

“Nourishing The Nations Future: The Pioneering Role of Integrated Child Development Services in India’s Effort to Combat Child Malnutrition.”

Abstract

Background-In India, a considerable portion of the population suffers from under-nutrition, contributing to poor health. Under and over-nutrition continue to pose a severe threat to the country despite the increase in economic development and significant measures taken by the Indian government to address the issue of the dual implications of malnutrition. India has the highest rates of underweight children worldwide. The Indian government has started several initiatives to address the issue of earlychildhood development. One such program with goals for nutrition intervention and early child development is called Integrated Child Development Services (ICDS).

Method-.It focuses on the helping hand given by ICDS in reducing malnutrition in children aged 0-5 years by comparing data from the National Family Health Survey rounds conducted in India during 2005-06 and 2015-16. The study utilizes several parameters to highlight the program contribution such as the nutritional status of children, Anemia, immunization coverage, antenatal care, health care, and child mortality. It also highlights the main issues and challenges the policymakers face in implementing the ICDS program.

Result- ICDS program has significantly shows a positive improvement in providing services to the beneficiaries including children aged 0-59 months and women who are pregnant and lactating.

Conclusion- Despite several positive changes in ICDS schemes the program failed to deliver the services efficiently nationwide. It has great potential in contributing on child development but there are several loopholes which need to be channelized properly.

Keywords: *Malnutrition; ICDS; NFHS; Nutrition status; Anaemia; Immunization; Underweight; Antenatal Care; Child Mortality.*

1. Introduction

Though we neglect the consequences of early childhood development, it is well-known that success in life, health, and emotional well-being results from proper care in childhood days. Irrespective of numerous schemes, the situation in India is different. That is where the majority of malnourished people in the globe reside. India's position on the global hunger index is worse than average and causes serious worry [8]. India has had a high prevalence of malnutrition over the past three decades despite rising agricultural output and remarkable economic progress. Some analysts have attributed it to poverty, spending habits prioritizing holidays and non-essential items over staple foods, and the high prevalence of infectious and chronic diseases [2]. India, on the other hand, is exhibiting rising patterns in economic advancement and GDP expansion. But the nutritional status is lower than that of Sub-Saharan African countries, which have a lower GDP than India [8,9].

India's poor health and under-nutrition is a significant issue for many. Malnourished children have a nearly ten-fold increased risk of dying from illnesses if they are extremely underweight and two-and-a-half-fold increased chances of passing away if they are moderately underweight. Malnutrition causes more than 3.5 million child deaths worldwide and substantially contributes to child fatalities. Deprivation, illiteracy, ignorance, insufficient education, poor lifestyle choices, lack of access to nutritious foods, fresh water, sanitation, and hygiene, a lack of resources, and the government's poor performance in implementing the program are the leading causes of malnourished children [1]. To fight the problem of chronic malnutrition and overall child development Government of India initiated several programs and missions. The oldest and most successful nutrition supplementation program is known as Integrated Child Development Services (ICDS).

An inter-ministerial review conducted in 1972 concluded that India's childcare programs had a disorganized strategy, limited coverage, and underutilized resources. On October 2, 1975, India's Integrated Child Development Services became operational. With an emphasis on the overall development of children under six years in the nation, the Integrated Child Development Service program is still one of the longest and most unique in the world [5]. The initiative carried out nationally under the Union Ministry of Women and Child Development's direction is a potent force intended to end the vicious cycle of child mortality, illness, and malnutrition rates. The project takes a multi-sectoral approach by combining health, nutrition, water and sanitation, hygiene, and education into one package of services. It mainly targets children under six years, including pregnant and nursing

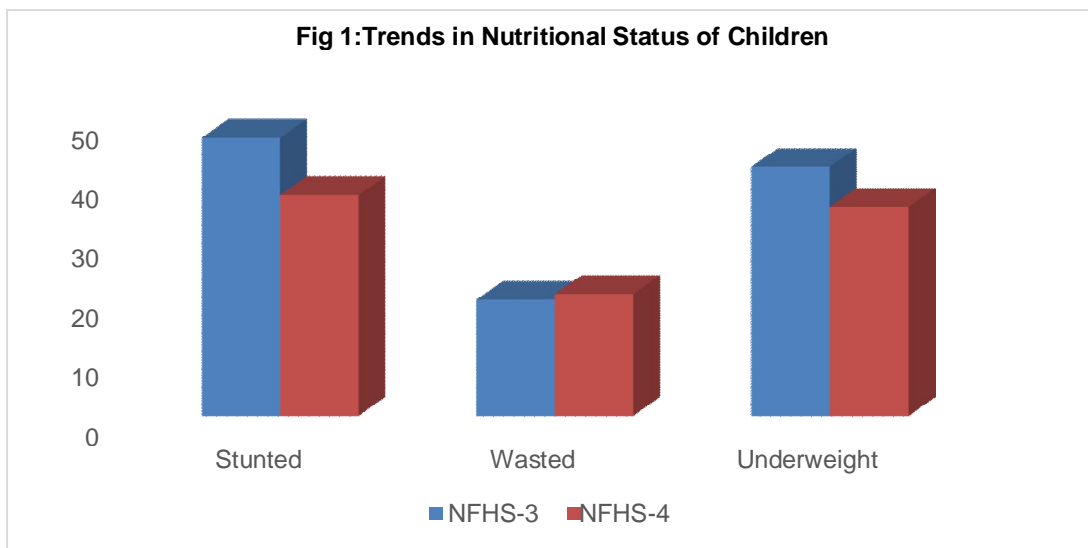
women. Integrating these services into Anganwadi Centres (AWCs) with the assistance of Anganwadi employees and helpers is the other crucial component of this program [11]. It has definite objectives to promote child development, that is: a) optimize the health and nutritional well-being of young children (0–5 years); b) lay the substructure for the children's suitable psychological, physical, and social development; c) reduce the frequency of under-nutrition, mortality, morbidity, and school drop-outs; d) succeed in efficient policy and execution integration among the various departments; and e) boost the mother's capacity to care for her child.[7].

2. **Methodology:**

The study focus on the participation made by the ICDS scheme in reducing malnutrition among children aged 0-5 years in India by using the National Family Health Survey (NFHS) round (2005-06) and (2015-16) data. It also highlighted various issues and challenges faced by the ICDS program in delivering its services. The study used summary report of NFHS round three and four and comparative study was done by using several parameters to highlight the program contribution such as the Nutritional Status of Children, Status of Anemia in children, Basic Immunization given to one to two years of children. Antenatal care. Health checkup, Nutrition and health education to both the children and mothers, and status of child mortality. The study is graphical representation of NFHS- 3 and 4 rounds and it is evaluated by graphs and figures.

3. Nutritional Status of Children:

The nutritional status of children in rural, urban, and tribal areas has improved, indicating a substantial reduction in severe and moderate malnutrition in India. The consumption of supplementary nutrition was highest in adolescent girls (93.7 percent) and lowest in breastfeeding mothers (27.2 percent). Only a small portion of recipients were children under three [9]. Anganwadi Centre is the key component from which various services are offered to countries, and it plays a crucial role in integrating the activities of Integrated Child Development Services Schemes. The Anganwadi institution can be beneficial in raising awareness in the villages about the declining sex ratio and its potential effects on the nation's future. Thus, Anganwadi workers and helpers are crucial in raising awareness through campaigns and other initiatives [13].



Source: Summary Report of NFHS-3 and NFHS-4

From the above mention figures, The Stunted¹ (low height for the age) population decreased by ten percent, from 48 to 38 percent. The under-weight² (low weight for age) declined by 7 percent, and the wasted³ (thin for height) population shows a rising trend of one percent from 20 to 21 percent. The impact of ICDS on children belonging to tribal, scheduled caste, scheduled tribe, and backward communities had shown a positive result on nutritional status and the beneficiaries compared to that of non-beneficiaries of the ICDS scheme. Therefore, research by the National Institute of Nutrition found that children using Anganwadis had better nutritional status than non-beneficiaries from identical villages and with an equivalent socioeconomic position [15]. During the 1990s, the level of child malnutrition in India fell slowly. The ICDS program placement is regressive across states, as determined by program placements and outcomes using NFHS data from 1992 to 1998. The poor northern states with the highest malnutrition rates have the least program coverage and budgetary allocations from the central government [5]. The significant budgeted funding allocation for supplemental food nutrients has increased from 45 percent in 2015–16 to 51 percent in 2018–19. To improve the program Coverage, The Cabinet Committee on Economic matter approved the plan to revamp the cost criteria and annual cost increase for the supplementary nutrition program in September 2017. As a result, Rs 8 to spent on children aged 0-6 years; initially, it was Rs 6, with Rs 9.50 for pregnant women, Rs 7 for breastfeeding mothers, and Rs 12 for severely malnourished children; originally it was Rs 9. According to NFHS-4, 48 percent of children, lactating mothers, and 52 percent of pregnant women received supplementary food from an Anganwadi center. A substantial fall in the number of Supplementary Nutrition Program (SNP) beneficiaries was Uttar Pradesh (25 percent), Punjab (33 percent), Delhi (44 percent), Goa(54 percent), and Bihar (56 percent). The number of beneficiaries for SNP increased in Jammu and Kashmir (87 percent), Mizoram (77 percent), Madhya Pradesh(10percent), and Tripura(10percent)[10].

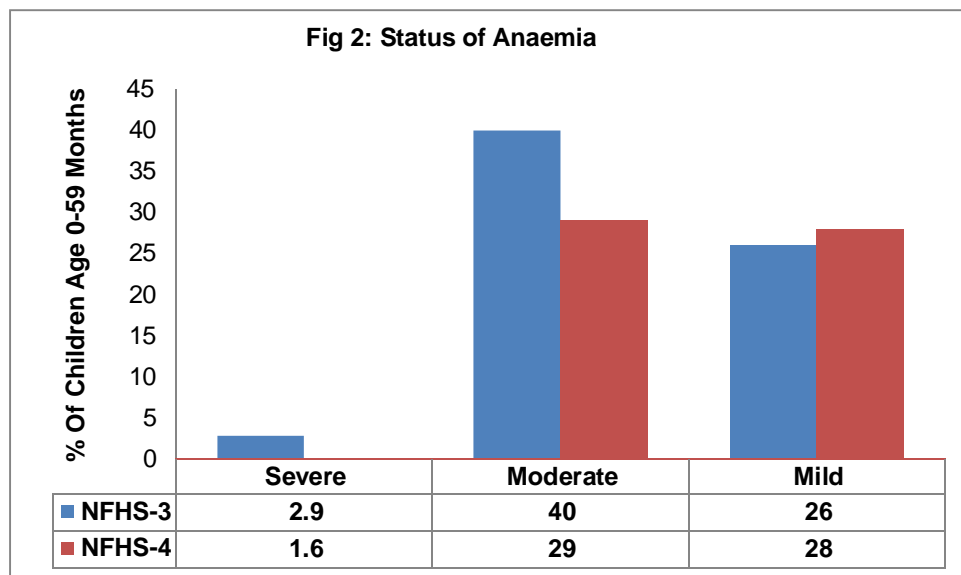
¹ Stunted – A measurement of linear growth retardation and cumulative growth deficit is called stunted. Stunted children are those whose height for age z-scores is less than minus two standard deviations (-2 S.D.) from the reference population's median.

² Under-weight- A composite index of both stunted and wasted people. It considers both short and long term malnutrition. Children whose weight-for-age z-scores are less than minus two standard deviations (-2 S.D.) from the reference population's median are categorized as under-weight.

³ Wasted- Evaluates the ratio of body mass to height. Children who have z-scores that are less than minus two S.D. from the reference population's median are classified as wasted.

4. Anaemia:

According to National Family Health Survey (2015-16). The two crucial national nutrition intervention programs now being undertaken are iron and folic acid distribution. A deficiency of iron in the body is the leading cause of Anaemia, as discovered by World Health Organisation. It has proven to be a severe concern for infants since it can harm their cognitive development, hinder their weight and height and make them more susceptible to infectious ailments. Vitamin A is a crucial vitamin for the immune system and is essential for the body's ability to maintain epithelial tissue [6].



Source: Summary Report of NFHS-3 and NFHS-4

From the above figure, the **severity of Anaemia**⁴ declined by 1.3 percent, **moderate Anaemia**⁵ declined by 11 percent, and **mild Anaemia**⁶ increased by 2 percent, according to NHFS rounds 3 and 4. However, Anaemia among children aged six to fifty-nine months declined by 11 percent, from 70 to 59 percent, between 2005-06 and 2015-16, but remained higher among rural children.

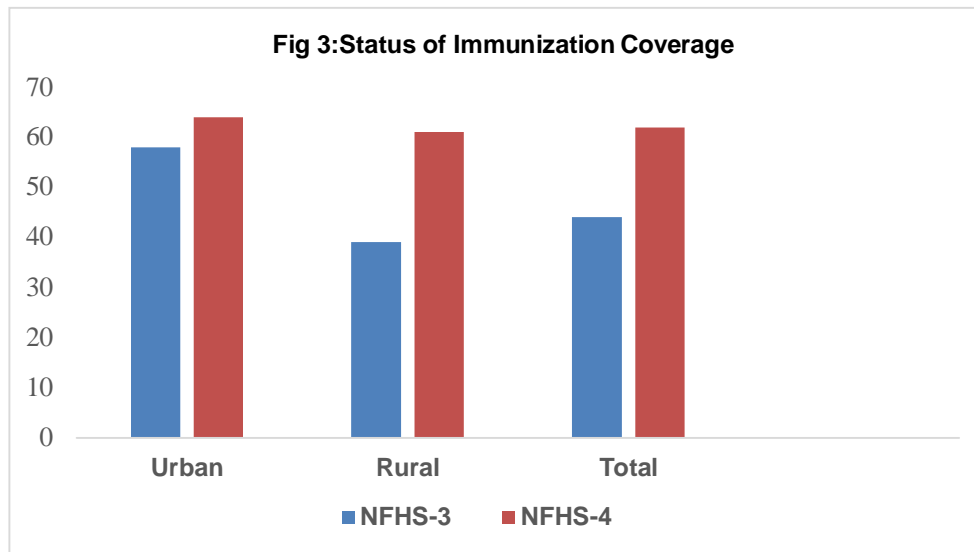
⁴ Severe anaemia (Haemoglobin level below 7.0g/dl)

⁵ Moderate anaemia (Haemoglobin level 7.0-9.9g/dl)

⁶ Mild anaemia (Haemoglobin level 10.0-10.9g/dl)

5. Immunization Coverage:

The integrated child, Development services program prioritizes immunizing children against diseases that can be prevented by vaccination because doing so can lower the number of child fatalities. Auxiliary nurses administer these vaccinations from the government hospital in Anganwadi centers.

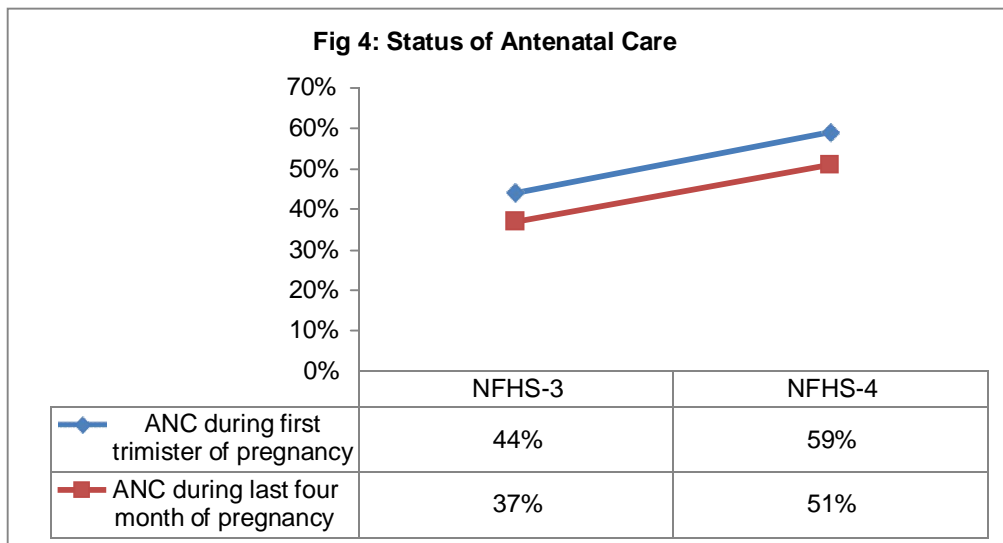


Source: Summary Report of NFHS-3 and NFHS-4.

According to the above figure, the rural population showed a tremendous increase in basic vaccination coverage of 12-23 months children compared with NFHS three and four rounds, which is 22 percent from 39 to 61 percent. Urban area coverage increased by 6 percent from 58 percent to 64 percent. In this, there is a substantial contribution of ICDS in providing basic immunization that is BCG, DPT (three doses), and polio (three doses) for complete one to two years of children in ICDS projects. The success of immunization in the ICDS project area was for both sexes and included underprivileged communities. The Anganwadi workers were very valuable functionaries for the promotion. They covered 28.6 percent of the population in urban areas and 44.2 percent in rural areas for complete basic immunization in 2015-16. According to NFHS-3, Anganwadi workers provided 38-43 percent of immunization services[6].

6. Antenatal Care:

The provision of enhanced antenatal, prenatal, and postnatal services has always been a critical component of the Integrated Child Development Services Scheme. Contrasting the ICDS area with the non-ICDS area, the coverage of pregnant women by antenatal care had considerably improved. In the rural population, home delivery is still highly preferred. Yet, many more women than controls used locally available skilled personnel to deliver through ICDS initiatives. Lactating mothers used the ICDS services to strengthen their nutritional status (via supplemental nutrition and iron folic acid pills), accept family welfare counseling, and improve their knowledge, attitude, and practice to better care for their offspring.[6]



Source: Summary Report of NFHS-3 and NFHS-4

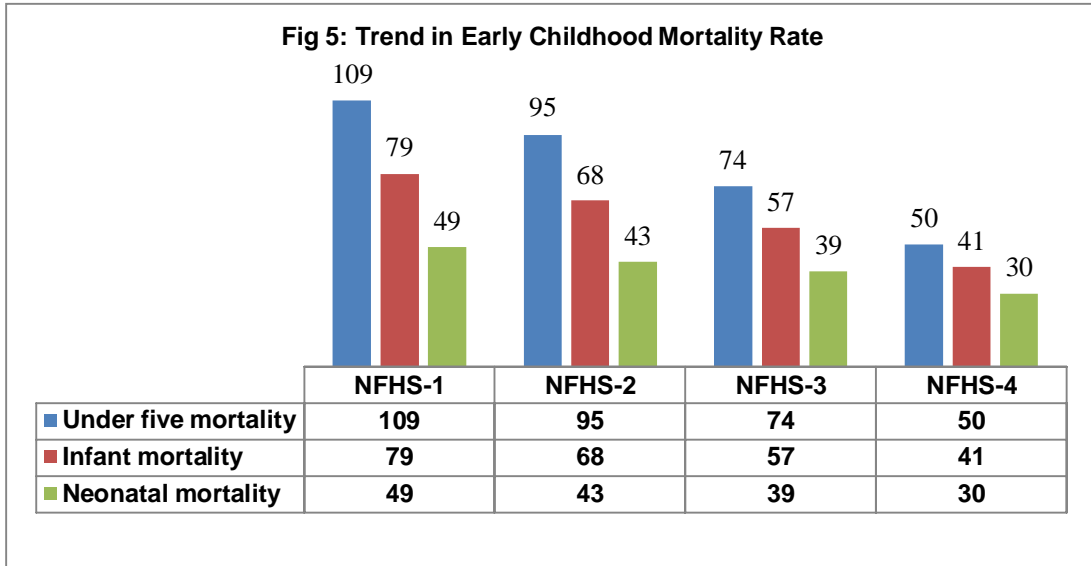
The graph shows the status of Antenatal Care during the initial three months has a positive rise of 15 percent from 44 percent in NFHS-3 to 59 percent in NFHS-4. Visits of pregnant women in the last trimester increased by 14 percent, from 37 percent in NFHS-3 to 51 percent in NFHS-4. There is substantial increase of mothers receiving services from ICDS programme during pregnancy, health checkup increased by 30.6 percent that is from 12.3 in Nfhs-3 to 42.9 percent in Nfhs-4. Health and nutrition education given to pregnant women increased by 27.6 percent from 10.9 in (2005-06) to 38.5 percent in (2015-16).

7. Health Care of Children:

There is a ten percent improvement in providing health care services to children, and women enrolled in integrated child development services programs, from 34 to 45 percent. There is evidence that treating minor illnesses such as diarrhea, respiratory infections, Tuberculosis, and others has improved in ICDS regions. Through the health education activities provided by ICDS, Positive growth was witnessed in personal and environmental hygiene[6]. Health checkup of children age (0-59) months done in Anganwadi centres was increased by 23.9 percent that is from 15.8 percent in 2005-06 to 39.7 percent in 2015-16. Lactating women receiving health and nutrition education increased by 27.7 percent that is from 8.3 percent in 2005-06 to 35.0 percent in 2015-16.

8. Child Mortality:

"A decade after ICDS implementation, evaluated studies suggested that the decline in infant and early childhood mortality rates observed in areas where ICDS was operational was significantly more significant than the decline reported in the national data of the sample registration scheme"[17].



Source: Summary Report of NFHS-3 and NFHS-4

According to the figure above, the under-five mortality rate declined by 74 deaths per 1000 live birth to 50 deaths per thousand live births. The infant mortality rate declined by 57 deaths per thousand (2005-06) to 41 deaths per thousand (2015-16). The neonatal mortality rate fell by 39 death per 1000 live birth (NFHS-3) to 30 deaths per 1000 live birth in 2015-16.

9. Shortcomings of the Integrated Child Development Services Scheme:

The ICDS scheme completed four decades. Still, when it comes to the evaluation, it has been observed that the program can't call an overall success in curbing child malnutrition in India. The Nfhs-3 report suggests the biggest drawback of ICDS is not only related to poor implementation,

corruption, and low motivation of Anganwadi workers but also related to the issue of low budget, design flaws, and low priority by the government [16].

The service provided by the Anganwadi centers witnessed a massive gap between the planned program and its implementation [18].

The national nutrition mission report stated more than fifty lakh malnourished children in Uttar Pradesh. Both boys and girls are equally under-nourished and anemic, which is a question mark on the ICDS scheme of the government [14]. Bihar and Uttar Pradesh's high percentage of the under-nourished population faces poor service delivery, which results in low coverage for everyone rather than specifically targeted caste [4]. Anganwadi workers can improve their working skills by attending regular orientation programs and learning new techniques for tracking the growth of a child's nutritional status [1]. The evidence indicates a huge opportunity to increase service consumption among urban middle and lower-class households for higher-quality services besides food supplements, like early childhood education and health and nutrition advice (preschool). For the overall development of children, it is vital to increase the uptake of schooling and early childcare-related services in rural and urban provision. While the ICDS lists food supplements as essential, education-related services deserve dedicated policy attention for children's holistic development, particularly for creating human capital. Similarly, it is also crucial to provide adequate training to Anganwadi workers for skill development [12].

There are various other factors related to its failure and need attention that is:

Physical resources- There are differences in the quality of the AWC building. Across India, as on March 31, 2018, 12 percent AWCs operate out of Kutcha buildings. The regional disparity also prevails across states. All AWCs in Arunachal Pradesh work in Kutcha buildings; figures are also high in Manipur (68 percent), West Bengal (37 percent), Jammu and Kashmir (35 percent), Madhya Pradesh (27 percent), Karnataka (26 percent), Jharkhand (22 percent) and Bihar (20 percent). Anganwadi centers lagged in providing drinking water facilities within its owned premises. In 2017-18, the percentage of AWC with drinking water facilities out of operational AWC stood at 86 percent.[10]

Vacancies- There are many vacancies in posts for Child Development Project Officers (CDPO) and supervisors. As of June 2018, 25 percent of sanctioned positions for CDPOs and 32 percent for

supervisors were vacant nationwide. There is a variation in the percentage of vacancies across the state for Anganwadi workers and supervisors. Tamil Nadu and Bihar had high vacancies in posts for Anganwadi workers at over 20 percent as on June 2018.[10]

The major causes of the program's inability to operate correctly are a lack of resources, inadequate worker skills, inadequate supervision, and ineffective monitoring. Perhaps because of the low pay and limited training, Anganwadi workers cannot significantly impact the combat for malnutrition [1].

People living in rural and urban slums are vulnerable and most victims of exploitation and abuse. They deprive basic life facilities such as health, nutrition, and education. Lack of education in mothers and low socioeconomic background leads to mothers' lack of interest and knowledge about the program's real purpose [3].

10.Results:

From the decadal data set of national family health service 2006-2016. It is found that stunted (height-for-age) population declined by 10 percent, under-weight (weight-for-age) population declined by 7 percent and Wasted (weight-for-height) population increased by 1 percent. Anaemia among children aged (0-59) months declined by 11 percent from 70 to 59 percent between 2006-2016. Immunization coverage through ICDS scheme was 28.6 percent in urban area and 44.2 percent in rural areas. There is a ten percent improvement in providing health care services to children, and women enrolled in ICDS programs, from 34 to 45 percent. The under-five mortality rate declined by 74 deaths per 1000 live birth to 50 deaths per thousand live births. The infant mortality rate declined by 57 deaths per thousand (2005-06) to 41 deaths per thousand (2015-16). The neonatal mortality rate fell by 39 deaths per 1000 live birth (NFHS-3) to 30 deaths per 1000 live birth in 2015-16.

11.Discussion:

India performs well in terms of infant mortality rate (IMR) and under- five mortality rate compared to developing nations with comparative health profiles [21]. According to data from the national family health survey, children under the age of six have reduced access to supplementary nutrition (SNP) over the past decade (from 2005 to 2015). Currently, the ICDS centres in India provide SNP to over 48% of children. According to the ICDS programme, only 20% of children in the pre-primary stage regularly obtain SNP benefit [19]. Children who 'fully' participated in the ICDS (received food rations, medical check-ups and weigh-ins, and attended preschool) and who received daily food rations from the programme were found to have significantly showing the declination in malnutrition status [20]. In states

and districts where undernutrition is more common, the ICDS programme needs to be oriented towards the younger children (0-3 years) and the most vulnerable population segments. It might be wise to think about prioritising maternal nutrition during pregnancy and lactation as well as newborn and young child eating. By doing this, the ICDS's policy aims and its actual implementation might be brought closer together [21]. A child is supposed to receive a wide range of interventions at an effectively managed Anganwadi centres, comprising supplementary nutrition, immunisation, health check-ups, and preschool education. However, in reality, the programme falls short of expectations and is hampered by a number of institutional shortcomings including food leakages, corruption, weak national implementation and administration of the programme, a lack of infrastructure, among others [13, 16, 22].

12. Conclusion:

Integrated Child Development Services schemes are the most prominent and oldest child development program. Since time immemorial, there has been a significant decline in severe and moderate malnutrition in India. The Integrated Child Development Service scheme significantly improved the nutritional status of children belonging to specified ages between 0-6 years and pregnant and lactating women. This study uses National Family Health Services data from 2005-2006 to 2015-2016 to know about the contribution of the ICDS scheme in combating malnutrition by providing various services. Integrated Child Development Service schemes helped reduce the anemia level in children by **11 percent**. It has substantially contributed in providing basic immunization that is BCG, DPT, and Polio vaccines for children one to two years. A famous saying is, "Healthy Mothers give birth to a healthy child." ICDS scheme focus on antenatal, prenatal, and postnatal services positively impacted its area compared to the non-ICDS site. There is an overall ten percent increase in healthcare facilities given by ICDS, witnessing positive growth in personal and environmental hygiene through program health and education activities. The factors involved in the success of the Integrated Child Development Service scheme are Innovation and cost-effective approaches to the training of the functionaries at various levels, continued education, monitoring, evaluation, and research. They organize regular orientation programs, give rigorous training to the workers, and introduce them to new technology to improve their nutritional status. Despite several positive changes in Integrated child development services, the program failed to deliver the services efficiently nationwide. Anganwadi workers provide many benefit with minimal wages, such as preschool education for four to six years old, nutrition service to all children under six, pregnant and lactating mothers, immunization awareness, growing vegetables, and distributing ready to eat for children under three years. A study found that the scheme is lagging in physical resources, inadequate working skills, shortage of equipment, poor supervision. And weak monitoring is the reason behind its failure. Parent education also plays a vital

in improving the nutrition status of children. People are unaware of government policies and the benefit they can incur through it. There is lack of an awareness program and proper channel should be made so that it can reach out to the entire population. A Study found that the urban population of the upper-middle-class family does not participate in this program as they are not satisfied by the service provided through the scheme. Integrated Child Development Services Scheme has excellent potential but fails to deliver services efficiently.

Reference:

1. Aijaz, R. (2017). Preventing Hunger and Malnutrition in India. *Observer Research Foundation Report, 182*, 2-12.
2. Awofeso, N., & Rammohan, A. (2011). Three Decades of The Integrated Child Development Services Program in India: Progress and Problems. *Health Management: Different Approaches and Solutions*, 243-258.
3. Bhatnagar, C., & Bhadra, S. (2015). Study of Service Provisions of Anganwadi Workers (AWWs) and Views of Mothers about Integrated Child Development Services (ICDS) Scheme. *International Journal of Arts, Humanities, and Management Studies*, 1(8), 10-25.
4. Chakrabarti, S., Raghunathan, K., Alderman, H., Menon, P., & Nguyen, P. (2019). India's Integrated Child Development Services Programme; Equity and Extent of Coverage in 2006 and 2016. *Bulletin of the World Health Organization*, 97(4), 270.
5. Das Gupta, M., Lokshin, M., Gragnolati, M., & Ivaschenko, O. (2005). Improving Child Nutrition Outcomes in India: Can the Integrated Child Development Services Program be more Effective? *World Bank Policy Research Working Paper*, (3647).

6. Fred Arnold, Sulabha Parasuraman, P. Arokiasamy, and Monica Kothari. 2009. Nutrition in India. National Family Health Survey (NFHS-3), India, 2005-06. Mumbai: International Institute for Population Sciences; Calverton, Maryland, USA: ICF Macro. *International Institute for Population Sciences*.
7. Ganesan, L., & Kashyap, A. (2016). Problems and Prospects of Implementing ICDS in The States of Tamil Nadu and Assam. *Published in Shanlax International Journal of Economics, ISSN*.
8. IFPRI (2008). The India State Hunger Index: Comparisons of Hunger Across States, eds. P. Menon, A. Deolalikar and A. Bhaskar, New Delhi: IFPRI, October 14
9. Khan, A. A., Singh, A. K., Gupta, S. B., Singh, J. P., Khan, H., & Maheshwari, S. (2016). Assessment of Supplementary Nutrition Service Utilization at Anganwadi Centres in Rural Area of District Bareilly. *Indian J Forensic Community Med*, 3(1), 204.
10. Kumar, A., & Shukla, R. (2020) Integrated Child Development Services (ICDS) GoI, 2019-20. BudgetBriefs,11(3).
https://accountabilityindia.in/sites/default/files/pdf_files/ICDS%202019-20.pdf?cv=1
11. Paul, L., Chellan, R., & Sahoo, H. (2018). Unmet Need of Integrated Child Development Services (ICDS) among Economically Weaker Sections in Indian Society. *Social Science Spectrum*, 3(3), 141-153.
12. Rajpal, S., Joe, W., Subramanyam, M. A., Sankar, R., Sharma, S., Kumar, A., ... & Subramanian, S. V. (2020). Utilization of Integrated Child Development Services in India: Programmatic Insights from National Family Health Survey, 2016. *International Journal of Environmental Research and Public Health*, 17(9), 3197.
13. Saxena, N. C. (2018). Hunger, Undernutrition and Food Security in India. In *Poverty, Chronic Poverty and Poverty Dynamics: Policy Imperatives* (pp. 55-92). Singapore: Springer Singapore.
14. Shashidhar, R., Maiya, P., & Ramakrishna, V. (2012). India's Integrated Child Development Scheme and its Implementation: Performance of Anganwadis and Analysis. *OIDA International Journal of Sustainable Development*, 5(6), 29-38.
15. Shivangi. (2019). Nutrition And Health Policies For The Children In Uttar Pradesh. *International Journal of Research -GRANTHAALAYAH*, 7(1), 361–372.

16. Sinha, D. (2008). Child Malnutrition and ICDS. *Yojana-Delhi*, 50, 54
17. Tandon, B. N. (1993). Integrated Child Development Services (ICDS): An assessment. *Nutrition Foundation of India Bulletin*, 14(1).
18. Thomas, N., Sengupta, P., & Benjamin, A. I. (2015). An Assessment of The Integrated Child Development Services Programme in an Urban Area of Ludhiana, Punjab. *IOSR Journal of Dental and Medical Sciences*, 14, 58-61.
19. Behera, J., & Acharya, S. S. (2020). Assessing The Impact Of ICDS on Child Under-Nutrition Status in India. *Man & Development*, 42(3).
20. Petrikova, I. (2022). The Role of Complementary Feeding in India's High Child Malnutrition Rates: Findings from a Comprehensive Analysis of NFHS IV (2015–2016) Data. *Food Security*, 14(1), 39-66.
21. Narayan, J., John, D. & Ramadas, N. Malnutrition in India: Status and Government Initiatives. *J Public Health Pol* 40, 126–141 (2019).
22. Vikram, K., & Chindarkar, N. (2020). Bridging The gaps in Cognitive Achievement in India: The Crucial Role of The Integrated Child Development Services in Early Childhood. *World Development*, 127, 104697.