Original Article

Assessment of Cognitive, Attitudinal and Behavioural Competence of Anganwadi Workers Regarding Integrated Child Development Services (ICDS) Services in District Dehradun, Uttarakhand

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Abstract

Background: The dietary and health condition of ICDS recipients has been the focus of the majority of research. Given that AWW are the primary resource persons, there has been less emphasis placed on assessing their knowledge and understanding of the suggested ICDS programs.

Objective: Assessment of cognitive, attitudinal and behavioral competence of Anganwadi workers regarding ICDS services in district Dehradun, Uttarakhand

Methods: Using the convenience sample method, this cross-sectional study was carried out over the course of one month at AWC's situated within the Himalayan Institute of Medical Sciences (HIMS), Dehradun's field practice region.

Conclusion: Out of 24 AWWs, 79.2% had adequate knowledge, 83.4% had positive attitude and 75% had good practices regarding ICDS services.

Key words: Integrated Child Development Services (ICDS), Cognitive, Attitudinal, behavioral competence, Anganwadi Workers (AWW)

Introduction

India, marked by significant regional disparities, deep-rooted social hierarchy, and a rich multicultural tapestry, grapples with substantial health and nutrition challenges.[1] Malnutrition, particularly under-nutrition, has been identified as a 'silent emergency' by United Nations Children's fund

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(UNICEF), highlighting the critical issue as it reflects the state of maternal health services. [2] Globally, nearly half of the deaths among children under five years of age in 2022 were linked to undernutrition, underscoring the severe impact of poor nutrition on child mortality. In India, the National Family Health Survey (NFHS-5) reports a mortality rate of 41.9 per thousand live births for children under five, stressing the urgent need for effective nutritional and health interventions.[3]

The Integrated Child Development Services (ICDS) scheme, launched on October 2, 1975, stands as one of the world's largest programs aimed at the holistic development of children. [4] Over the past 25 years, the scheme has expanded significantly, now reaching a population of roughly 7 percent of India's one billion people. [5] In Uttarakhand, child development projects were launched in 1978-79 in the three development blocks of Chakrata, Kirtinagar, and Dharchula. Today, the state has expanded to 105 child development projects, including 97 rural and 8 urban projects, across 95 development blocks in all 13 districts. [6]

The Integrated Child Development Services (ICDS) focuses on vulnerable demographics including children under six years of age, pregnant and lactating mothers, and women between fifteen and forty-five years old. These groups are at high risk for malnutrition and associated health complications. ICDS's mission is to disrupt the cycle of malnutrition, illness, impaired learning capabilities, and mortality by offering pre-school education and primary healthcare. [7] These initiatives are now integrated into the Saksham Anganwadi and Poshan 2.0 programs, part of the Integrated Nutrition Support Programme during the 15th Finance Commission cycle from 2021-22 to 2025-26.[8] However, according to the National Family Health Survey-5 (NFHS-5), services from an Anganwadi reach just over half (50.3%) of children under six, highlighting the need for expanded coverage and effectiveness. This could involve improving infrastructure, increasing the number of centers, training Anganwadi workers, and ensuring better implementation of existing programs to address the needs of all eligible children.[9]

In Uttarakhand, where child and maternal health indicators are notably poor, studying the cognitive, attitudinal, and behavioral competence of AWWs is essential to enhance service quality, identify specific training needs, and ensure effective implementation of child health and nutrition programs. This assessment helps improve outcomes for children and optimize the overall impact of Anganwadi services in the region.

Aim: Assessment of cognitive, attitudinal and behavioural competence of anganwadi workers regarding ICDS services in district Dehradun, Uttarakhand

Objectives:

Primary objective:

1. To assess the cognitive, attitudinal and behavioural competence of anganwadi workers regarding ICDS services.

Secondary Objectives:

1. To delineate sociodemographic profile of AWWs
2. To assess the infrastructure and general environmental conditions of Anganwadi Centers (AWCs).

Material and Methods

Study Place: This study was conducted at Anganwadi centers located within the field practice area of Himalayan Institute of Medical Sciences (HIMS), Dehradun.

Study Design: Cross sectional study

Study Period: Onemonth, from May, 2023 to June, 2023.

Inclusion Criteria: The study focused on Anganwadi centers (AWCs) that were easily accessible for approach.

Exclusion Criteria: The study excluded Anganwadi centers that were closed after two consecutive visits and Anganwadi workers (AWWs) who did not provide consent to participate.

Sampling Method: convenience sampling method

Sampling Procedure: Two centers fall under the Department of Community Medicine at the Himalayan Institute of Medical Sciences: The Rural Health Training Center (RHTC) and the Urban Health Training Center (UHTC), covering the population of

46,000 and 54,000 respectively. RHTC comprises six villages with 26 Anganwadi centers, while UHTC covers 18 wards with 43 Anganwadi centers.

For the study, 19 Anganwadi centers were selected from UHTC and 5 from RHTC due to their proximity to our center. Repeated attempts were made for Anganwadi centers that were closed during the initial visit. If a center remained closed after two consecutive attempts, it was excluded from the study. In such cases, the next nearest Anganwadi center was selected for inclusion.

Data Collection Tool: The study involved administering a pre-designed, semi-structured, and validated questionnaire following written informed consent. For the knowledge section, participants received one point for each correct answer and zero points for incorrect ones. A score of more than 50% was considered indicative of adequate knowledge. The same scoring method was applied to assess the attitudes and practices of AWWs regarding the services provided by ICDS.

Ethical Clearance: Ethical approval was secured from the Institute Ethical Committee prior to the commencement of the study.

Data Analysis: The collected data was entered into an MS Excel spreadsheet and analyzed using SPSS version 20.

Results

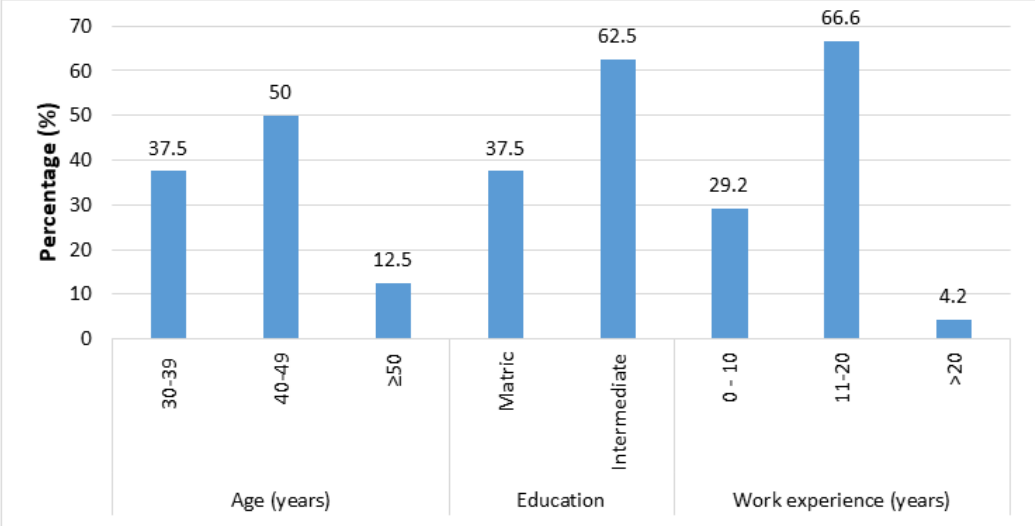

Figure 1: Socio-demographic profile of AWW's:

Figure 1 illustrates that the largest proportion (50%) of Anganwadi workers (AWWs) belong to the age group of 40-49 years. Additionally, 62.5% of AWWs had completed their education up to the 12th grade, while 66.6% reported having work experience as an AWW for a duration ranging from 11 to 20 years.

Table no. 1: Knowledge of AWWs regarding ICDS

S.N	Questions asked	*Correct Responses (N=24)	Percentage (%)
1.	What are the services being under the ICDS?	22	91.7
2.	How many beneficiaries come under the ICDS?	24	100
3.	Growth monitoring should start from at what age and its purpose?	24	100
4.	Flattened growth line on the growth chart means?	17	70.8
5.	What kind of services pregnant women receives under ICDS?	16	66.6

Continue.....

6.	What are the services for adolescent's girls?	7	29.2
7.	What are the materials available for PSE?	24	100
8.	What is the average weight of 1 year child?	15	62.2
9.	Exclusive breastfeeding should be continued till?	19	79.2
10.	What are the daily activities you performed at AWC?	13	54.2
11.	What are the medicine available in AWCs?	14	58.3
12.	What kind of diet should be given during diarrhea?	19	79.2
13.	ORS should be discarded if not used completely after?	16	66.7
14.	What is the gap between 2 successive doses of DPT vaccine?	19	79.2
15.	Measles vaccine given at what age?	22	91.7
16.	First dose of vitamin A given at?	23	95.8
17.	Minimum number of Tab. Of Iron & folic acid that a pregnant women should consume	21	87.5

*Multiple response

Table 1 demonstrates that, among AWWs, 91.7% correctly identified the services offered, 100% of beneficiaries enrolled in ICDS, the appropriate age to begin growth monitoring (100%), its goal, and the significance of the flattened growth line on the growth chart. The percentage of AWWs who were aware of the services available for pregnant women was roughly 66.6%; however, only 29.2% of them were aware of the programs offered for adolescent girls. The availability of PSE materials was known to nearly 100% of people. Regarding the everyday tasks carried out in the Anganwadi Centers, 54.2% of AWW are correctly informed, and 58.3% are aware of the availability of medications in AWCs. A little over 79.2% of AWWs knew what kind of food should be consumed during diarrhea and how long (66.7%) ORS should be kept in storage. Out of 24 AWWS, around 62.2% were correctly informed on the typical weight of an infant, and 79.2% had a great understanding of exclusive breastfeeding. Nearly all AWWs were aware of the proper measles vaccination age (100%), vitamin A dosage (95.8%), and interval between two DPT vaccination doses (79.2%). About 87.5% of AWWs were correctly informed about the recommended daily allowance of iron folic acid (IFA) for expectant mothers. The range of correct knowledge scores is 7 to 17, with an average of 14.25 ±3.74 SD.

Table 2: Attitude of AWWs regarding ICDS

Variables	Correct responses (N=24)	Percentage (%)
In PIH, can we advise only rocksalt?	17	70.84%
Is it absolutely necessary to give vitamin A supplements to under 5 children?	24	100%
Is it absolutely necessary to give ORS after each loose stool?	22	91.6%
Is adolescent marriage justifiable?	21	87.5%
Is it absolutely necessary to maintain the growth chart of a child?	24	100%

Table 2 reveals that, of the 24 AWWs, 17 (70.84%) had a positive attitude regarding the following: the need to maintain a child's growth chart (100%), the importance of giving ORS in cases of diarrhea (91.6%), the effect of rocksalt intake in pregnancy-induced hypertension (PIH), and the marriage age of adolescents (87.5%).

Table 3: Practices of AWWs regarding ICDS

Variables	Correct responses (N=24)	Percentage (%)
Do you maintain a record of immunization? (check)	23	95.8%
Do you provide prophylaxis against blindness and anemia? (check)	23	95.8%
Do you maintain the Anganwadi survey register? (check)	20	83.3%
Do you maintain a register of services for pregnant women and lactating mothers? (check)	15	62.5%
Do you maintain a register of supplementary nutrition and PSE for children? (check)	16	66.7%
Do you maintain a birth and death register? (check)	12	50%
Do you maintain a medicine distribution register? (check)	11	45.8%
Do you maintain mahila mandal register? (check)	15	62.5%
Do you maintain growth chart register? (check)	17	70.8%

Table 3 demonstrates that 23 AWWs (95.8%) kept immunization records, survey registers (83.3%), registrations for services for expectant mothers and breastfeeding women (62.5%), and prophylactic measures against anemia and blindness (95.6%). A growth record was kept by 70.8% of AWWs, a mahila mandal registration by 62.5%, a medicine distribution register by 45.8%, a birth and death register by 66.66%, and a supplemental nutrition and pre-school education (PSE) register by roughly 66.7% of the AWWs.

Table no. 4: Infrastructural facilities of AWCs

Variables	Yes (%)
Adequate ventilation	18 (75)
Toilet	24(100)
Ownership –rented	24(100)
Type of building –pucca	24(100)
Electricity supply	24 (100)
Available drinking water?	22 (91)
Open space area	19 (79.6)
Separate cooking room	0
Separate storage area	0
Different types of charts and posters	23 (95.8)
Almirah	1(4.2)
Weighing machine	18 (75)
Chairs	8 (33.3)
Table	8 (33.3)

According to Table No. 4, AWCs with sufficient ventilation comprised 75% of the total. About 91 per cent of the 24 AWCs had access to drinking water, while the remaining 24 had rented pucca buildings with electricity supplies. While open space is present in about 79.6% of AWCs, none of them feature separate kitchens or storage areas. The proportion of charts and posters in the AWCs was about 95.8%. Out of all the AWCs, only 4.2% had an almirah, 75% had a weighing machine, and 33.3% had tables and chairs.

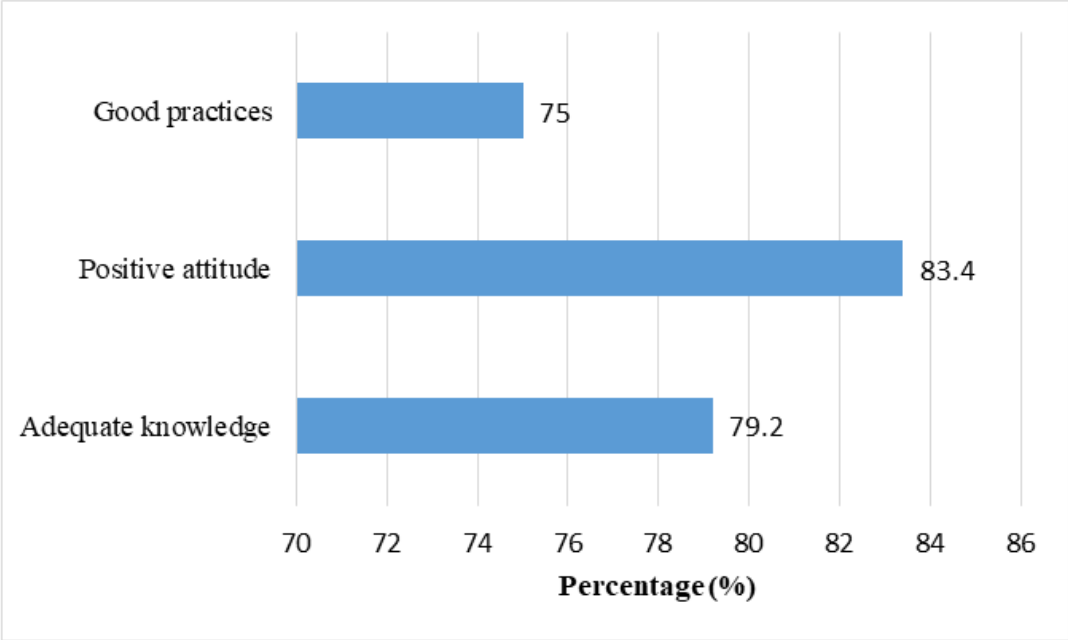

Figure 2: Knowledge, attitude and practices level of AWWs regarding ICDS services

Figure 2 shows that out of 24 AWWs, 79.2% had adequate knowledge, 83.4% had positive attitude and 75% had good practices regarding ICDS services.

Discussion

According to this survey, 50% of AWWs are between the ages of 40 and 49. These results are in line with research by Thakur et al. [10], Khobragade A W et al[11] , Bhattarai P et al [12]. Regarding schooling, the majority of AWWs (62.5%) had completed their 12th grade. These results are in line with research by Kumar et al. [13], who also found that a larger number of AWWs (92%) passed their 12th grade.

In terms of job experience, the majority of AWWs (66.6%) had between 11 and 20 years of experience, which was consistent with the findings of Khobragade A W et al [11] study. In terms of knowledge, 79.2 percent of AWWs were sufficiently informed on ICDS services. Every AWW was accurately aware of the beneficiaries under ICDS, demonstrating their understanding of the people they assist. This result is consistent with the research by Thakur et al.[10], which also discovered that AWW had satisfactory scheme knowledge (98.67%).

In our study, 100% of AWWs acknowledged the significance of beginning growth monitoring to track a child's progress, demonstrating AWWs' strong commitment to the practice. The discrepancy between our study's findings and those reported by Thakur et al.[10], where only 56.67% of AWWs had satisfactory knowledge about growth monitoring, suggests considerable variation in training effectiveness or knowledge retention among AWWs in different regions or at different times. This gap indicates potential challenges in standardizing training across all regions where ICDS is implemented.

The vast majority of AWWs (79.2%) were correctly informed on the need of exclusive breastfeeding for a child's growth and well-being, approximately similar to study conducted by Mahajan et al[14] (81%). Critical areas such as knowing when to start the measles vaccination (91.7%) and how many Iron Folic Acid (IFA) tablets a pregnant woman should take (87.5%) were demonstrated by AWWs, whose proficiency in these areas was comparable to that of Jena et al [15] study (73.3%). While Jena P et al. discovered a relatively wide deviation in the results (23.3%), the majority of AWWs (70.8%) properly comprehended the meaning of the flattened line on the growth chart, which is important for spotting future growth concerns. [17] This variation might be attributed to differences in training quality, regional education programs, or methodologies used in the studies.

In a study conducted by Thakur et al.[10], all AWWs had satisfactory knowledge about the services

available for adolescent girls under the Kishori Shakti Yojna (under BPL), but only a low percentage (29.2%) of AWWs possessed accurate knowledge about services provided to adolescent girls, indicating a need for further education and training in addressing the unique needs and challenges faced by adolescent girls.

It appears that more work has to be done to raise awareness among the remaining AWWs, as only almost two-thirds (66.6%) of them showed knowledge regarding services for pregnant women. A sizable percentage of AWWs may benefit from extra training or support in these areas, as seen by the correct knowledge reported at 54.2% and 58.3%, respectively, about the daily tasks carried out at Anganwadi Centers and the availability of medicines.

In this study, 83.4% of participants had a positive view about ICDS services, with regards to vitamin A supplements to children under five being 100% and rocksalt consumption in pregnancy-induced hypertension at 70.84%. upholding the growth chart at 100%, providing ORS after every stool at 91.6%, and 87.5% for teenage marriage. Similar research was done and nearly identical results were reported by Thakur et al.[10]

In terms of practices, 75% of AWWs had ICDS services that met good practices standards. According to the research, 95.8% of AWWs keep immunization records; 83.3%) register anganwadi surveys; 62.5%) register services for expectant mothers and lactating women; 66.7%) registers for supplemental nutrition and Pre-School Education (PSE); 50% register births and deaths; and 45.8% registers for the distribution of medications. The results are in line with the Joshi et al.[16] study. In our study, while the majority of AWWs demonstrate good practices in delivering ICDS services, there are still areas for enhancement, particularly in record-keeping and register maintenance.

In 95.8% of the AWCs, there were charts and posters, and 75% of the AWCs had enough ventilation. AWCs had electricity and toilets in 100% of cases, drinking water in 91%, and open spaces in 79.6% of cases. Of the AWCs, only 4.2% had an almirah, and 75% had a weighing machine. One third had tables and chairs. Not a single AWC has a separate kitchen or storage space. All of the AWCs were Pucca-type and rented. Our study's infrastructural and environmental findings are remarkably similar to those of studies conducted by Thakur et al.[10] ,Baseer et al[17] and Balinga et al[18]. In our study, while AWCs generally have basic infrastructure and facilities, there are areas for improvement to create more conducive environments for delivering ICDS services.

Conclusion

AWWs in India access training through ICDS, NIPCCD, state programs, and online modules. Strengthening these programs requires enhanced, practical curricula, continuous training, interactive methods, increased tech use, mentorship, robust feedback, and better funding to improve effectiveness and support for child health and development.

Conflict of interest: Nil.

Ethical Clearance: Ref No .HIMNS/MC/ CM2023/142 Dated:24 June 2023 from Swami Himalyan University.

Source of funding: Nil.

Recommendations:

1. Infrastructure and Supplies Strengthening
2. Incentives and Motivation
3. Continuous Training and Orientation
4. Community Participation and Public Awareness
5. Empowerment of Anganwadi Workers
6. Targeted Training and Support Programs

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