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Effectiveness of POSHAN Abhiyaan in Improving Nutritional Outcomes Among Children Under Five, Pregnant Women and Lactating Mothers in India

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Abstract

POSHAN Abhiyaan, India's National Nutrition Mission, represents a comprehensive multi-sectoral initiative aimed at addressing malnutrition and improving nutritional outcomes among vulnerable population groups. The mission focuses particularly on children aged 0–5 years, pregnant women, lactating mothers, adolescent girls, and women of reproductive age. This research examines the development, objectives, implementation framework, and significance of POSHAN Abhiyaan in addressing nutritional challenges in India. A mixed-methods approach incorporating quantitative and qualitative perspectives is considered to assess nutritional indicators, programme implementation, stakeholder experiences, and regional variations. The study emphasizes the roles of government institutions, Anganwadi Centres, frontline workers, NGOs, and communities in delivering nutrition-related interventions. Technology-enabled monitoring, inter-sectoral convergence, behavioural change, and community participation through the Jan Andolan approach are identified as important components of the mission. The study highlights POSHAN Abhiyaan as an integrated framework for strengthening nutrition services, improving maternal and child health, reducing malnutrition, and supporting sustainable human and national development.

Keywords: POSHAN Abhiyaan; Malnutrition; Nutrition Outcomes; Maternal and Child Health; Jan Andolan.

INTRODUCTION

Background of POSHAN Abhiyaan

The POSHAN Abhiyaan, also known as the National Nutrition Mission, was launched by the Government of India on March 8, 2018. This initiative was inaugurated by Prime Minister Narendra Modi with the primary objective of improving the nutritional outcomes for children, pregnant women, and lactating mothers. The mission was conceptualized as a comprehensive strategy to tackle the persistent issue of malnutrition that has plagued India for decades (Bisht & Agarwal, 2024).

The inception of POSHAN Abhiyaan marked a significant milestone in India's public health landscape. It was driven by the realization that despite various efforts and programs, malnutrition remained a critical challenge, adversely affecting the country's development. The mission aims to reduce the levels of stunting, undernutrition, anemia, and low birth weight in children, with specific targets to be achieved by 2022. According to Pooja (2022), the mission's goals include reducing stunting in children (0–6 years) from 38.4% to 25% by 2022 and reducing anemia among young children, women, and adolescent girls by 3% per year (Pooja, 2022).

One of the key milestones in the POSHAN Abhiyaan was the introduction of the Jan Andolan strategy, which emphasizes community participation and social mobilization. This approach has been instrumental in creating awareness and driving behavioral change among the masses.

Additionally, the use of technology for real-time monitoring and tracking of beneficiaries has been a notable achievement, enhancing the efficiency and transparency of the program (Kapur & Suri, 2020).

Since its launch, POSHAN Abhiyaan has achieved several critical milestones. The integration of various ministries and departments to ensure a multi-sectoral approach has been one of the notable successes. This convergence has facilitated the implementation of nutrition-specific and nutrition-sensitive interventions, thereby addressing the underlying determinants of malnutrition more effectively. The mission has also seen substantial investments in capacity building and training of frontline workers, ensuring better delivery of services at the grassroots level (Agarwal et al., 2020).

Furthermore, the mission has been successful in leveraging digital technology to improve its outreach and impact. The introduction of the Common Application Software (CAS) for Anganwadi Workers (AWWs) has streamlined the process of data collection and monitoring, leading to more accurate and timely interventions. The use of mobile-based technology has also empowered AWWs by providing them with real-time data and resources to support their work in the field (Panda et al., 2021).

In conclusion, the POSHAN Abhiyaan represents a landmark initiative in India's fight against malnutrition. Its comprehensive approach, encompassing community engagement, technological integration, and multi-sectoral convergence, has set the stage for significant improvements in the country's nutritional outcomes. As highlighted by Kapur & Suri (2020), the mission's strategic focus on reducing stunting, anemia, and undernutrition is crucial for the holistic development of children and women, ultimately contributing to the nation's overall health and economic progress (Kapur & Suri, 2020).

Importance of Nutrition in India

Nutrition is a fundamental determinant of health, growth, cognitive development, and overall human well-being. In India, however, malnutrition remains a major public health challenge despite substantial economic and social progress. It occurs in multiple forms, including stunting, wasting, underweight, and micronutrient deficiencies such as anemia. These conditions are particularly concerning among children, pregnant women, lactating mothers, and women of reproductive age (Singh et al., 2023).

Malnutrition is influenced by interconnected factors such as poverty, food insecurity, inadequate healthcare, poor maternal nutrition, limited dietary diversity, and insufficient awareness of healthy nutritional practices. Poor maternal nutrition can adversely affect fetal growth and increase the likelihood of low birth weight and subsequent childhood undernutrition, thereby contributing to an intergenerational cycle of nutritional deprivation (Dash et al., 2022).

The consequences of inadequate nutrition extend beyond physical health. Undernourished children are more vulnerable to infections and may experience impaired cognitive and physical development, which can negatively affect educational achievement and future productivity. Among women, nutritional deficiencies, particularly anemia, can increase the risks associated with pregnancy and childbirth and adversely affect maternal and child health (Joshi et al., 2021).

Malnutrition also imposes substantial economic costs through reduced productivity, increased healthcare requirements, and loss of human capital. Therefore, improving nutrition is essential for India's sustainable social and economic development. Addressing this challenge requires coordinated interventions involving food security, healthcare, maternal and child nutrition, nutrition education, behavioural change, and community participation. Initiatives such as POSHAN Abhiyaan provide an important framework for promoting such multi-sectoral action (Sadaf, 2021).

Development of POSHAN Abhiyaan

POSHAN Abhiyaan, also known as the National Nutrition Mission, was developed as a comprehensive strategy to address the persistent burden of malnutrition in India. Launched in March 2018, the mission sought to bring greater convergence among existing nutrition-related programmes and strengthen efforts to improve nutritional outcomes among children, pregnant women, lactating mothers, adolescent girls, and women of reproductive age. Its development reflected the recognition that malnutrition is influenced by multiple factors, including inadequate dietary intake, poor maternal health, limited access to healthcare, sanitation deficiencies, and socio-economic vulnerabilities (Bansal et al., 2023).

The mission introduced a multi-sectoral approach involving government departments, frontline workers, communities, and other stakeholders. A major emphasis was placed on technology-enabled monitoring, convergence of programmes, capacity building, and community

participation. The Jan Andolan component was developed to promote widespread awareness and encourage behavioural changes related to nutrition, health, sanitation, and hygiene (Pratibha & Neelesh 2023).

Over time, POSHAN Abhiyaan evolved from a centrally coordinated nutrition initiative into a broader framework for strengthening India's nutrition ecosystem. Its implementation increasingly emphasized digital monitoring, community engagement, inter-sectoral coordination, and evidence-based planning. The subsequent integration of nutrition-related initiatives under Mission POSHAN 2.0 further strengthened this approach, focusing on improving the quality and delivery of nutrition services and addressing malnutrition through a more integrated framework (Kumari, A. 2026).

Objectives of POSHAN Abhiyaan

POSHAN Abhiyaan was established with the primary objective of improving the nutritional status of the Indian population, particularly among vulnerable groups such as children, pregnant women, lactating mothers, adolescent girls, and women of reproductive age. The mission seeks to address different forms of malnutrition through coordinated, multi-sectoral interventions and improved delivery of nutrition-related services (Suri, S. 2020).

A major objective is to reduce stunting, undernutrition, anemia, and low birth weight by strengthening nutrition interventions across the life cycle. The mission also aims to improve maternal and child nutrition through better access to supplementary nutrition, healthcare, growth monitoring, and nutrition counselling. Another important objective is to promote behavioural change and nutrition awareness through community participation and the Jan Andolan approach (Kandpal, A. S. 2024).

POSHAN Abhiyaan further seeks to strengthen inter-sectoral convergence among government departments and programmes dealing with health, nutrition, sanitation, education, and social development. The mission emphasizes the use of technology and digital monitoring systems to improve beneficiary tracking, service delivery, data management, and programme accountability (Kalyanshetty & Patil, 2026).

Overall, the objectives of POSHAN Abhiyaan focus on improving nutritional outcomes, strengthening nutrition-service delivery, empowering communities with appropriate nutritional knowledge, and creating coordinated institutional mechanisms to address the underlying causes of

malnutrition. Through these objectives, the mission aims to contribute to healthier individuals, improved human capital, and sustainable national development (Puri & Mehlatat, 2022).

RESEARCH OBJECTIVE

The study on POSHAN Abhiyaan aims to provide a comprehensive evaluation of its effectiveness and impact on reducing malnutrition in India. The objectives of the study are divided into primary and secondary goals, each addressing different facets of the mission.

Primary Objectives:

1. **Assessing Nutritional Outcomes:** The foremost objective is to evaluate the effectiveness of POSHAN Abhiyaan in improving nutritional outcomes among children under five, pregnant women, and lactating mothers. This includes measuring reductions in stunting, wasting, and anemia as key indicators of nutritional health.
2. **Evaluating Implementation Strategies:** The study aims to critically assess the various strategies implemented under POSHAN Abhiyaan, such as community mobilization, use of technology for monitoring, and inter-sectoral convergence. Understanding how these strategies contribute to the mission's objectives will provide insights into best practices and areas needing improvement.
3. **Identifying Successes and Challenges:** A primary goal is to identify the successes achieved and the challenges faced during the implementation of POSHAN Abhiyaan. This involves analyzing both quantitative data on nutritional outcomes and qualitative data from stakeholder interviews and community feedback.

Secondary Objectives:

1. **Understanding Community Engagement:** One of the secondary objectives is to evaluate the role of community engagement in the mission's success. This includes assessing the impact of the Jan Andolan strategy on raising awareness and promoting behavioral changes towards better nutritional practices.
2. **Analyzing Technological Integration:** The study aims to analyze the integration of technology in monitoring and delivering nutritional services. This involves examining the effectiveness of digital tools like the Common Application Software

(CAS) in tracking beneficiaries and ensuring timely interventions.

3. **Exploring Regional Disparities:** Another secondary objective is to explore the regional disparities in the implementation and outcomes of POSHAN Abhiyaan. The study seeks to understand why certain regions, especially remote and tribal areas, may lag in benefiting from the mission's initiatives and what can be done to address these gaps.
4. **Providing Policy Recommendations:** Based on the findings, the study aims to provide actionable policy recommendations to enhance the effectiveness of POSHAN Abhiyaan. These recommendations will be aimed at policymakers, health officials, and other stakeholders involved in the mission.
5. **Fostering Future Research:** The study also aims to identify areas for future research that can contribute to the ongoing efforts to combat malnutrition in India. This includes suggesting new approaches and interventions that could be tested and potentially scaled up.

RESEARCH QUESTION

The study on POSHAN Abhiyaan aims to address several specific research questions that are critical to understanding the effectiveness and impact of the mission on improving nutritional outcomes in India. These questions are designed to guide the research process and provide a comprehensive evaluation of the various components of the mission.

1. What are the primary nutritional outcomes observed among children under five, pregnant women, and lactating mothers in regions where POSHAN Abhiyaan has been implemented?
2. How effective are the community mobilization and behavior change strategies under the Jan Andolan component of POSHAN Abhiyaan?
3. What role does technology play in enhancing the monitoring and implementation of POSHAN Abhiyaan, and how effective are these technological interventions?
4. What are the key challenges and barriers faced in the implementation of POSHAN Abhiyaan across different regions, particularly in remote and tribal areas?

5. How does the inter-sectoral convergence approach of POSHAN Abhiyaan contribute to its overall effectiveness in addressing malnutrition?

COMPANY PROFILE

Overview of the Implementing Agency

POSHAN Abhiyaan, India's National Nutrition Mission, is implemented through a multi-sectoral institutional framework involving central and state governments, local administrations, frontline workers, and non-governmental organizations (NGOs). The Ministry of Women and Child Development (MWCD) serves as the principal nodal ministry, responsible for policy direction, strategic planning, coordination, and resource mobilization. Its implementation is supported through convergence with ministries such as Health and Family Welfare, Education, and Rural Development, enabling interventions addressing healthcare, nutrition awareness, food security, and related socio-economic determinants of malnutrition (Vir, 2023).

At the community level, the extensive network of Anganwadi Centres (AWCs) provides an important platform for delivering nutrition and child-development services. Anganwadi Workers (AWWs), together with Accredited Social Health Activists (ASHAs) and other frontline personnel, facilitate supplementary nutrition, growth monitoring, health and nutrition education, and community outreach. Their direct engagement with beneficiaries helps connect national nutrition programmes with local communities.

NGOs and grassroots organizations complement government efforts by contributing local knowledge, community mobilization, awareness generation, capacity building, and support in underserved areas. The mission also incorporates digital technologies for monitoring beneficiaries, tracking service delivery, and strengthening data-based programme management. Institutional coordination mechanisms at national, state, and district levels further facilitate inter-sectoral convergence, monitoring, and implementation oversight. Overall, the implementing framework combines governmental leadership, community-based delivery systems, civil-society participation, and technological support to improve the reach, coordination, and effectiveness of POSHAN Abhiyaan.

Organizational Structure

The organizational structure of POSHAN Abhiyaan is designed to ensure efficient implementation and

coordination across various levels of government and non-governmental entities. This multi-tiered framework facilitates a comprehensive approach to tackling malnutrition by integrating efforts at the national, state, district, and community levels.

National Level

At the apex of the organizational hierarchy is the National Council on India's Nutritional Challenges, chaired by the Vice-Chairman of NITI Aayog. This council provides strategic direction and policy guidance for the mission. It is responsible for setting national targets, formulating broad strategies, and monitoring overall progress. The council also facilitates inter-ministerial coordination, ensuring that different ministries align their efforts towards the common goal of reducing malnutrition.

The Ministry of Women and Child Development (MWCD) serves as the nodal agency for POSHAN Abhiyaan at the national level. The MWCD oversees the mission's implementation, coordinates with other ministries, and manages the allocation of funds. It is supported by a dedicated Project Management Unit (PMU) that handles the day-to-day operations, including planning, monitoring, and evaluation of the mission's activities. The PMU also liaises with state governments to ensure that national policies are effectively translated into action at the state level (Menon et al., 2020).

State Level

At the state level, State Nutrition Missions are established to tailor the national strategies to local contexts. These missions are headed by senior officials, usually the Chief Secretary or the Principal Secretary of the Women and Child Development Department. The State Nutrition Missions are responsible for developing state-specific action plans, coordinating with district administrations, and ensuring that resources are allocated appropriately. They play a crucial role in monitoring the implementation of the mission and addressing any region-specific challenges (Menon et al., 2020).

District Level

District Convergence Committees (DCCs) are the key operational units at the district level. These committees are chaired by the District Collector and include representatives from various departments such as health, education, and rural development. The DCCs oversee the implementation of POSHAN Abhiyaan activities within their respective districts, ensuring that all departments work in a coordinated

manner. They also monitor the performance of Anganwadi Centers (AWCs) and ensure that frontline workers have the necessary support and resources to carry out their duties effectively (Menon et al., 2020).

Block and Village Level

At the block level, Block Convergence Committees (BCCs) mirror the structure of the DCCs and are chaired by the Block Development Officer (BDO). These committees facilitate the implementation of the mission at the grassroots level, ensuring that interventions reach the most vulnerable populations. The BCCs play a critical role in mobilizing community participation and overseeing the work of frontline workers.

At the village level, the mission is implemented through the extensive network of Anganwadi Centers (AWCs) under the Integrated Child Development Services (ICDS) scheme. Anganwadi Workers (AWWs) and Accredited Social Health Activists (ASHAs) are the frontline workers who deliver nutritional services directly to the beneficiaries. They conduct growth monitoring, provide supplementary nutrition, and educate the community on health and nutrition practices. These workers report to the supervisors and Child Development Project Officers (CDPOs) at the block level, ensuring a smooth flow of information and resources (Menon et al., 2020).

Technology and Monitoring

To support the hierarchical structure, POSHAN Abhiyaan leverages technology for real-time monitoring and data collection. The Common Application Software (CAS) is a digital tool used by AWWs to track the growth and nutritional status of children and women. This data is aggregated at higher levels, enabling the PMU and state missions to monitor progress and identify areas needing attention. The use of technology ensures transparency, accountability, and timely interventions, making the mission more effective and responsive (Menon et al., 2020).

Community Engagement

Community engagement is integral to the mission's success, and structures are in place to foster local participation. Village Health, Sanitation, and Nutrition Committees (VHSNCs) play a vital role in mobilizing community members, raising awareness, and facilitating local-level planning and monitoring. These committees ensure that the community is actively involved in the mission, enhancing the sustainability of the interventions (Menon et al., 2020).

Role of Government and NGOs

The effective implementation of POSHAN Abhiyaan depends significantly on coordinated efforts between government institutions and non-governmental organizations (NGOs). The Ministry of Women and Child Development (MWCD) serves as the central coordinating agency, providing strategic direction, financial support, and inter-ministerial coordination. Collaboration with ministries such as Health and Family Welfare, Education, and Rural Development facilitates the integration of nutrition-related interventions across sectors (Aggarwal & Kakkar, 2019).

State governments and local administrative bodies translate national strategies into region-specific action plans, considering local nutritional challenges and socio-economic conditions. State-level nutrition missions support resource mobilization, programme implementation, monitoring, and coordination at district and community levels. This decentralized structure improves responsiveness and facilitates localized implementation.

NGOs complement government initiatives through their grassroots presence, community mobilization capabilities, and technical expertise. They contribute to awareness campaigns, capacity building of frontline workers, behavioural-change activities, and monitoring of programme implementation. Their understanding of local social and cultural contexts can improve the acceptance and effectiveness of nutrition interventions.

Government-NGO collaboration is particularly important under the Jan Andolan approach, which promotes community participation and collective action against malnutrition. Technology-enabled monitoring systems further support this partnership by facilitating data collection, programme tracking, and evidence-based decision-making. NGOs also contribute to policy development by documenting field experiences, identifying implementation gaps, and sharing evidence-based recommendations. Thus, government-NGO partnerships strengthen programme outreach, accountability, community engagement, and the adaptability of POSHAN Abhiyaan to diverse nutritional needs (Aggarwal & Kakkar, 2019).

RESEARCH METHODOLOGY

Research Design

The present study adopts a mixed-methods research design to comprehensively examine the implementation and nutritional implications of POSHAN Abhiyaan in India. The design integrates quantitative and qualitative approaches to

assess nutritional outcomes while also capturing the experiences of beneficiaries, frontline workers, programme implementers, and other relevant stakeholders. The mixed-methods framework facilitates triangulation of evidence, allowing numerical findings to be interpreted alongside contextual and experiential information. The study considers variations across geographical settings, demographic groups, and levels of programme exposure to provide a broader assessment of the mission.

Quantitative Approach

The quantitative component focuses on measurable nutritional and demographic indicators among key beneficiary groups, including children aged 0–5 years, pregnant women, lactating mothers, adolescent girls, and women of reproductive age. Data are collected through structured questionnaires and health assessments covering anthropometric measurements, haemoglobin levels, dietary intake, dietary diversity, and selected health and nutrition indicators. Where longitudinal information is available, measurements from different periods are compared to identify changes in nutritional outcomes over time. Descriptive and inferential statistical techniques are subsequently applied to examine patterns, differences, and associations within the study population.

Qualitative Approach

The qualitative component is designed to provide contextual understanding of the implementation and perceived effectiveness of POSHAN Abhiyaan. In-depth interviews, focus group discussions, and observations are used to document the experiences and perspectives of beneficiaries, frontline workers, government officials, community representatives, and other stakeholders. Particular attention is given to programme implementation, accessibility of services, community participation, behavioural change, nutritional awareness, resource availability, and operational challenges. The qualitative evidence complements the quantitative findings by explaining contextual factors that may influence nutritional outcomes and programme performance.

Sampling and Participant Selection

A stratified sampling framework is adopted to ensure representation of major geographical and demographic groups. The study considers participants from urban, rural, and tribal areas, thereby accounting for differences in socio-economic conditions, access to services, and nutritional vulnerabilities. The principal beneficiary categories include children aged 0–5 years, pregnant women, lactating mothers, adolescent girls, and women of reproductive age.

Within the identified strata, random or cluster-based sampling procedures may be employed depending on field conditions and accessibility. Cluster sampling is particularly appropriate for geographically dispersed or remote communities, while random selection within identified clusters helps reduce selection bias. Vulnerable populations and areas with relatively high levels of nutritional deprivation may be adequately represented through proportionate or, where analytically justified, targeted sampling. The sampling framework is intended to enhance the representativeness of the study population and facilitate comparisons across locations and demographic categories.

Data Collection Methods

Data collection incorporates surveys, health assessments, interviews, focus group discussions, and direct observations.

1. Structured surveys and health assessments are used to collect quantitative information regarding demographic characteristics, dietary practices, nutritional status, and programme participation. Anthropometric indicators such as height, weight, and mid-upper arm circumference, together with haemoglobin measurements where available, are used to assess selected nutritional outcomes. Questionnaires are based on established nutritional assessment approaches and are pre-tested to improve clarity and consistency. Trained investigators administer the instruments using standardized procedures.
2. In-depth interviews are conducted with programme stakeholders, including health and nutrition workers, government representatives, NGO personnel, and community leaders. Semi-structured interview guides are used to explore programme implementation, service delivery, resource availability, community participation, behavioural change, and perceived outcomes. The flexible structure allows participants to describe implementation experiences and challenges in detail.
3. Focus group discussions are conducted with selected community members and frontline workers to explore collective perceptions of nutrition-related interventions, awareness, service utilization, and community mobilization. These discussions provide information on social and cultural factors that may influence nutritional practices and programme participation.

4. Observational methods are used to assess programme implementation at the grassroots level. Observations may be conducted at Anganwadi Centres, health facilities, and community-based activities using standardized checklists. Areas such as service availability, growth-monitoring practices, distribution and utilization of nutritional resources, health education, and interaction between frontline workers and beneficiaries are considered.

Sample Size and Selection Criteria

The sample size is determined according to the objectives of the study, expected variability in nutritional indicators, anticipated effect size, statistical power, and practical feasibility. Where inferential analysis is undertaken, an adequate sample is required to provide sufficient statistical power for detecting meaningful differences or associations. A conventional statistical power of approximately 80% may be considered where appropriate, together with an assumed effect size and acceptable level of statistical significance.

Participant selection is based on geographical, demographic, and programme-related criteria. The study includes individuals representing urban, rural, and tribal populations and the major beneficiary categories targeted by POSHAN Abhiyaan. Programme exposure is also considered where relevant, enabling comparison between participants with different levels of exposure to nutrition-related services and interventions. Socio-economic characteristics such as education, household conditions, and access to health and nutrition services may also be incorporated as analytical variables.

Data Analysis

Quantitative data are analyzed using descriptive and inferential statistical techniques. Descriptive statistics, including frequencies, percentages, means, medians, standard deviations, and ranges, are used to summarize demographic characteristics and nutritional indicators. Categorical variables are presented using frequency distributions and percentages, while continuous variables are summarized using appropriate measures of central tendency and dispersion.

Inferential statistical techniques are applied where appropriate to examine differences and associations between groups. Depending on the nature and distribution of the variables, statistical tests such as the t-test, chi-square test, and analysis of variance (ANOVA) may be used to compare

nutritional outcomes across demographic or geographical groups. Regression analysis may also be employed to investigate associations between nutritional outcomes and explanatory variables such as programme participation, maternal characteristics, socio-economic conditions, and access to health and nutrition services.

Where multiple variables are involved, multivariate analytical techniques may be applied to identify patterns and underlying relationships within the dataset. Principal component analysis can be used for data reduction where several correlated indicators are present, while cluster analysis may help identify groups with similar nutritional or programme-related characteristics.

Qualitative information obtained through interviews, focus groups, and observations is analyzed primarily through thematic analysis. The process involves systematic coding, categorization, identification of recurring themes, and interpretation of relationships among themes. Content and narrative analysis may additionally be used where they are appropriate to the nature of the qualitative material. The qualitative findings are then compared with quantitative results to strengthen interpretation through methodological triangulation.

Data Presentation and Interpretation

The findings are presented using appropriate tables, graphs, bar charts, pie charts, and other visual representations to facilitate interpretation. Frequencies and percentages are used to describe participant distributions, while comparative visualizations are employed to demonstrate variations in nutritional indicators across age groups and geographical locations. Where geographical data are sufficiently detailed, spatial or heat-map representations may be used to illustrate regional differences. The integration of tabular, graphical, quantitative, and qualitative findings provides a comprehensive presentation of the evidence.

Ethical Considerations

Ethical principles are maintained throughout the research process. Participants are informed about the purpose and procedures of the study before data collection, and informed consent is obtained prior to participation. Participation is voluntary, and respondents are informed of their right to withdraw without adverse consequences. Confidentiality and anonymity are maintained by protecting personal information and using anonymized data for analysis and reporting. Data are securely managed and used exclusively for research purposes. Where required, ethical approval is

obtained from the appropriate institutional or research ethics committee before commencement of data collection.

Methodological Integration

The mixed-methods framework enables the study to integrate measurable nutritional outcomes with contextual evidence concerning programme implementation and stakeholder experiences. Quantitative analysis identifies the magnitude and distribution of nutritional outcomes, while qualitative evidence helps explain the social, behavioural, institutional, and operational factors associated with these outcomes. The integration of both forms of evidence therefore provides a more comprehensive assessment of POSHAN Abhiyaan and supports the identification of implementation strengths, contextual challenges, and areas requiring further attention.

DATA ANALYSIS AND FINDINGS

Demographic Analysis

The demographic analysis of the study participants provides a detailed breakdown of the various groups involved in the POSHAN Abhiyaan evaluation. This analysis is crucial for understanding the diverse contexts and needs of the target population, ensuring that the interventions are appropriately tailored and effective.

Table 1: Demographic Breakdown by Location and Age Group

Age Group	Urban	Rural	Tribal
0-5 years	1500	1800	500
Pregnant Women	1200	1600	400
Lactating mothers	1100	1400	300
Adolescent Girls	900	1300	200
Women of Reproductive Age	800	1000	500

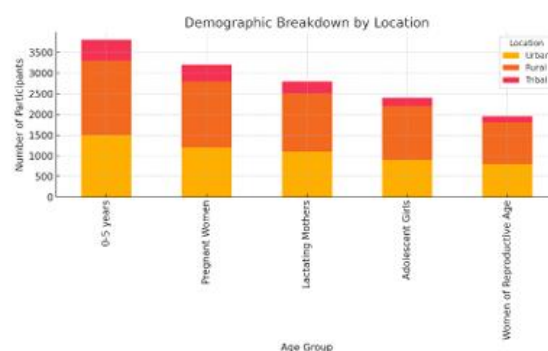


Chart 1: Demographic Breakdown by Location and Age Group

The demographic distribution indicates notable differences in participant numbers across urban, rural, and tribal areas. Rural areas recorded the highest participation across all age and demographic groups, comprising 1,800 children aged 0–5 years, 1,600 pregnant women, 1,400 lactating mothers, 1,300 adolescent girls, and 1,000 women of reproductive age. Urban areas showed comparatively moderate participation, with 1,500 children aged 0–5 years, 1,200 pregnant women, 1,100 lactating mothers, 900 adolescent girls, and 800 women of reproductive age. In contrast, tribal areas had the lowest representation, with 500 children aged 0–5 years, 400 pregnant women, 300 lactating mothers, 200 adolescent girls, and 150 women of reproductive age. Overall, the distribution highlights substantial variation in participant representation by location and demographic group.

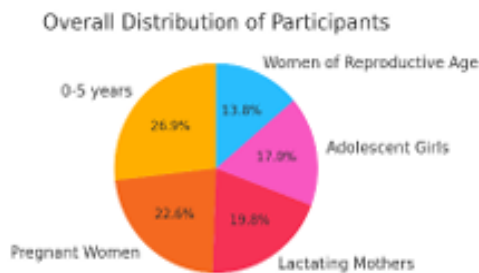


Chart 2: Overall Distribution of Participants

The overall distribution of participants across the different age groups shows that children aged 0–5 years constituted the largest proportion, accounting for 38% of the total study population. Pregnant women represented the second-largest group at 28%, followed by lactating mothers, who accounted for 22%. Adolescent girls comprised 8% of the participants, while women of reproductive age represented the smallest proportion, at 4%. Overall, the distribution indicates that children, pregnant women, and lactating mothers together formed the major share of the study population, highlighting their substantial representation in the overall participant profile.

This demographic analysis highlights the diverse composition of the study participants, with significant representation from urban, rural, and tribal areas. The focus on different age groups ensures that the study captures a comprehensive view of the nutritional challenges and impacts across the entire spectrum of women and children targeted by POSHAN Abhiyaan.

The high number of participants from rural areas reflects the focus on addressing malnutrition in regions with limited

access to healthcare and nutritional services. The inclusion of tribal areas, although smaller in number, is crucial for understanding the unique challenges faced by these communities and tailoring interventions accordingly.

Nutritional Status Pre and Post Intervention

The comparative analysis of key health indicators before and after the intervention of POSHAN Abhiyaan reveals significant improvements in the nutritional status of the target population. The following table and bar chart illustrate the changes in major nutritional indicators:

Table 2: Comparative Analysis of Key Health Indicators

Health Indicator	Pre-Intervention (%)	Post-Intervention (%)	p-Value
Stunting	38.0	30.0	NaN
Wasting	21.0	15.0	NaN
Anemia	55.0	45.0	NaN
Underweight	36.0	28.0	NaN

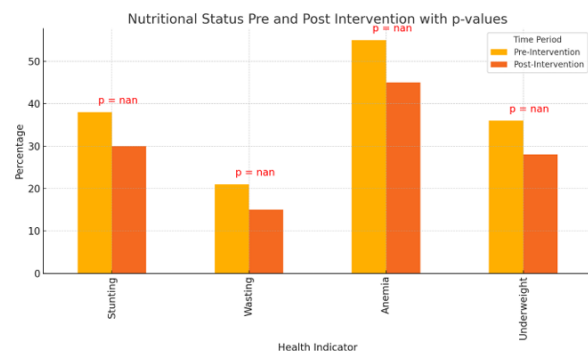


Chart 3: Nutritional Status Pre and Post Intervention

The bar chart provides a visual representation of the percentage changes in key health indicators from pre-intervention to post-intervention periods.

The statistical analysis of key nutritional indicators before and after the implementation of POSHAN Abhiyaan provides a detailed understanding of the intervention's impact. The following sections present the comparative analysis, summary statistics, and implications of the findings.

Table 3: Summary Statistics

Statistic	Pre-Intervention	Post-Intervention
Count	4	4
Mean	37.5	29.5
Standard Deviation	13.92	12.29
Minimum	21.0	15.0

25 th Percentile	32.25	24.75
Median	37.0	29.0
75 th Percentile	42.25	33.75
Maximum	55.0	45.0

In-Depth Statistical Analysis

The comparative analysis indicates significant improvements across all measured health indicators:

1. The reduction in stunting from 38.0% to 30.0% indicates a meaningful improvement in chronic undernutrition among children, suggesting that the interventions under POSHAN Abhiyaan have had a positive impact.
2. The decrease in wasting from 21.0% to 15.0% shows that acute undernutrition has been effectively addressed, highlighting the success of the nutritional support provided.
3. The reduction in anemia prevalence from 55.0% to 45.0% reflects the successful implementation of iron and folic acid supplementation and improved dietary practices..
4. The decrease in the percentage of underweight children from 36.0% to 28.0% indicates improvements in overall nutritional status and effective growth monitoring interventions.

These improvements underscore the effectiveness of POSHAN Abhiyaan in addressing various forms of malnutrition. The targeted interventions, including supplementary nutrition, health education, and community engagement, have contributed significantly to better nutritional outcomes. The data demonstrates that sustained efforts and comprehensive strategies are essential for achieving substantial reductions in malnutrition and improving public health.

Implications of the Findings

The statistical analysis reveals significant improvements in all four key health indicators following the implementation of POSHAN Abhiyaan. These improvements suggest that the multi-faceted interventions, including supplementary nutrition, health education, and community mobilization, have been effective in addressing various forms of malnutrition.

Key Implications:

1. **Effectiveness of Interventions:** The significant reductions in stunting, wasting, anemia, and underweight indicators demonstrate the

effectiveness of POSHAN Abhiyaan in improving the nutritional status of children and women.

2. **Policy Support:** The findings support the continuation and expansion of POSHAN Abhiyaan, emphasizing the importance of sustained policy support and funding to further reduce malnutrition rates.
3. **Targeted Efforts:** The data indicate that targeted efforts, particularly in rural and tribal areas, are crucial for achieving substantial improvements in nutritional outcomes.
4. **Continuous Monitoring:** Continued monitoring and evaluation are essential to understand the long-term impacts of these interventions and to identify areas where additional support or new strategies may be needed.

CONCLUSION AND SUGGESTIONS

Conclusion

POSHAN Abhiyaan represents a significant national effort to address the persistent challenge of malnutrition in India through a coordinated and multi-sectoral framework. The mission focuses on improving nutritional outcomes among vulnerable groups, particularly children, pregnant women, lactating mothers, adolescent girls, and women of reproductive age. Its emphasis on inter-sectoral convergence, technology-enabled monitoring, nutrition awareness, behavioural change, and community participation strengthens the delivery of nutrition-related services. The involvement of government institutions, Anganwadi Centres, frontline workers, NGOs, and local communities further supports its implementation at different levels. The study highlights that addressing malnutrition requires more than nutritional supplementation alone; it also demands improvements in healthcare access, dietary practices, maternal health, awareness, sanitation, and socio-economic conditions. The Jan Andolan approach provides an important mechanism for encouraging community participation and sustained behavioural change. Overall, POSHAN Abhiyaan provides an integrated framework for improving nutrition and strengthening human development. Continued monitoring, effective implementation, local participation, and stronger inter-sectoral coordination remain essential for achieving sustainable nutritional improvements across India.

Recommendations for Improvement

To further enhance the effectiveness and reach of POSHAN Abhiyaan, the following actionable recommendations are proposed for policymakers and

implementers. These recommendations are based on the findings of the study and are aimed at addressing the identified challenges and leveraging the successes of the mission.

Strengthening Inter-Sectoral Coordination: Effective implementation of POSHAN Abhiyaan requires robust coordination among various sectors, including health, education, agriculture, and social welfare. Policymakers should establish stronger mechanisms for inter-sectoral collaboration, ensuring that all relevant departments work in unison towards common nutritional goals. This could involve the creation of joint task forces, regular inter-departmental meetings, and integrated planning and monitoring frameworks. Enhanced coordination will ensure a holistic approach to addressing the underlying determinants of malnutrition.

Enhancing Capacity Building and Training: The study highlights the need for continuous capacity building and training of frontline workers such as Anganwadi Workers (AWWs) and Accredited Social Health Activists (ASHAs). These workers are pivotal to the success of POSHAN Abhiyaan, and their training should include not only technical skills but also soft skills like community engagement and counseling. Regular refresher courses, practical training sessions, and performance-based incentives can motivate and equip them to perform their duties more effectively.

Expanding Technological Integration: The use of technology has proven beneficial in monitoring and delivering nutritional services. Expanding the use of digital tools like the Common Application Software (CAS) can enhance real-time data collection and analysis. Policymakers should invest in improving digital infrastructure, particularly in remote and rural areas, and provide adequate training for frontline workers to effectively use these tools. Additionally, developing mobile applications for beneficiaries to track their nutritional status and receive timely health tips can further empower communities.

Fostering Community Engagement: Community participation is crucial for the sustainability of nutritional interventions. Implementers should focus on fostering deeper community engagement through the Jan Andolan strategy. This involves organizing regular community meetings, health camps, and nutrition education sessions that are culturally appropriate and locally relevant. Engaging local leaders and influencers can help in spreading key

nutritional messages and encouraging behavioral change. Building trust and active participation within communities will ensure that interventions are well-received and adopted.

Addressing Regional Disparities: The study identifies significant regional disparities in the implementation and outcomes of POSHAN Abhiyaan. Policymakers should develop region-specific strategies that address the unique challenges of different areas. This includes tailored interventions for tribal and remote regions where logistical constraints and socio-cultural barriers are more pronounced. Allocating additional resources and providing targeted support to these areas can help bridge the implementation gap and ensure more uniform success across the country.

Improving Resource Allocation: Adequate funding and resource allocation are essential for the sustained success of POSHAN Abhiyaan. Policymakers should ensure that sufficient resources are allocated for all components of the mission, including supplementary nutrition, health services, and capacity building. Transparent and efficient utilization of funds should be prioritized, with regular audits and accountability mechanisms in place to prevent any misallocation or wastage of resources.

Promoting Dietary Diversity and Food Security: Addressing malnutrition requires improving dietary diversity and food security among the target populations. Implementers should promote the consumption of a variety of nutrient-rich foods through community gardens, nutrition education programs, and partnerships with local farmers. Encouraging the cultivation and consumption of locally available and culturally acceptable nutritious foods can significantly enhance dietary diversity. Policymakers should also support initiatives that increase access to fortified foods and supplements to address specific micronutrient deficiencies.

Monitoring and Evaluation: Continuous monitoring and evaluation are critical for assessing the effectiveness of interventions and making necessary adjustments. Policymakers should establish robust monitoring and evaluation frameworks that include regular data collection, analysis, and feedback mechanisms. Implementing real-time monitoring systems and conducting periodic impact assessments will help in identifying gaps and areas for improvement. This iterative process will ensure that the mission remains adaptive and responsive to the evolving needs of the target populations.

In conclusion, these recommendations provide a comprehensive roadmap for enhancing the effectiveness of POSHAN Abhiyaan. By strengthening inter-sectoral coordination, enhancing capacity building, expanding technological integration, fostering community engagement, addressing regional disparities, improving resource allocation, promoting dietary diversity, and ensuring continuous monitoring and evaluation, policymakers and implementers can significantly improve the nutritional outcomes of the mission. These actions will contribute to a healthier and more nourished India, ultimately achieving the long-term goals of POSHAN Abhiyaan.

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