International Conference on Research in Education and Science
www.icres.net May 18-21, 2023 Cappadocia, Turkiye www.istes.org

Reforming Early Childhood Education Programs in Rural Areas of India: Equity in Preschool Education

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Abstract: A child's early years (0-8 y) are the critical development years, as this is when the foundation for learning is laid. A strong learning foundation yields better school performance and increases the likelihood of attaining higher education, resulting in major social and economic gains for society. The early childhood care and education of nearly 80 million Indian children, below the age of six, is covered by Integrated Child Development Services through 1.37 million Anganwadi centers (AWCs). Sixty percent of these children are from rural areas. Preschool education, immunization, health check-ups, referrals, dietary supplements, growth monitoring, and education on health and nutrition are provided at the AWCs. Forty-two percent of these rural children receive pre-school education at the AWCs, and the majority are from disadvantaged families. In this study for evaluating the status of early childhood education programs at rural AWCs, quantitative and qualitative data were collected from 71 AWCs across 25 villages in Haryana, to assess their physical setup, availability of learning resources, and administration and Anganwadi workers' knowledge, attitudes, and skills regarding early childhood education. The findings suggest that most of the AWCs do not have proper infrastructure, are not adequately safe, and compromise on health and hygiene. Further, learning resources are scarce and the Anganwadi workers are not trained well enough to impart knowledge and skills to children in a sustained manner. Many of them do not understand the importance of partnering with parents for children's holistic development. Although this study is limited to 71 AWCs in Mewat, the literature review indicates that these issues and challenges are common to rural villages, which is a serious concern for equity in preschool education. Thus, there is a need for several prompt reforms in early childhood education programs in rural areas of India to bring equity into preschool education.

Keywords: Early childhood education, Pre-school education, Anganwadi, Mewat

Citation: Balaji, B.L., & Pyari, D., (2023). Reforming Early Childhood Education Programs in Rural Areas of India: Equity in Preschool Education. In M. Koc, O. T. Ozturk & M. L. Ciddi (Eds.), *Proceedings of ICRES 2023-- International Conference on Research in Education and Science* (pp. 1600-1610), Cappadocia, Turkiye. ISTES Organization.

Introduction

Numerous scientific studies on neuroscience and early child development indicate that 85% of cumulative brain development occurs between 0-8 years. Thus, children's early years are critical for their future development and learning abilities. A research analysis on the impact of early childhood programs shows that investment in young children yields a 7–13% return through better health, education, and social and economic outcomes (Heckman, 2012). The importance of early childhood education for holistic development and school readiness is well established through research and studies. School readiness primarily focuses on developing age-appropriate basic competency skills in the physical (gross and fine motor skills), cognitive, social/emotional, and linguistic domains of child development, thereby leading to children's holistic development.

The United Nations Educational, Scientific and Cultural Organization (UNESCO, n.d.) stresses on the importance of Early Childhood Care and Education (ECCE), stating that '*early childhood care and education is more than a preparatory stage assisting the child's transition to formal schooling. It emphasizes developing the whole child attending to his or her social, emotional, cognitive, and physical needs - to establish a solid and broad foundation for lifelong learning and wellbeing.*' It reinforces the connection between quality Early Childhood Education (ECE) programs and school readiness through the Sustainable Development Goal 4, which aims to ensure that all children access quality ECE programs by 2030.

A crucial concern in Indian rural primary schools is the diverse range of competency levels and skills exhibited by children in the same classroom. This is a challenge for primary-level teachers, resulting in slow progress of children's abilities and levels of retention. A possible reason for this lack of school readiness is the non-exposure of children to foundational learning programs that can nurture the appropriate skills for development (Kaul et al., 2017). A conceptual framework on school readiness by the United Nations Children's Fund (UNICEF) states that equitable access to quality ECE could improve learning outcomes, especially for marginalized children (Britto, 2012).

In 1975, the Indian government started a major initiative named, Integrated Child Development Services (ICDS). It is world's largest early childhood care and development program providing integrated services for children under six years, and expectant and nursing mothers. The services include health check-ups, dietary supplements, immunization and informal pre-school education. These are delivered cohesively to children and women through the Anganwadi centers (AWCs), that are located in villages and slums under the ICDS program. Each center is managed by a government appointed Anganwadi Worker (AWW), along with a helper. Presently, the program covers approximately 84 million children aged below six through 1.34 million operational AWCs (MWCD, 2013). Recognizing the importance of ECE programs, the Indian government issued the Early Childhood Care and Education Policy in 2013, which focuses on establishing a holistic framework to impart state-of-the-art developmentally appropriate curriculum principles and guidelines, with flexible contextualization for catering to the diverse needs of young children (Ministry of Women & Child

Development, Government of India [MWCD], 2013).

The Indian government's initiatives have helped in the provision and accessibility of ECCE; however, quality remains a concern. The AWCs are major providers of ECE for children in rural India. However, research studies conducted across the country indicate that the quality of ECE in the AWCs needs improvement. The Indian Early Childhood Education Impact Study (Kaul et al., 2017), conducted by the Center for Early Childhood Education Development (Ambedkar University, Delhi) and Annual Status of Education Report (ASER Center, New Delhi), in collaboration with UNICEF, between 2011 and 2015, in three states (Assam, Rajasthan, and Telangana), recommends an urgent strengthening of ECE for school readiness among children (3-6 y) by making policy changes, ensuring quality, and involving the community.

A narrative review of research studies on the quality of ECCE in India, during the years 2000–2016, shows that inadequate teaching-learning facilities, inappropriate teacher learning processes, and improper assessment measures affect the quality of ECCE. The recommended enablers for ensuring quality ECCE include the provision of basic infrastructure and facilities, recruitment and training of exclusive ECCE teachers, rollout of developmentally appropriate curriculum, regular and systematic assessment of children, ensuring parent and community involvement, and making ECE mandatory in all formal schools (Reetu et al., 2017).

The ASER Centre conducted a national survey titled "ASER 2019 - Early Years" in 26 districts across 24 Indian states, on the pre-schooling/schooling status of children aged 4–8 years, and their performance on competencies in four domains - cognitive development, early language, early numeracy, and social and emotional development. The findings of this survey highlight that a large proportion of 5-year-old children are unable to do age and developmentally appropriate tasks with ease, especially those from less advantaged homes. The survey recommends strengthening the AWCs for implementation of appropriate school readiness activities (ASER Centre, 2020).

This study builds on the existing research, by evaluating the status of ECE in the rural areas of Mewat district in Haryana, India. The objectives of the study are assessing the quality of the ECE program in Mewat and aiding stakeholders in holistic evaluation of early childhood programs, aiding future studies, and advocating the improvement of AWCs for ensuring equity in Preschool Education.

Method

The area of this study is Mewat, a minority concentrated district, which ranks extremely low on essential development aspects like health, education, and women empowerment. Approximately 88.6% of people in the Mewat district live in its rural areas. The male literacy rate is 70%, and the female literacy rate is 37% (Census of India, 2011). In 2015, 74% of male children and 56% of female children were enrolled in school (S M Sehgal Foundation, 2015). Overall, the dropout rate is high, and the literacy rate is low among children in Mewat.

The permission was sought from the District Programme Officer, ICDS, Mewat to do a survey of AWCs in Nuh Block of Mewat. The data was collected from the AWCs and AWWs to understand the state of the AWCs' physical infrastructure and learning environment, along with the knowledge, attitude, and skills of AWWs as early childhood educators. A mixed approach was employed to incorporate both qualitative and quantitative data-collection tools. All participants were informed about the data collection and their consent for participation was obtained. The anonymity of the AWCs and AWWs is maintained in the study.

In total, 71 AWCs were selected from across 25 villages of Nuh Block, Mewat. A checklist was used as a quantitative method of data collection on the AWCs' physical setup, availability of learning resources, and center administration. In the process of data collection, participants' behavior, gestures, eye contact and body language were observed and noted. In addition to noting physical characteristics and settings, photographs of the AWCs and classrooms were taken for further interpretation and analysis. Anganwadi workers from these 71 AWCs were questioned about their knowledge, attitudes, and skills regarding ECE, through structured and semi-structured interviews. Semi-structured interviews were conducted telephonically with 36 AWWs. After a rapport had been built, each worker was asked a set of nine questions which were formulated in advance. It included both objective (closed-ended) and subjective (open-ended) questions. All AWWs were informed of the purpose of the interview, and permissions to record the calls were obtained.

The validity of the tools was established by involving early childhood educators, researchers and Anganwadi workers during their preparation. For test-retest reliability, the tools were tested multiple times to check the consistency of the answers. The data was collected in the field within a period of two months from August to September 2021. A structured method of cleaning and storing was done to ensure quality cleaning of data. Once the cleaned data set was ready, the analysis of the data with necessary tabulations was done.

Results

This paper includes findings on the assessment of the AWCs, and the competency level of AWWs as early childhood educators. A mixed approach was used, incorporating both qualitative and quantitative tools, to collect data from 71 AWCs and AWWs. In terms of infrastructure safety, the majority of AWCs, i.e., 41 out of 71 (57.75%), had boundary walls, and 39 out of 71 (54.93%) had a main gate. However, only 23 out of 71 centers (32.39%) had a safe building structure, and only 14 centers (19.72%) had leveled floors (see Table 1).

Table 1. Infrastructure safety in AWCs

Infrastructure Safety	**AWCs**
Boundary walls	41
Main gate	39
Safe building structure	23
Leveled floor	14

On investigating the parameters for a healthy physical learning environment, as shown in Table 2, it was found that approximately half of the AWCs, i.e., 35 out of 71 (49.30%), had space for children to sit comfortably, but no center had basic amenities like durries and mats, or desks and chairs, for students to use. Twenty-six of the centers had well-ventilated rooms, and lights/fans were available only in three centers. An investigation of sufficient outdoor play areas revealed that only 27 (38.03%) fulfilled this criterion. Further, upon inquiry on sufficient outdoor play equipment, it was noted that only one center had it.

Table 2. Physical Learning Environment in AWCs

Physical Learning Environment	**AWCs**
Space for children to sit comfortably	35
Doors and windows for ventilation	26
Light and fan	3
Durries and mats	0
Desk and chair	0

The health and hygiene parameters, as seen in Table 3, revealed a clear lack of primary facilities. Only three out of 71 centers had arrangements for a safe and clean kitchen, clean drinking water, and a functional toilet, implying their absence in 95.77% of centers. Only eight of the centers (88.73%) had safe and clean surroundings.

Table 3. Health and Hygiene in AWCs

Health & Hygiene	**AWCs**
Safe and clean surroundings	8
Functional toilet	3
Clean drinking water	3
Safe and clean kitchen	3

It was observed that most centers had roof leakages, unleveled floors, and broken walls. Sanitation was poor; for example, one center had a dump yard next to the boundary wall and a small drain in front of the gate. In another, rainwater seeped into the classrooms, due to the lack of a proper drainage system. Although boundary walls and open verandahs were part of most AWCs, basic facilities were often missing. These include a proper supply of electricity and water, fans, lights, desks, and chairs. Learning resources aid the teaching-learning process and are preliminary to any child's early education. These include teaching materials (in good condition), sufficient stationery and age- and reading-level appropriate books, flashcards, blocks/puzzles, worksheets, indoor play equipment and musical instruments. Games and Building as Learning Aid (developing classrooms, floors, walls, doors, pillars, corridors, the outdoor spaces as learning resources) paintings were not available in any center. Most AWCs lacked the basic resources and equipment required to teach effectively and engage and help students in active learning.

Anganwadi workers are responsible for garnering community support and participation for running the program. They are responsible for children's nutritional needs, providing PSE, maintaining children's health records, keeping in touch with supervisors, counseling parents, and performing home visits. In terms of center administration, all 71 centers maintained an attendance register. However, no center had a timetable for PSE, and most had neither a PSE register nor parent meeting records.

The data on educational qualifications, as seen in Figure 1, showed that many AWWs, i.e., 31 out of 71 workers (43.66%), had only passed the 8th grade, while having a matric degree is a prerequisite for being an AWW. Twenty-two had passed the 10th grade (30.99%) and 13 (18.31%) had passed the 12th grade. Five of the workers (7.04%) had only passed the 5th grade. All 71 workers had over six years of *work experience* in AWCs. Their knowledge and attitudes were assessed through structured interviews, as shown in Table 4.

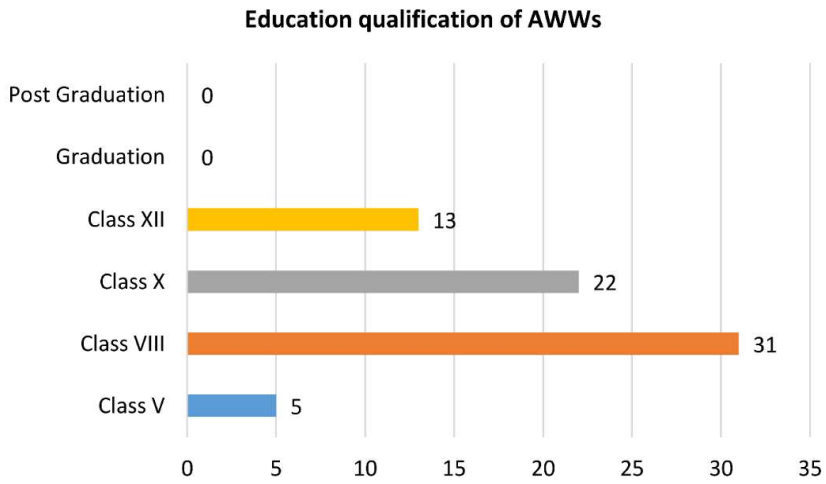

Figure 1. Educational qualification of AWWs

When asked about whether the AWWs were aware of the center's role in developing readiness for school among the children, it was found that approximately half—36 out of 71—were unaware, whereas the other half were partially aware. Further, when questioned about the curriculum content, none were familiar with the five domains of development (physical, language, cognitive, social, and emotional) and their importance in children's holistic development. In total, 98% of workers were unaware of the learners' various needs and did not incorporate a variety of activities and experiences to promote holistic development.

Table 4. Knowledge and Attitude of AWWs

Knowledge & Attitude	**Don't know**	**Partially**	**Completely**
Readiness for school	35	35	0
Curriculum content	70	0	0
Five domains of development	70	0	0

Activities and experiences	69	1	0
Strengths as a pre-school teacher	68	2	0
Areas for development	70	0	0
Update knowledge & skills	15	53	2
Involve the parents	47	23	0
Maintain records of children	68	2	0

Of the 71 workers, 69 (97.18%) were neither aware of their strengths as pre-school teachers, nor of the areas they needed to work on to develop as effective pre-school teachers. When asked about whether they were interested and engaged in activities/information to increase their knowledge and skills, 16 of them (22.54%) said they were not, 53 (74.65%) said they partially were, while the remaining two (2.82%) demonstrated enthusiasm, saying that they work on it conscientiously. It was found that the AWWs did not receive training sessions frequently and did not fulfill many duties attached to their roles. Most workers—48 out of 71 (67.71%)—mentioned that they did not involve the parents in their child's growth and progress. Only 23 (32.39%) did so partially. When asked about maintaining records for the children's benefit, it was found that barring 2 (2.82%), no worker maintained any record.

The AWWs must use a variety of instructional techniques and experiences to motivate and engage the learners. Their pedagogical skills were assessed by questions on the teaching-learning process implemented on children at the centers. As shown in Figure 2, 63% of AWWs practiced the repetition and memorization method while teaching children the pre-literacy concepts, for example, repeating the numbers or reciting a set of rhymes regularly. Some AWWs (37%) practiced activity-based education, by engaging children in hands-on activities like counting objects to teach numbers, or encouraging children to speak, for development of their language skills.

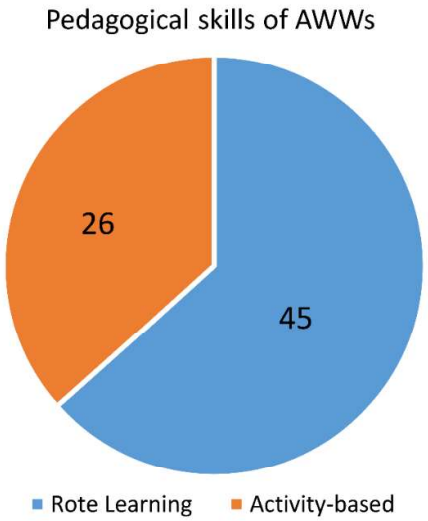

Figure 2. Pedagogical skills of AWWs. AWWs: Anganwadi workers

The semi-structured interviews were conducted telephonically, with 36 AWWs. Certain conclusions can be drawn from the collected data and information at hand. Most AWWs believe that children start responding to their environment at the fairly young age of a few months, and proper learning starts at the age of three. In their opinion, children must learn basics like counting, color names, writing and reading letters, and poems, through educational games and activities. However, the AWWs reported a lack of basic infrastructure in the centers. These include tables, chairs, books, stationery, electricity, and water supply. The dearth of these resources has a direct impact on teaching and learning processes. Furthermore, the village members and children's parents barely had the opportunity to cooperate with the workers. AWWs need parental support for children's regular attendance, and their engagement and encouragement for learning. They also require material and financial assistance to make children's Anganwadi experiences successful.

Discussion

This study outlines the conditions of ECE programs across 71 AWCs in Mewat. Most of them do not have proper infrastructure, are not adequately safe, and compromise on health and hygiene. Further, learning resources are scarce, and as a result, learning outcomes may be compromised. The AWWs are not trained well enough to impart knowledge and skills to children in a sustained manner. Many of them do not understand the importance of partnering with parents for children's holistic development. Parents are also unaware of the importance of brain development in children's early years, resulting in early education receiving inadequate attention. Although this study is limited to 71 AWCs in Mewat, the literature review indicates that these issues and challenges are common to rural villages, which is a serious concern for equity in preschool education.

Rural areas often lack proper infrastructure and resources for early childhood education. Many villages do not have well-equipped Anganwadi Centers or appropriate learning spaces. The lack of basic amenities like electricity, clean water, and sanitation facilities hampers the quality of education. There is a shortage of qualified and trained Anganwadi Workers in rural areas. The availability of skilled early childhood educators is limited, leading to underqualified or untrained individuals being hired. This impacts the quality of instruction and the ability to provide age-appropriate teaching methods. Poverty, lack of awareness, and low socioeconomic status influence the quality of early childhood education in rural areas. Parents may have limited education themselves, and their involvement in their child's early education may be minimal. Lack of awareness about the importance of parental engagement and limited support at home can hinder a child's learning and development. The diverse linguistic and cultural background in the rural areas make it challenging for children to understand and communicate effectively in the classroom. Inadequate representation of local languages and cultures in the curriculum further limits the relevance and effectiveness of education. The monitoring and evaluation mechanisms for early childhood education in rural areas are often weak. The lack of proper assessment tools and processes makes it difficult to gauge the quality of education and identify areas for improvement.

Today, there is an increased awareness of children's development and learning during their formative years.

ECE has become a global focus in the past few years, as one finds an increasing number of countries amending their policies to make education mandatory and free. With the National Education Policy 2020 (NEP), India has also given due credit to ECE by including children aged 3–6 years in the ambit of the Right to Education Act for free and compulsory education. The first chapter in the policy is on "Early Childhood Care and Education: The Foundation of Learning," with the objective that "Every child in the range of 3-6 years has access to free, safe, high quality, developmentally appropriate care and education by 2025" (Ministry of Human Resource Development, Government of India, 2020). According to the NEP 2020, early childhood education (ECE) plays a crucial role in a child's development and lays the foundation for future learning. The policy emphasizes the importance of providing quality early childhood care and education to children from the ages of 3 to 6 years.

The NEP emphasizes a holistic approach to early childhood education that focuses on the physical, cognitive, socio-emotional, and creative development of children. It encourages a play-based and activity-based approach to learning, considering the natural curiosity and creativity of young children. The policy emphasizes the need for a flexible, inclusive, and multidisciplinary curriculum for early childhood education. The curriculum should be age-appropriate, play-based, and focus on developing foundational skills such as language, numeracy, critical thinking, problem-solving, and social-emotional skills. The NEP also emphasizes the importance of well-trained and qualified early childhood educators. It promotes capacity building programs to enhance their understanding of child psychology, teaching methodologies, and assessment strategies specific to early childhood. On parental and community engagement, the policy recognizes the crucial role of parents and the community in a child's early learning and development. It encourages parental and community participation in the early childhood education process, including regular communication, awareness programs, and capacity-building initiatives. The NEP highlights the need for a robust monitoring and evaluation mechanism to ensure the quality and effectiveness of early childhood education programs. Regular assessments, feedback mechanisms, and data-driven monitoring are encouraged to improve the overall quality of ECE.

It is important to note that the NEP 2020 provides a broad framework for early childhood education, and the implementation of specific policies and programs may vary across states and regions in India. The education is a concurrent subject under Article 42 of the Indian Constitution, state governments must pass their own laws and decide on the specifics of implementing this policy in their states. Continuous efforts and investments are required to ensure that all Anganwadi centers offer high-quality early childhood education experiences to children.

Conclusion

The early childhood education in rural areas of India faces several challenges that affect its quality. Some of the key challenges include infrastructure and learning resources, skilled early childhood educators, socioeconomic factors, language and cultural barriers, parental engagement and support, and monitoring and evaluation. Addressing these challenges requires a multi-faceted approach, including increased investment in early

childhood education, improved infrastructure, enhanced training and support for Anganwadi Workers, community engagement, and effective monitoring and evaluation systems. By addressing these challenges, India can work towards providing quality early childhood education in Anganwadi centers, ensuring a strong foundation for children's lifelong learning and development.

Recommendations

A systematic plan and implementation strategy for setting up basic infrastructure and providing learning resources in all AWCs must be developed, with a specific timeline. Standardizing the compulsory, non-negotiable physical infrastructure for a conducive learning environment, such as safe building structures, toilets, drinking water facilities, leveled floors etc., will ensure uniformity and accountability across Anganwadi Centers in India. Since, the quality of ECE programs is largely dependent on the capacity of AWWs, the Anganwadi workers must be trained on child development, age and developmentally appropriate curriculum and its transmission, classroom management, and soft skills. The current need is to create awareness among parents about children's development and learning, through sustained campaigns for encouraging parents' participation in ECE programs. A focused approach by state governments, in partnership with parents, communities, NGOs and Corporate Social Responsibility, for the implementation of quality ECE programs, can aid children from rural areas in maximizing their potential in the early years and help bring equity in pre-school education.

Acknowledgements

We are grateful to Director, SRF Foundation for allowing us to use the primary data for analysis in this research.

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