

An Analytical Study of the Effectiveness of the Child Development Scheme in Anganwadi Centers of Rudraprayag District

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Abstract

From the perspective of human development, childhood is regarded as a highly sensitive and multidimensional phase that plays a pivotal role in shaping the trajectory of human life. During childhood, children undergo rapid growth across their mental, social, psychological, and physical domains. Currently, the mental, physical, and social well-being—as well as the overall health—of children remains a grave challenge for the entire world. An increase in nutritional and health-related problems among children is being observed during the COVID-19 pandemic. According to the World Health Organization, more than 264 million children worldwide are grappling with hunger, malnutrition, depression, obesity, underweight conditions, wasting, stunting, and deficiencies in essential vitamins and minerals. Consequently, this situation has led to adverse socio-economic and educational impacts, as well as a noticeable lack of awareness regarding hygiene and sanitation. In the years 2021–2022, approximately 390 million adults aged 18 and above worldwide were found to be underweight. The present study constitutes an analytical examination of the effectiveness of the Child Development Scheme within the Anganwadi centers of the Rudraprayag district, located in the state of Uttarakhand. The primary objective of this research is to assess the effectiveness of various child development interventions—such as supplementary nutrition, counseling, health and nutrition services, immunization, health check-ups, and non-formal pre-school education—across all development blocks of the Rudraprayag district.

Keywords: Anganwadi, ICDS, ECCE, child malnutrition, balvatika scheme.

INTRODUCTION

In the realms of Indian cultural philosophy and educational psychology, human development has been broadly categorized into four primary stages. Among these stages, childhood is regarded as a particularly sensitive and pivotal phase from the perspective of human development. In the Vedas—where childhood is referred to as **Shaishavavastha** (infancy) or **Kumaravastha** (adolescence)—it is posited that this period witnesses a rapid surge in children's spiritual/mental, social, and physical growth. It is evident that childhood constitutes the foundational phase of life, during which children undergo not only holistic development but also robust growth in their personality, as well as their social, cultural, affective, and emotional faculties. Families, schools, society and governments institute play a crucial role in the personal development of children.

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The major hotspots of hunger in India are primarily concentrated in the "BIMARU" states (Bihar, Madhya Pradesh, Assam, Rajasthan, and

Uttar Pradesh), where levels hunger is classified as "alarming" or "serious." Bihar, Uttar Pradesh, Jharkhand, and Madhya Pradesh consistently record the highest levels of malnutrition, severe acute malnutrition, and food insecurity. Major Centers of Hunger and Key Statistics:

- *Bihar and Uttar Pradesh:* These two states are severely affected regions, home to approximately one-third of India's total hungry population.
- *Madhya Pradesh and Jharkhand:* These states are major hotspots due to high rates of malnutrition and poverty.
- *Maharashtra:* This state has a high number of districts requiring immediate policy attention due to severe acute malnutrition. Based on an analytical study, it was found that the majority of children in the 0–5 age group across all districts of Uttarakhand suffer from a severe state of hidden malnutrition, with Almora district being the most affected. The study, conducted by Kirti Kumari, a food and nutrition scientist at Krishi Vigyan Kendra in Tehri, examined data from 15,514 anganwadi centres until Oct this year. The findings indicated a worrying slide in the state's nutritional outcomes since National Family Health Survey (NFHS-5)-2019-21. Starvation, malnutrition, lack of education, and poor sanitation lead to alarming consequences among children [1].
- *Regional Spread:* Hunger is most prevalent in Central and Northern India.
- *Child/Hidden Hunger:* 57% of women and 67% of children aged 6 to 59 months suffer from anemia, with Bihar, Gujarat, and Jharkhand emerging as major hotspots.
- *Urban vs. Rural:* More than 63% of the rural population cannot afford a healthy diet, indicating severe "hidden hunger."
- *Top-Performing States:* Kerala, Goa, Pondicherry, and Sikkim are among the states with the lowest levels of hunger.

The COVID-19 Crisis and Worsening Malnutrition

The data presented in NFHS-5 was primarily collected prior to the COVID-19 pandemic. Therefore, the nutritional trends observed across most districts in NFHS-5 reflect the situation as it stood before the announcement of the COVID-19 lockdown on March 11, 2020. It is plausible that the COVID-19 pandemic—along with the measures implemented to contain it—has further exacerbated the pre-existing nutritional crisis. India's unemployment rate in 2019 was at a 45-year high, a situation likely worsened during the COVID-19 lockdown. Migrant laborers working in the unorganized sector, street vendors, daily-wage earners, and farmers—who were already living in precarious conditions—were severely impacted by the COVID-19 lockdown. This deepening economic crisis among the poor could lead to reduced expenditure on food and increased household food insecurity, thereby further aggravating India's already deteriorating nutritional crisis. This situation was further compounded by disruptions in food and nutrition services across the country. The systemic deficiencies in addressing malnutrition—which existed even prior to the COVID-19 pandemic—were significantly amplified during this period. India's school-based Mid-Day Meal Program serves as a vital safety net against food insecurity for poor families. The ongoing disruptions to the Integrated Child Development Services (ICDS) and the school-based Mid-Day Meal Program have further heightened household food insecurity. These factors threaten to further worsen the nutritional crisis facing children in India. Amidst all the indicators pointing to worsening malnutrition among children, a report emerged following the COVID-19 lockdown (imposed on March 25, 2020) noting a drastic decline in the number of children being referred to Nutrition Rehabilitation Centers (NRCs); this decline, too, was likely not a result of improved nutritional status, but rather a consequence of the hardships imposed by the lockdown [2].

Mira Satpathy has highlighted a grave concern amidst the COVID-19 pandemic; according to her, disruptions in essential services will precipitate a "shadow crisis" for India's most vulnerable populations. Similarly, Dr. Tedros's warning underscored several critical issues that emerged during this period:

- *Disrupted Supply Chains:* The lockdown severely impacted the Integrated Child Development Services (ICDS) and the Mid-Day Meal Scheme—programs upon which millions of children and pregnant women rely for basic nutrition.
- *Stalled Healthcare Services:* Driven by the fear of infection, routine immunizations, antenatal check-ups, and institutional delivery services were frequently suspended or avoided, thereby escalating the risks of maternal and infant mortality [3].
- *Economic Strain:* Due to the loss of livelihoods, many families resorted to consuming cheaper, less nutritious food, which further exacerbated issues such as stunting and wasting in children, as well as anemia among women [4].

Similar concerns were expressed in a recent UNICEF report, which stated that the COVID-19 pandemic could further exacerbate the problem of malnutrition in India, raising fears of massive disruptions to food availability and the continuity of livelihoods. Furthermore, a recent study published in 68% of deaths among children under the age of five in India are attributable to maternal and child nutrition-related issues, while low birth weight and short gestational duration account for 83% of neonatal deaths [4].

On September 29, 2018, Sukarya convened a gathering in New Delhi, inviting academics, policymakers, nutritionists, healthcare professionals, scientists, researchers, activists, and subject matter experts from across India to discuss strategies for liberating future generations from the scourge of malnutrition. This call was issued in light of the Global Nutrition Report 2017, which emphasized that integrating action on global nutrition is absolutely essential if India is to achieve the Sustainable Development Goals of Agenda 2030. According to the data presented in the report, India was facing a severe threat of malnutrition, with more than half of all women of reproductive age suffering from anemia. Approximately 38% of children under the age of five were affected by stunting, and about 21% were classified as undernourished or severely undernourished [5].

The Integrated Child Development Services (ICDS), sponsored by the Government of India, is India's flagship social welfare scheme, aimed at addressing malnutrition and health-related issues among children under the age of six, as well as pregnant and lactating mothers. The Department of Women and Child Development is working towards realizing the Millennium Development Goals—specifically MDG-1 (Eradication of Extreme Poverty and Hunger), MDG-2 (Reduction in Infant and Child Mortality), and MDG-3 (Improvement in Maternal Health and Reduction in Maternal Mortality). Under the ICDS, Anganwadi Centers (AWCs) are envisioned as local contact points for addressing the nutritional and health-related concerns of children, adolescent girls, and pregnant or lactating women. The Anganwadi Services objectives call for a package of six services, including (i) supplemental nutrition; (ii) Non-formal education for young children; (iii) health and nutrition education; (iv) vaccinations; (v) medical examination; (vi) All children under the age of six, pregnant women, and lactating mothers are eligible for referral services. Under the Ministry of Health & Family Welfare, Public Health Infrastructure provides three of the six services: vaccination, health checkup, and referral services. Anganwadi Services covers all children between the ages of 6 months and 6 years, pregnant women, and lactating mothers. Since Anganwadi Services is a self-selection program, there are no set goals for who will receive Supplemental Nutrition or Preschool Non-Formal Education [6].

Origin of the Problem—Child malnutrition and illiteracy constitute a global crisis in the contemporary era. This issue must be mandatorily incorporated into research studies to facilitate a logical and analytical examination of child development schemes implemented at Anganwadi centers; this is imperative because numerous countries across the globe—including India—face a situation where the prevalence of malnutrition and illiteracy is alarmingly severe. With the aim of drawing attention to this critical issue within the Rudraprayag district of Uttarakhand, the present research

study focuses on the analytical examination of the effectiveness of child development schemes at Anganwadi centers. Geographically, the Rudraprayag district is a backward and predominantly rural region. Due to natural adversities, daily life for the local population is fraught with difficulties, and the area suffers from a severe dearth of transportation, healthcare services, food supplies, and other basic amenities [7].

STATEMENT OF THE PROBLEMS

The present research constitutes an analytical study examining the effectiveness of the Child Development Scheme within the Anganwadi centers located in the Rudraprayag district of Uttarakhand state.

The primary objective of this study is to assess the effectiveness of Anganwadi workers—covering both Mini and Main Anganwadi centers across all development blocks of the Rudraprayag district—with specific reference to child nutrition and education. This assessment encompasses various services, including supplementary nutrition, counseling, nutrition and health care, immunization, pre-school education, health check-ups, and referral services [8].

The Significance of an Analytical Study of Schemes Regarding the Effectiveness of the Child Development Plan in Anganwadi Centers

This program is also known as the 'Anganwadi Scheme,' as, at the local level, it is considered the very cornerstone of the Anganwadi-ICDS framework. ICDS services are delivered through an extensive network of centers, which are commonly referred to as Anganwadi Centers. As the name implies, an Anganwadi Center is essentially a facility featuring a spacious courtyard (*angan*); its operations are primarily managed by Anganwadi Workers. Provision also exists for the appointment of an Anganwadi Helper to serve as an assistant at the center. In the realm of education, the vision of a happy and prosperous society can only be realized through the training and nurturing—to a state of health, happiness, and success—of its individual members. Under the Child Development Plan implemented at Anganwadi Centers, the responsibility for ensuring the healthy, happy, and wholesome upbringing of children rests jointly with parents, workers at Primary Community Health Centers, and Anganwadi Workers. This study undertakes an analytical examination of the critical factors that are fundamentally instrumental in providing education and nutrition to children—specifically at the pre-primary or *Balvatika* level—across their physical, mental, psychological, and cultural dimensions. Furthermore, the study will conduct an analytical assessment of the general behavior, outlook, attitudes, and creative approaches of the Anganwadi Workers responsible for implementing the Child Development Plan; the impact of these attributes on the children enrolled in the Anganwadi Centers will then be evaluated. The study will also formulate and generalize necessary recommendations aimed at enhancing the professional competence (EPC), skill sets, and sensitivity toward health-related protocols among Anganwadi Workers. Additionally, a micro-analysis will be conducted on the key factors that play a pivotal role in giving concrete shape to the Child Development Plan within Anganwadi Centers. To what extent do the government, society, and the administrative machinery provide these workers with satisfactory facilities, resources, and appropriate remuneration? The aim is to enable all female workers to discharge their responsibilities with full momentum, free from any form of mental harassment. Attention will also be directed toward fostering a sensitive and appropriate perspective regarding the stereotypical notions and prejudiced practices prevalent in society concerning Anganwadi centers, thereby facilitating the implementation of a more effective operational framework. Consideration will be given to conducting door-to-door outreach to raise awareness among families regarding the enrollment of children in *Balwadis* (preschools), as well as to fostering a positive attitude toward proper child nutrition and education, with the ultimate goal of enhancing the socio-behavioral and psychological understanding of the children. Efforts will be made to cultivate interest and awareness among the workers regarding the principles of a balanced diet, and to develop their knowledge of food grains—including the ability to create dietary charts—by incorporating locally available resources into nutritious recipes. Furthermore, appropriate awareness regarding breastfeeding practices will be promoted. Strategies will be formulated to foster child development and nutrition by establishing effective coordination between Anganwadi centers and local women's groups,

such as *Mahila Mangal Dals* and *Mahila Mandals*. Awareness will be raised among women regarding social welfare programs, specifically focusing on knowledge and information related to the National Rural Health Mission (NRHM). Finally, by cultivating a constructive outlook toward child development schemes and educational campaigns—and by fostering a scientific mindset regarding family planning and infectious diseases—significant strides can be made in the realms of child nutrition and joyful learning [9].

The objectives of the research are as follows:

1. To conduct an analytical study of the effectiveness of the Child Development Scheme in the mini and main Anganwadi centers across the development blocks of Rudraprayag district, based on the available basic resources.
2. To study the effectiveness of the Child Development Scheme in the Anganwadi centers located in both the accessible and remote areas of Rudraprayag district.
3. To conduct an analytical study of the effectiveness of the Child Development Scheme in the Anganwadi centers of Rudraprayag district, based on the educational qualifications of the Anganwadi Workers and Assistants employed therein.
4. To study the effectiveness of the Child Development Scheme in the Anganwadi centers of Rudraprayag district, all AWCs, Conduct In Primary School,

Research Hypotheses

In the present research, a null hypothesis has been formulated.

1. There is no significant difference in the effectiveness of the child development scheme across the all head and assistant anganwadi workers jakholi, ukhimath and augustmuni at the anganwadi centers within the development blocks of rudraprayag district.
2. There is no difference in the effectiveness of the Child Development Scheme across the all head anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district.
3. There is no difference in the effectiveness of the Child Development Scheme across the all asstt. anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district.
4. There is no difference in the effectiveness of the Child Development Scheme across the all Accesible AWCs, Block jakholi,ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district.
5. There is no difference in the effectiveness of the Child Development Scheme across the all higher education holders Aganwadi Workers, Block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district.
6. There is no difference in the effectiveness of the Child Development Scheme across the all AWCs, Conduct in Primary School, Block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district.

Delimitations of the Study

The present research has been delimited in the following manner— 1- The proposed research encompass all the development blocks of Rudraprayag District in the state of Uttarakhand [10].

LITERATURE REVIEW

Arya Manisha, Sachan V.K., and others, in collaboration with the Krishi Vigyan Kendra (ICAR-VPKAS) in Chinyalisaur, District Uttarkashi (Uttarakhand), conducted a study in 2018 to assess the impact of training on the nutritional knowledge of Anganwadi workers. The primary objective of this study was to examine the influence of on-campus, off-campus, and field-based nutritional education and training interventions on the socio-economic and demographic profiles of the workers [1].

Kaur et al. [6] (2016) conducted a cross-sectional exploratory study to examine the workload and perceived constraints faced by Anganwadi workers in North Indian cities (including Uttarakhand).

They highlighted that Anganwadi workers bear an excessive workload that consumes a significant amount of their time—three times the recommended duration.

A study conducted in the Darjeeling district of West Bengal employed a group-based approach to examine child care and nutritional development within Anganwadi centers operating under the Integrated Child Development Services (ICDS) scheme. due to their own financial constraints. Therefore, compensatory education appears essential for these children if we wish for them to receive a sound education later in life (Muralidharan, [7] 2019, Christopher R. Sudfeld, Lilia, Aisa, and their colleagues conducted a study in rural Tanzania (North Africa) to assess the impact of child health and nutrition materials—along with routine care intervention packages—delivered by community health workers on child development.

Dhinwal Manisha, Sharma Anusha, and Jain Bhavana conducted a study in 2020 on the evaluation of Anganwadi centers in the Doiwala and Raipur blocks of Dehradun district in Uttarakhand. The main objective of the study on the evaluation of Anganwadi centers in the Doiwala and Raipur blocks of Dehradun district in Uttarakhand was to assess the current status of the facilities in terms of infrastructure [8].

RESEARCH GAP

Qadri Fauzia Miss and Dr. Manhas Sarika — A Study on the Nature of Pre-school Education Provided at Anganwadi Centers. In India, a large number of children lack the optimal economic conditions for learning due to poverty. Consequently, most parents are unable to motivate their children toward higher education due to their own financial constraints. Therefore, compensatory education appears essential for these children if we wish for them to receive a sound education later in life (Muralidharan, [7] 1984). The objective of the Integrated Child Development Services (ICDS) is to initiate the holistic development of the child—an endeavor that begins even before birth. This program has emerged as the world's most unique early childhood development initiative, having been operating satisfactorily for four decades since its inception. The primary aim of ICDS is to foster desirable attitudes, values, and behavioral patterns among children. It provides care for children through informal methods, assists them in cultivating proper habits, and aids in their mental development. It also paves a smooth pathway for the child's transition into formal schooling (Upadhyay,[11] 1999). The program offers a comprehensive package of services to children, with the pre-school education scheme constituting one of its key service components (NIPCCD, [12] 2006). Under this scheme, pre-school educational activities are organized for children in the 3 to 6 age group. The intention is not to impart formal education or to teach the '3 Rs' (reading, writing, and arithmetic); rather, it aims to cultivate desirable social attitudes and values in the child, as well as to foster environmental awareness. It also facilitates a smooth transition for the child into the formal school system (Upadhyay, [11]1999). The program delivers a package of services to children, and the pre-school education scheme serves as a vital component of these services (NIPCCD, [12] 2006). Under this scheme, preschool education activities are to be organized for children aged 3 to 6 years. The intention is not to impart formal education or to teach the '3Rs' (reading, writing, and arithmetic), but rather to foster desirable social attitudes and values in the child, and to provide environmental stimulation. The program features flexibility in its content and methodologies, and the child is to be encouraged and motivated to develop at their own pace (Upadhyay, [11] 1999). Through the ECDS, 12.5 million children from disadvantaged backgrounds within the 3 to 6 age group are participating in center-based early education activities. The early learning component of the ICDS serves as a crucial input for establishing a solid foundation; however, due to a scarcity of materials and other facilities, certain aspects of development are often neglected. The reliance of Anganwadi workers on non-indigenous play equipment should be minimized [11].

Research Methodology

Method

The present research study utilized the survey method among the descriptive research methods. The present research work based on primary data sources. To collect primary data a mix-ended opinionnaire (questionnaire) with five point rating scale level was used awcs opinion. To collect primary data based on equal negative and positive statement And the number of statement are 48. The opinionnaire tool comprises a total of six dimensions: Supplementary Nutrition, Nutrition and Health Counseling, Immunization, Pre-school Education, Health Checkups, and Referral Services (Figure 1).

Population

The present research study included head Anganwadi workers and mini Anganwadi workers working in all development blocks of Rudraprayag district, Uttarakhand.

Sampling: The present research study utilized purposive sampling to analyze the effectiveness of the Child Development Scheme among the heads and assistants working in Anganwadi centers in Rudraprayag district. *Population Distribution:* The present research study selected 30 primary Anganwadi workers and 30 mini Anganwadi assistants workers [12].

Research tool

Information Collection Form" (Checklist) — Pertaining to Physical Resources, Arrangements/management, and other Activities within the Context of an Analytical Study on the Effectiveness of the "Child Development Scheme" Operated at Anganwadi Centers it seeks specific key details regarding the physical resources, arrangements, and activities present at the Anganwadi Center in rudraprayag.

1- major Classification of Resources or Materials and other Activities at the Anganwadi Centre (total number of standard resources are 108) – A- Electrical and ICT Equipment B- Drinking Water, Sanitation, Cleanliness and Waste Bins C – various kind of Child Development Charts D- Registers and Suggestion Books E- Teaching-Learning kits such as Play & Recreation, and Joyful Learning Kits F- Nutrition—Food, Kitchen Utensils, and Fuel Arrangements, etc. G- Safety, Management, Awareness, and Care Committees, H- Medical facilities —Health Check-ups, Medicines, Kits, and Instruments I -Physical Facilities, Office, Classrooms, and Furniture J - Are valuable days/events celebrated at the center?

2. Please mark the box corresponding to the appropriate option with a checkmark (✓) for "Yes" and a cross (×) for "No."

3. If a resource is available at the center, is it in a usable condition? Please mark with a checkmark (✓).

4. If a resource is available at the center but is *not* in a usable condition, please state the reason.

5. If a resource is *not* available at the center at all, please mark with a cross (×).

2- opinionnaire/questionnaire tool – this opinionnaire tool comprises a total of six dimensions: Supplementary Nutrition, Nutrition and Health Counseling, Immunization, Pre-school Education, Health Check-ups, and Referral Services. Please read the following statements and mark the correct option (✓) from the five choices provided. An opinion scale tool used for the present research problem and self-developed tools used. The statements were rated using a five-point Likert scale. A Likert scale is a psychometric survey tool used to measure attitudes, opinions, and experiences by having respondents rate statements on a continuum, typically from "strongly disagree" to "strongly agree". In this scale, have been used for scoring, as positive statements the categories of "strongly Agree,-5 " "Agree,4" "Neutral,"3 "Disagree2," and "strongly Disagree for 1 rating, while used for negative statements the categories of strongly Agree-1" "Agree,2" "Neutral,"3 "Disagree 4," and "strongly Disagree for 5 rating. To collect primary data based on equal negative and positive statement And the number of statement are 60. Tool reliability coefficient =0.261 and validity cronbach alpha calculation $\alpha=0.8266$.

Statistical data Analysis :-- In the present study, an analytical examination of the data was conducted based on the mean, SD, and F value techniques was used.

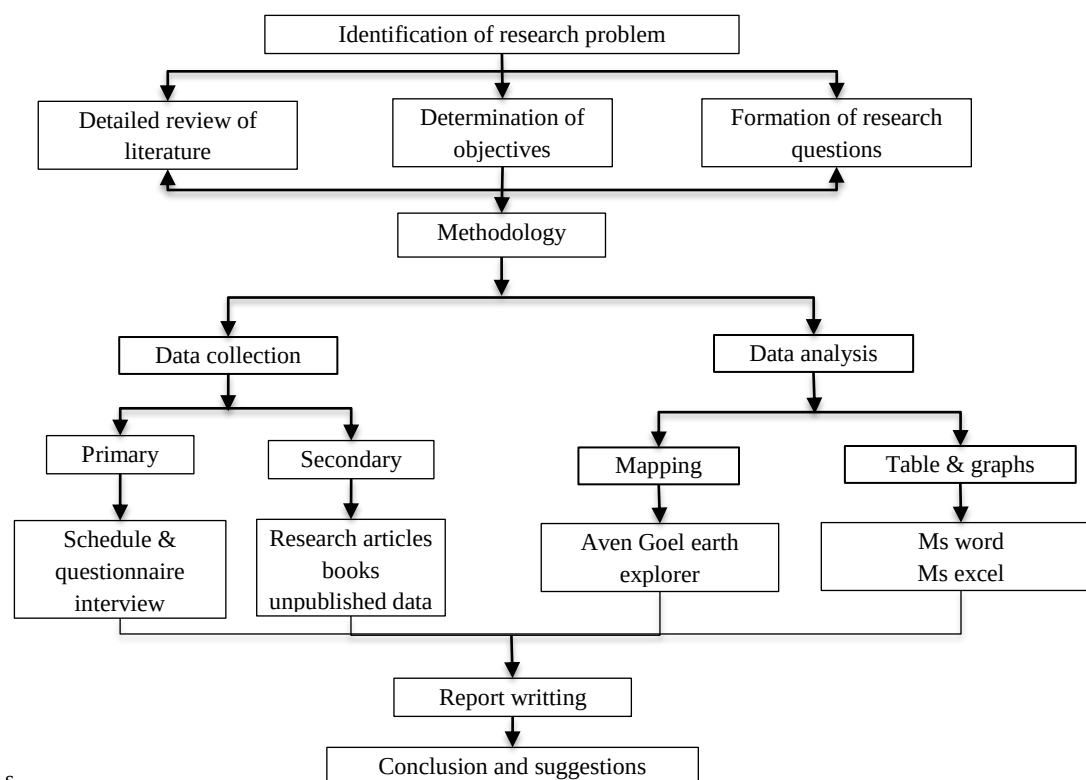


Figure 1. Research methodology flowchart.

RESULT AND DISCUSSION

The analysis of data interpretation and discussion of the result are presented below.

Hypothesis 1 There is no difference in the effectiveness of the Child Development Scheme across the all head and assistant Anganwadi Workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district (Table 1).

Observation of the table that the mean value of three classified groups seems to differ from each other on effectiveness of the Child Development Scheme across the All head and assistant Anganwadi Workers. the mean and SD value obtained by jakholi, ukhimath and augustmuni was 173.35 ± 160.87 , 171.05 ± 145.41 and 184.48 ± 219.48 respectively. The analysis yielded an F-ratio of 6.0945. Since the P-value (0.003994) is less than 0.05 and the F-value (6.0945) exceeds the F-critical value (3.1588), the null hypothesis (H_0) is rejected. This indicates a statistically significant difference in the effectiveness of the scheme between the three blocks. That is to say that this null hypothesis is accepted (Table 2).

Hypothesis 2: There is no difference in the effectiveness of the Child Development Scheme across the all head aganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district (Table 3).

Observation of the table that the mean value of three classified groups seems to differ from each other on effectiveness of the Child Development Scheme across the all head Head, Agnanwadi Workers. the mean and SD value obtained by jakholi, ukhimath and augustmuni was 171.2 ± 159.73 , $170,10 \pm 83.878$ and 185.60 ± 221.337 respectively. The analysis yielded an F-ratio of 4.826. Since the P-value (0.016145) is less than 0.05 and the F-value (4.826) exceeds the F-critical value (3.354), the null hypothesis (H_0) is rejected. This indicates a statistically significant difference in the

effectiveness of the scheme between the three blocks. That is to say that this null hypothesis is accepted (Table 4).

Table 1. Descriptive statistics for anganwadi workers across the three study blocks (anova: single factor).

Anova: Single Factor				
Groups	Count	Sum	Average	Variance
All head and assistant Anganwadi Workers Block jakholi	20	3467	173.35	160.8711
All head and assistant Anganwadi Workers Block ukhimath	20	3421	171.05	145.4184
All head and assistant Anganwadi Workers Block augustmuni	20	3694	184.7	219.4842

Table 2. One-way anova results comparing anganwadi workers across the three study blocks.

Source of Variation	SS	d. f	MS	F	P-value	F crit	Sign.
Between Groups	2136.233	2	1068.117	6.094542	0.003994	3.158843	
Within Groups	9989.7	57	175.2579				
Total	12125.93	59					

Table 3. Descriptive statistics for head anganwadi workers across the three study blocks (one-way ANOVA).

Anova: Single Factor				
Groups	Count	Sum	Average	Variance
Head, Agnanwadi Workers Block Jakholi	10	1712	171.2	159.7333
Head, Agnanwadi Workers Block Ukhimath	10	1701	170.1	83.87778
Head, Agnanwadi Workers Block augustmuni	10	1856	185.6	221.3778

Table 4. One-way anova results for head anganwadi workers across the three study blocks.

Source of Variation	SS	df	MS	F	P-value	F crit	Sign.
Between Groups	1496.067	2	748.0333	4.826137	0.016145	3.354131	
Within Groups	4184.9	27	154.9963				
Total	5680.967	29					

Hypothesis 3: There is no difference in the effectiveness of the Child Development Scheme across the all Asstt. Agnanwadi Workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district (Table 5).

Observation of the table no that the mean value of three classified groups seems to differ from each other on effectiveness of the Child Development Scheme across the all Astt. Agnanwadi Workers. the mean and SD value obtained by jakholi, ukhimath and augustmuni was 182.60 ± 65.377 , 178.00 ± 149.77 and 177.10 ± 99.655 respectively. The analysis yielded an F-ratio of 0.829386. Since the P-value (0.44713) is less than 0.05 and the F- value (0.829386) exceeds the F-critical value (3.354), the null hypothesis (H₀) is rejected. This indicates a statistically significant difference in the effectiveness of the scheme between the three blocks. That is to say that this null hypothesis is rejected (Table 6).

Hypothesis 4: There is no difference in the effectiveness of the Child Development Scheme across the all Accesible AWCs, Block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district (Table 7).

Table 5. Descriptive statistics for assistant anganwadi workers across the three study blocks (one-way ANOVA).

Anova: Single Factor				
Groups	Count	Sum	Average	Variance
Astt. Agnanwadi Workers Block Jakholi	10	1826	182.6	65.37778
Astt. Agnanwadi Workers Block Ukhimath	10	1780	178	149.7778
Astt. Agnanwadi Workers Block Augustmuni	10	1771	177.1	99.65556

Table 6. One-way anova results for assistant anganwadi workers across the three study blocks.

Source of Variation	SS	df	MS	F	P-value	F crit	Sign.
Between Groups	174.0667	2	87.03333	0.829386	0.44713	3.354131	
Within Groups	2833.3	27	104.937				
Total	3007.367	29					

Table 7. Descriptive statistics for accessible anganwadi centres (awcs) across the three study blocks (one-way ANOVA).

Anova: Single Factor				
Groups	Count	Sum	Average	Variance
Accesible Awcs Block Jakholi	10	1824	182.4	91.6
Accesible Awcs Block Ukhimath	10	1783	178.3	249.3444
Accesible Awcs Block Augustmuni	10	1839	183.9	38.76667

Table 8. One-way anova results for accessible anganwadi centres (AWCS) across the three study blocks.

Source of Variation	SS	df	MS	F	P-value	F crit	Sign.
Between Groups	168.0667	2	84.03333	0.663926	0.52303	3.354131	
Within Groups	3417.4	27	126.5704				
Total	3585.467	29					

Observation of the table no that the mean value of three classified groups seems to differ from each other on effectiveness of the Child Development Scheme across the all accessible AWCs. the mean and SD value obtained by jakholi, ukhimath and augustmuni was 182.40 ± 91.60 , 178.30 ± 249.344 and 183.90 ± 38.766 respectively. The analysis yielded an F-ratio of 0.66392 Since the P-value (0.52303) is less than 0.05 and the F- value (0.663922) exceeds the F-critical value (3.354), the null hypothesis (H0) is rejected. This indicates a statistically significant difference in the effectiveness of the scheme between the three blocks. That is to say that this null hypothesis is rejected (Table 8).

Hypothesis 5: there is no difference in the effectiveness of the Child Development Scheme across the all higher education holders aganwadi workers, Block jakholi,ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district (Table 9).

Observation of the table that the mean value of three classified groups seems to differ from each other on effectiveness of the Child Development Scheme across the all higher education Holders Aganwadi Workers the mean and SD value obtained by jakholi, ukhimath and augustmuni was 183.80 ± 38.17 , 188.90 ± 95.88 and 196.70 ± 90.90 respectively. The analysis yielded an F-ratio of 5.6291 Since the P-value (0.00905) is less than 0.05 and the F- value (5.6291) exceeds the F-critical value (3.3541), the null hypothesis (H₀) is rejected. This indicates a statistically significant difference in the effectiveness of the scheme between the three blocks. That is to say that this null hypothesis is accepted (Table 10).

Hypothesis 6: There is no difference in the effectiveness of the Child Development Scheme across the all AWCs .Conduct In Primary School, Block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district (Table 11).

Observation of the table that the mean value of three classified groups seems to differ from each other on effectiveness of the Child Development Scheme across the all AWCs conduct in primary school. the mean and SD value obtained by jakholi, ukhimath and augustmuni was 193.70 ± 140.233 , 185.10 ± 47.655 and 204.20 ± 379.733 respectively. The analysis yielded an F-ratio of 4.836 Since the P-value (0.0160) is less than 0.05 and the F- value (4.8361) exceeds the F-critical value (3.3541), the null hypothesis (H₀) is rejected. This indicates a statistically significant difference in the effectiveness of the scheme between the three blocks. That is to say that this null hypothesis is accepted (Table 12).

Table 9. Descriptive statistics for higher education holder anganwadi workers across the three study blocks (one-way ANOVA).

Anova: Single Factor				
Groups	Count	Sum	Average	Variance
H.E Holders Aganwadi Workers Block Jakholi	10	1838	183.8	38.17778
H.E Holders Aganwadi Workers Block ukhimath	10	1889	188.9	95.87778
H.E Holders Aganwadi Workers Block block augustmuni	10	1967	196.7	90.9

Table 10. One-way anova results for higher education holder anganwadi workers across the three study blocks.

Source of Variation	SS	df	MS	F	P-value	F crit	Sign.
Between Groups	844.2	2	422.1	5.629112	0.00905	3.354131	
Within Groups	2024.6	27	74.98519				
Total	2868.8	29					

Table 11. Descriptive statistics for anganwadi centres conducting pre-school activities across the three study blocks (one-way ANOVA).

Anova: Single Factor				
Groups	Count	Sum	Average	Variance
AWCs conduct in P.S.block jakholi	10	1937	193.7	140.2333
AWCs conduct in P.S.block ukhimath	10	1851	185.1	47.65556
AWCs conduct in P.S .block augusmuni	10	2042	204.2	379.7333

Table 12. One-way ANOVA results for anganwadi centres conducting pre-school activities across the three study blocks.

Source of Variation	SS	df	MS	F	P-value	F crit	Sign.
Between Groups	1830.067	2	915.0333	4.836139	0.016027	3.354131	
Within Groups	5108.6	27	189.2074				
Total	6938.667	29					

CONCLUSION

There is statistically difference in the effectiveness of the Child Development Scheme across the all head and assistant anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the development blocks of Rudraprayag district.

there is statistically difference in the effectiveness of the Child Development Scheme across the head anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the all three development blocks of Rudraprayag district.

there is no statistically difference in the effectiveness of the Child Development Scheme across the head anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the all three development blocks of Rudraprayag district.

there is no statistically difference in the effectiveness of the Child Development Scheme across the asstt. anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the all three development blocks of Rudraprayag district.

there is statistically difference in the effectiveness of the Child Development Scheme across the head anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the all three development blocks of Rudraprayag district.

there is statistically difference in the effectiveness of the Child Development Scheme across the head anganwadi workers, block jakholi, ukhimath and augustmuni at the Anganwadi Centers within the all three development blocks of Rudraprayag district.

SUGGESTION

there is no well-structured framework for the Child Development Scheme and its core components—such as educational and co-curricular activities related to pre-primary education, as well as improved healthcare and basic services?

there is insufficient attention paid to improving service delivery and supporting the Anganwadi workers who are responsible for the smooth operation of the ICDS scheme within Anganwadi centers

Numerous concerns have been raised regarding the capacity building of Anganwadi workers; why have they not yet been provided with adequate training and incentives to ensure they have access to better career opportunities and sufficient working facilities?

In 2015, NITI Aayog advocated for improvements in sanitation and drinking water facilities, as well as for the provision of electricity supply and essential health-related medicine kits in Anganwadi centers; yet, in most centers, the situation remains unchanged.

there is no a emphasis on providing high-quality food and nutritional supplements in Anganwadi centers, alongside regular health check-ups, vaccinations, counseling, and other basic services?

Across the country, Anganwadi workers are treated as if they were unskilled or incompetent. Why is their monthly remuneration kept below the statutory minimum wage? This amount is undoubtedly insufficient to cover their basic living expenses.

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