pregnant women, lactating mothers and women of reproductive age group (15-45 years).[1]

Recently it is known as umbrella ICDS Scheme that consists of several sub schemes. The approved sub schemes under "Umbrella Scheme" include Anganwadi Services Scheme, Pradhan Mantri Matru Vandana Yojana, National Crèche Scheme, Scheme for Adolescent Girls, Child Protection Scheme and POSHAN Abhiyaan.[2]

Proper utilization of ICDS services depend on several factors like infrastructure, accessibility, availability of resources and satisfaction of the beneficiaries. In the ICDS scheme mothers are considered as major beneficiaries because they play major role in growth and development of the children. Active participation and co-operation of the people is very much important for success of ICDS programme. ICDS services are essential for promotion of health and nutritional status of mothers and adolescents as well as psychological, physical and social development of children. It is an important endeavour to reduce morbidity, mortality, malnutrition and school dropouts among the beneficiaries. Due to the above reasons, to assess the overall functioning of Anganwadi centre a cross sectional study was conducted in an Anganwadi Centre of South 24 Parganas district of West Bengal with the following objectives.

Objectives of the study to assess the infrastructure and manpower present in the studied Anganwadi centre. To assess the functioning of Anganwadi centre, to identify the gaps and give recommendations accordingly.

METHODS

Study design: An observational, cross sectional and descriptive study was conducted in a randomly selected Anganwadi centre situated at Sonarpur block in the South 24 Parganas district of West Bengal, India.

Study period was from 18.11.2019 to 20.12.2019

Study population was all the beneficiaries attending the Anganwadi centre during the study period

Study area: Sonarpur block in the South 24 Parganas district of West Bengal with a total population of 1024.

Study tools: Pre designed, pre tested and structured oral questionnaire.

Study technique- Out of 267 number of Anganwadi centres present in the Sonarpur block of West Bengal, 1 AWC was selected randomly for the study.

Procedure of data collection- Observing the functions of the centre, interviewing the Anganwadi worker and examining and reviewing the records.

Inclusion criteria

All the beneficiaries attending the AWC during the study period were included in this study.

Exclusion criteria

Beneficiaries who were absent during the study period, were excluded for the study.

Ethical clearance was taken from the institutional ethics committee of KPC Medical College and Hospital, Kolkata for conducting the study.

Data analysis was done by suitable statistical methods.

RESULTS

Infrastructure: The Anganwadi centre was in a shared club room (Para Committee Ghar) with cemented (pucca) floor and with electricity supply. Floor space was adequate, the room had proper lighting and ventilation. For cooking a separate kitchen was available with a storage facility for cooked and raw food. The fuel used was kerosene oil. Separate spaces for latrine and hand washing were present. Solid waste was collected and stored in a covered bin and disposed off regularly by the municipality (Table 1). But separation was not done for putrescible and non putrescible wastes.

Table 1: Assessment of infrastructure.

Space	Adequate
Lighting	Adequate
Ventilation	Adequate, Cross ventilation present.
Kitchen space	Adequate
Storage of food	Cooked food and grains are stored in covered containers
Hand washing facility	Present
Latrine	Present and is sanitary
Solid waste	Stored in a covered bin and disposed off regularly

Manpower: The Anganwadi worker was 52 years of age and she was a local resident. She was educated up to class 10th standard. She had been working as AWW since 2003 and working 6 days a week from 11am to 3pm. A helper was also present at the centre (Table 2).

Mukhya Sevika (supervisor) used to visit once in a month and a medical officer in every 6 months. Health check up of children was done by ICDS medical officer.

Table 2: Assessment of manpower and equipments.

Manpower	**Anganwadi worker-**	**Present eligibility- local resident since marriage working since 2003**
	Helper-	Present
Equipments-	For height measurement-	Infantometer, Stadiometer.
	For weight measurement-	Salter's weighing machine, Bathroom weighing scale.
	Growth chart-.	ICDS growth chart is used.
	For non formal preschool education-	Picture books, story books, building blocks, puzzles.
	Registers-	Monthly and yearly activity register, supplementary nutrition distribution register, growth monitoring data register, immunization record register.

Materials and equipment: Monthly and yearly activity register, supplementary nutrition distribution register, growth monitoring data register and immunization record register were maintained. The centre was well equipped with infantometer and stadiometer for length and height measurement and Salter's and Bathroom weighing scales for weight measurement.

All the instruments were found to be in working condition. For growth monitoring, ICDS growth charts were used. Different educational materials for non formal preschool education were also available (Table 2).

Table 3: Distribution of beneficiaries.

Beneficiary	Number of beneficiary	% of the total population
0-3 years of children	43	4.19
3-6 years of children	46	4.49
Adolescent age group	34	3.32
Women of Reproductive age group	150	14.64
Pregnant women	6	0.58
Lactating women	3	0.29
Total	282	27.53

Beneficiaries: There were 43 zero to three years of children, 46 three to six years of children, 34 adolescents, 150 women of reproductive age group, 6 pregnant women and 3 lactating women enrolled in this centre (Table 3).

Out of 89 children enrolled, 81 (91%) had growth charts. Out of these 81 children having growth charts, 78 (96%) had growth charts accurately plotted. Of those 81 children, 69 (85%) have normal nutritional status and 12 (15%) children are moderately underweight. There was no severely underweight child (Table 4). 46 children should receive non formal preschool education but only 25 (54%) were availing the service (Table 5).

Table 4: Distribution of study population according to availability of growth charts and nutritional status.

	Availability of growth chart (n=89)			Accuracy of growth chart (n=81)			Degree of malnutrition (n=81)	
	Available	**Not available**	**Total**	**Accurate**	**Not accurate**	**Total**	**Normal**	**Moderately underweight**
Number	81	8	89	78	3	81	69	12
Percentage	91	9	100	96	4	100	85	15

Total 9 beneficiaries (pregnant and lactating mothers) were enrolled and can avail the facility of nutrition and health education (NHED) meeting. Out of 9 mothers only 6 (64%) were attending the meeting (Table 6). Total 98 beneficiaries were enrolled for supplementary nutrition and 89 (91%) were receiving the service. Among the 6 months – 3 years age group, 40 children out of 43 were receiving the supplementary nutrition. That means 7% were not receiving supplementary nutrition. 13% of the 3 years to 6 years age group were not receiving supplementary nutrition. 100% of the pregnant and lactating mothers were receiving supplementary nutrition (Table 7).

For supplementary nutrition, two types of facilities were provided to the beneficiaries- one to take home ration and other to provide hot cooked food. 54% of the

beneficiaries were availing take home ration and 46% for hot cooked food (Table 8).

Table 5: Distribution of beneficiaries according to receiving of non formal preschool education (n=46).

Receiving non formal education	Number	Percentage
Receiving	25	54
Not receiving	21	46
Total	46	100

Table 6: Distribution of enrolled mothers according to attendance in mother's meeting held every 1-2 months (n=9).

Mothers attending meeting	Number	Percentage
Attending	6	64
Not Attending	3	36
Total	9	100

Table 7: Distribution of beneficiaries according to receiving of supplementary nutrition (n=98).

Beneficiaries	Enrolled	Receiving	Percentage
6 months – 3 years	43	40	93
3 years – 6 years	46	40	87
Pregnant women	6	6	100
Lactating women	3	3	100
Total	98	89	91

Table 8: Distribution of beneficiaries according to type of supplementary nutrition they are receiving.

Take home ration	54
Hot cooked meal	46
Total	100

Menu was altered 3 days a week. Rice, dal and potato curry served on every Monday, Wednesday and Friday. Khichdi was served on the other days. The amount of food provided to a child and an adult is different (Table 9).

Table 9: Foods provided.

Beneficiaries	Rice	Dal	Egg
Child	50 gm	20 gm	1 piece
Adult	100 gm	40 gm	1 piece

Finally out of 34 adolescents, only 16 (47%) were getting IFA tablets/ deworming services (Table 10).

Table 10: Distribution of adolescents receiving IFA tablet/ deworming (n=34).

IFA/ deworming	Number	Percentage
Receiving	16	47
Not receiving	18	53
Total	34	100

DISCUSSION

In our study the AWC was running in a local club room. In a study in Darjeeling by Saha et al, it was observed that 33.33% AWCs were running in rented Govt building and in a study conducted in Gujarat, 66.7% of buildings were owned by state.[3,4] In a study in Amritsar, it was found that only 24% of the AWCs had their own building.[5] In a study by Debata et al, out of 21 anganwadi centers, 81% were found to be functioning in government allotted buildings, 4.8% were functioning in a rented premise while remaining 14.2% were functioning in other non allotted government buildings like school or panchayat building.[6] The AWC in this study was a pucca building. In the study conducted in Darjeeling, 86.66% AWCs were found to be running in pucca buildings.[3] The AWC in the current study had adequate floor space, but in a study in Gujarat only 53.3% AWCs were found to have adequate indoor space.[4] This AWC had separate toilet facility, but in their study Saha et al found that toilet facility was absent in 43.33% AWCs.[3] In the study by Debata et al, it was observed that toilet facility was nonexistent in 42.9% of the AWCs and the children had to visit nearby school buildings or on roads to satisfy their nature's call.[6]

In the current study, the AWC was well equipped and weight measurement was done by Salter's and Bathroom weighing scale. The weighing scales and other anthropometric measuring equipments were found to be in working condition. In a study done in Darjeeling district, all the AWCs were also found to be well equipped.[3] In a study in Gujarat, weight monitoring of children was done by using Salter's scale/ spring balance in 75% AWCs followed by weighing pan in 18.3% AWCs only.[4] In a study conducted in Amritsar, it was found that 42% AWC had functional Salter's weighing machine and weighing machine for adults and children in working condition was available in only 38.2% AWCs.[5] In a study by Malik A et al in Northeast district of Delhi, weighing machine was present in 70.7% of the AWCs.[7] In a study in the district of Jhansi, Uttar Pradesh; Singh et al found 100% growth monitoring and maintaining of registers as well.[8] In contrast to our study Thomas N et al observed in an urban area of Ludhiana, Punjab; growth monitoring of children was nonexistent.[9]

In this study, distribution of the beneficiaries according to the percentage of the total population is as follows: zero to three years of children 4.19%, three to six years of children 4.49%, adolescents 3.32%, women of reproductive age group 16.64%, pregnant women 0.58%

and lactating women 0.29%. The study done by Meenal M. Thakare showed there were 7.54% of zero to three years of children, 7.86% of three to six years of children and 25.87% of women of reproductive age group including pregnant women and lactating mothers among the beneficiaries.[10] This difference was probably due to difference in population composition as well as reporting of pregnant women and lactating mothers to other health services.

In the above study availability of growth chart was 91% and 96% of the available growth charts were accurately plotted. In the study in Gujarat, growth chart was present in 96.7% AWCs and 95% were accurately plotted.[4] In the study by Malik A et al, growth charts were present in 68.3% AWCs.[7]

In the present study, it was observed that 85% of children had normal nutritional status and 15% was moderately underweight. In the study by Chudasama RK et al overall 18.5% were moderately malnourished and 1.5% were severely malnourished.[4]

In the current AWC, preschool education material and NHED (Nutrition and health education) training materials were available. But 46% of children were not receiving non formal preschool education and 36% mothers were not attending NHED meeting. The study conducted in Darjeeling showed 29.57% mothers were not attending NHED meeting.[3] The study held in Gujarat showed PSE (Preschool Education) materials were available only in 35% AWCs and 14.6% of the AWCs reported 100% preschool education coverage among children. NHED training materials were available only in one-third AWCs.[4] In a study by Bhagat et al in an urban area of Wardha, it was found that non formal preschool education was imparted to 91.6% of children and health education was imparted to only 43.5% of women.[11] Sharma et al observed in their study that only 42.3% of children had access to non formal education in AWC but that on an irregular basis.[12] Study by Ahmad et al showed only 34.5% of children receiving non formal education[13]. But in the study by Singh et al, 100% children were availing non formal preschool education at regular basis except holidays.[8]

In this AWC, 54% of beneficiaries availed take home ration and 46% availed hot cooked meal. In the study in Darjeeling, 17.61% of children took the meal to their home.[3] The study by Singh showed supplementary nutrition was provided only in 80% of the centres and only by ready to eat food.[8] In the study by Meenal M. Thakare, supplementary nutrition was being provided in 60.71% of AWCs.[10]

Limitation of the study: The present study is a cross-sectional study. Because of the study design some beneficiaries can get missed during the visit to the AWC. A longitudinal study may have revealed better results. Further, only 1 AWC is selected randomly for the study. If more centres were selected, there may be a better scope for overall assessment of functioning of AWCs in the block and the results from different centres can be compared too. Finally, being solely observational, there is no scope for intervention to improve any shortcomings and overall function of the AWC.

CONCLUSION

The present study shows the AWC was running on a shared club room. Kerosene was used as a fuel where LPG is preferable to prevent indoor air pollution. The solid wastes were not segregated before storing in a covered bin. Beneficiaries enrolled in this centre were only 4.19% of 0-3 years of children, 4.49% of 3-6 years of children, 3.32% of adolescents, 16.64% of women of reproductive age group, 0.58% of pregnant women and 0.29% of lactating mothers of the total population covered by the AWC. This was probably due to under reporting or lack of awareness in the community or availing other health services. Only 88% of the enrolled children had available growth charts and 96% of the growth charts were accurately plotted. That means there was lack of efficiency in proper growth monitoring of all children and plotting of growth charts. 15% of the children attending this AWC were moderately undernourished. Only 54% of children of 3-6 years were availing non formal preschool education and only 64% of pregnant and lactating women were attending mothers' meeting. That means proper counselling was needed for 100% attendance in those services. 7% of 6 months to 3 years of children and 13% of 3-6 years of children were not receiving supplementary nutrition. So necessary actions to be taken to make sure all the beneficiaries get supplementary nutrition. Only 47% of the adolescents were getting IFA/ deworming services and it should be taken care of for 100% coverage of services. Creating awareness among beneficiaries regarding availability, accessibility and necessity of availing the ICDS services along with motivation and mobilization of the community is necessary for increased utilization of the ICDS services. Proper utilization of ICDS services also depends upon adequate functioning of the ICDS centre. So the above identified gaps need to be addressed for further betterment of service quality.

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