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## Malnutrition among under five-year children in Odisha and programmes implemented to control: A Review

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### Abstract

This article highlights the critical issue of malnutrition among children under the age of five, emphasizing its lasting impact on physical and cognitive development. The urgency to eradicate malnutrition is underscored by the potential for irreversible consequences, such as stunted growth, underweight conditions, and developmental delays. Statistics from the National Family Health Survey (NFHS) - 4 reveal alarming prevalence rates in India and particularly in Odisha, reflecting the dire situation. The passage draws attention to the vulnerability of this age group and the need for comprehensive efforts to address malnutrition, aligning with broader societal goals of breaking the cycle of poverty and fostering a resilient and prosperous society. The integration of research findings and studies further illuminates the multifaceted nature of malnutrition, emphasizing the importance of tailored interventions and collective action. The article concludes by highlighting ongoing initiatives and strategies in Odisha, suggesting a path toward sustained progress in improving the nutritional well-being of the population.

**Keywords:** ICDS, Poverty, nutrition, underweight, morality

### 1. Introduction

Malnutrition among children under the age of five is a pressing issue that goes beyond immediate health concerns. It signifies a critical phase where inadequate or imbalanced nutrition can inflict enduring physical and cognitive consequences. The urgency to eradicate malnutrition during these early years is underscored by its potential to cause irreversible effects like stunted growth, underweight conditions, and developmental delays. Recognizing nutrition as the cornerstone of a child's foundation for a healthy life emphasizes the need for comprehensive efforts. Addressing malnutrition not only safeguards immediate well-being but also aligns with broader societal goals, breaking the cycle of poverty and contributing to the development of a resilient and prosperous society.

Satapathy *et al.* (2021) <sup>[1]</sup> underscores the vulnerability of children under five, serving as pivotal markers for community health. Protein-Energy Malnutrition (PEM) disproportionately affects this age group due to insufficient nutrient intake, especially evident in underprivileged environments. Kwashiorkor affects children aged one to three, while marasmus predominantly impacts toddlers under two. Alarming statistics from the National Family Health Survey (NFHS)-4 (2015-16) reveal India's highest prevalence of stunting at 38.4%, with underweight and wasting rates of 35.8% and 21%, respectively. In Odisha, figures are distressing, with stunting at 38.2%, underweight at 34.4%, and wasting at 18.3%. Inadequate nutrition not only stunts growth but also elevates susceptibility to diseases like pneumonia and diarrhea, leading to increased mortality rates among malnourished children. Globally, stunting affects 22.9% (155 million), while wasting affects 7.7% (52 million), with 17 million severely wasted. Asia, home to over two-thirds of wasted and half of stunted children under five, faces a substantial burden.

Sethy *et al.* (2017) <sup>[2]</sup> conducted a study in Berhampur city's urban slum, finding that 69% of 300 children experienced various forms of under nutrition. Among them, 52.6% of infants under one year were underweight, and 21.3% were severely wasted, highlighting the overlapping nature of malnutrition. Prost *et al.* (N.D.) cohort research in rural Jharkhand and Odisha revealed an incidence of Moderate Acute Malnutrition (MAM) at 406 per 1,000 children-years and Severe Acute Malnutrition (SAM) at 190 per 1,000 child-years.

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Despite fatalities, recovery rates were observed. Bulliyya G emphasized the dire situation in Orissa, with 39% of the population facing social vulnerabilities. The majority, residing in rural areas (87%), lacks education (51%) and lives below the poverty line (47%). Maternal and new-born mortality rates are alarming, and malnutrition persists as a prevalent issue, leading to a significant increase in underweight children in the state. The nutritional condition of preschool-aged children in Orissa in 1998 has been worse compared to 1989 and 1979.

## 2. Classification of malnutrition

Malnutrition is a complex issue encompassing various types, each characterized by specific nutritional deficiencies or imbalances. The three primary categories that manifest in individuals are under nutrition, micronutrient deficiencies, and over nutrition.

- Undernutrition involves chronic malnutrition, commonly known as stunting, which occurs when a child falls short of the expected height due to prolonged insufficient nutrient intake. Acute malnutrition, identified as wasting, is marked by rapid weight loss or failure to gain weight, often linked to severe food shortages. Another facet of under nutrition is being underweight, indicating that a person's weight is below the expected standard for their age. Protein-Energy Malnutrition (PEM) includes conditions like kwashiorkor, marked by protein deficiency, edema, and an enlarged liver. Marasmus is a severe form of malnutrition resulting from a lack of calories and protein, leading to emaciation and muscle wasting.
- Micronutrient deficiencies are characterized by insufficient intake of vital elements, leading to specific health issues. Iron deficiency anemia results from inadequate iron intake, causing decreased red blood cells and impaired oxygen transport. Vitamin A deficiency contributes to visual impairment and increased susceptibility to infections. Iodine deficiency disorders (IDD) manifest as goiter, mental retardation, and other developmental issues due to a lack of iodine. Hidden hunger encompasses micronutrient malnutrition (MNM), where individuals lack essential vitamins and minerals despite adequate calorie consumption. This condition results in health issues without obvious signs.
- Over nutrition involves excessive calorie intake, often coupled with insufficient physical activity, leading to health risks such as cardiovascular diseases and diabetes.
- Dietary imbalances, marked by unbalanced diets, occur due to insufficient diversity and a lack of proper balance in macronutrients and micronutrients. Such imbalances contribute significantly to the prevalence of malnutrition.

## 3. Factors affecting malnutrition

According to Satapathy *et al.* (2021) <sup>[1]</sup>, the study identifies multiple factors contributing to malnutrition, emphasizing a complex interplay of social, economic, and environmental determinants. These include low socioeconomic status, poverty, dietary habits, poor environmental sanitation, frequent infections, inadequate household food security, high rice consumption, acute illness frequency, and low birth weight. Ansary *et al.* (2021) <sup>[3]</sup> highlight the intra-household factor of the child's sex, where societal preferences and sexism often lead to differential nutritional care, with boys receiving better nutrition. Maternal education, media exposure, age at marriage, and body mass index significantly influence nutrition and child health. In Odisha, children raised

by educated mothers tend to have better nutrition, with stunting rates rising as maternal education levels fall. Lenka (2013) <sup>[5]</sup> conducted a study in the Mayurbhanj region of Odisha, revealing a higher prevalence of severe malnutrition among girls and an increase in various forms of malnutrition with age. Malnutrition was more prevalent in low-income households, those with more than five family members, and families with uneducated parents working as labourers or farmers. Pal *et al.* (2021) underscore the link between under nutrition and untreated water consumption, as lack of access to clean water heightens the risk of infections and chronic illnesses, contributing to malnourishment. Additionally, poor sanitation practices, including open drainage, unsafe water use, unkempt latrines, and waste accumulation, increase the risk of infectious diseases, further exacerbating malnutrition.

Bhatia *et al.* (2020) <sup>[12]</sup> draw attention to Odisha's Particularly Vulnerable Tribal Groups (PVTGs), highlighting their unique challenges, such as extremely low literacy rates, pre-agricultural economies, and solitary living. These populations face barriers to accessing healthcare, including language differences, remote locations, resistance to modern healthcare, and limited healthcare providers in PVTG regions. The consequences include high infant and maternal mortality rates, poor nutrition and health, limited economic prospects, and land rights disputes.

## 4. Programmes implemented to control malnutrition

Odisha, with a population exceeding 42 million as of 2011 and a poverty rate estimated at 32.6 percent, faces numerous challenges, including natural disasters, political unrest, and a sizable tribal population. Despite these obstacles, the state has made significant strides in reducing child under nutrition and improving healthcare delivery. This progress is attributed to political stability, strong leadership, and support from various international development partners. Key initiatives include the introduction of Accredited Social Health Activists (ASHAs) for community health education and the implementation of the Janani Suraksha Yojana, a conditional cash transfer program promoting institutional deliveries. The state has also leveraged programs like the Public Distribution System (PDS) and the Integrated Child Development Scheme (ICDS) to provide essential services, including supplemental nutrition, health education, and immunizations, to vulnerable groups.

Debabrata Mohanty's study (2023) <sup>[13]</sup> highlights the Mukhyamantri Sampurna Pushti Yojana (MSPY), allocating Rs. 3,354.4 crore over five years to transform nutrition goals for specific demographics, including teenage girls, expectant and nursing mothers, and severely malnourished children under six. This program aims to enhance overall growth and well-being by providing wholesome food, vitamins, and health information, addressing malnutrition comprehensively. The Poshan Abhiyaan, India's primary effort to improve nutritional outcomes, was established in 2018 and includes Odisha since September 2019. The state's response to the nutritional needs of returning migrants during the pandemic underlines its commitment, with provisions made through ICDS and anganwadi centers. Participatory learning initiatives have shown promise in improving dietary diversity, even amid challenges posed by COVID-19.

Patwardhan *et al.* study (2023) <sup>[10]</sup> sheds light on the impact of the "Mamata Sheme", a conditional cash transfer program for mothers launched in 2011. This initiative has contributed significantly to reducing child wasting, particularly among households in the top wealth quintiles, showcasing the

potential of universal cash benefit programs.

In addition to these efforts, the Odisha State Nutrition Mission, Nutrition Rehabilitation Centers (NRCs), Mid-Day Meal Scheme, National Health Mission (NHM), supplementary nutrition programs, community-based initiatives, and agricultural interventions collectively form a robust strategy to comprehensively address malnutrition in Odisha. This multifaceted approach, coupled with strong governance and external support, positions Odisha on a trajectory of sustained progress in improving the nutritional well-being of its population.

### 5. Drawbacks

Ansary *et al.* (2021) <sup>[3]</sup> underscore the prevalence of adult malnutrition among women in Odisha, attributing it to prevalent diseases affecting food absorption, food instability, and inadequate childcare practices. These factors collectively hinder a child's optimal growth and development during their formative years. While overall improvements in under nutrition indicators have been observed over time, the pace of reduction remains notably slow. Saigal *et al.* (2022) <sup>[4]</sup> emphasize the critical influence of access on under nutrition, especially for marginalized communities such as SCs/STs and PVTGs. The study highlights that mere awareness and service registration are insufficient; effective access necessitates ensuring timely and appropriate delivery of entitled benefits in terms of quantity and quality. Despite state-sponsored programs and ICDS initiatives targeting under-five children and pregnant/lactating mothers, under nutrition persists among ST children in Odisha.

The international discourse, as per Saigal *et al.* (2022) <sup>[4]</sup>, predominantly centers around nutrition-specific interventions, neglecting the imperative need for investment in nutrition-sensitive areas. The study underscores the lack of adequate information on the impact of nutrition-sensitive initiatives on outcomes in specific contexts, leading to a disproportionate focus on resolving acute causes rather than addressing fundamental issues like food security and access to basic services. It advocates for micro-studies based on fieldwork to comprehensively understand the accessibility and provision of nutrition support.

### Feruglio *et al.* (2018) <sup>[11]</sup> identify several drawbacks in existing initiatives

1. **Gaps in food rations and healthcare Access:** Ineffectual delivery of food rations and insufficient access to healthcare for pregnant and lactating women.
2. **Issues with ICDS and NRHM Implementation:** Inadequate or low-quality services, delays, irregularities, discrimination, and mistreatment.
3. **Need for contextually appropriate care:** Demand for more practical and contextually relevant care for pregnant and lactating women.
4. **Importance of AWWs and ASHAs:** Recognition of the crucial roles played by AWWs and ASHAs at the local level.
5. **Differences in Authority between AWWs and ASHAs:** Discrepancies in authority and status between AWWs and ASHAs.
6. **Tokenistic community participation:** Tokenistic involvement of community members in institutionalized mechanisms.
7. **Confusion between Accountability and decentralization:** Confusion between accountability and decentralization functions within committees.

8. **Extension of frontline workers' responsibilities to community members:** Community members often acting as extensions of overworked frontline workers.
9. **Limited oversight impact on systemic issues:** Committees overseeing frontline workers' performance but lacking the capacity to address broader systemic issues in health and nutrition service supply chains.

### 6. Recommendations

In the pursuit of addressing and preventing malnutrition among children under the age of 5, a comprehensive and multi-faceted approach is imperative. Strengthening the health extension program is vital for providing participatory nutrition education and fostering improved feeding and care habits for children. Mothers should receive comprehensive knowledge on child care from community health workers like ASHA, ANM, and Anganwadi Workers (AWWs). Recommending the early initiation of supplemental feeding at six months becomes crucial to proactively prevent malnutrition. Targeted interventions are essential for SC/ST populations and hard-to-reach areas, necessitating government funding for initiatives that educate recipients on available programs.

Creating awareness about the advantages of programs like the Supplementary Nutrition Scheme, which provides eggs, is indispensable. The distinctive Mothers Committees and Jaanch in Odisha should be empowered through training, ensuring representation of SC/ST individuals, and serving as the initial point of contact for beneficiaries' concerns at the village level. Encouraging all ICDS cadres to handle issues can significantly enhance accessibility. Implementing a functional grievance redressed model at the village level and establishing mini-AWCs in remote areas will aid marginalized groups.

The Odisha government, recognized as a leader in nutrition interventions, is poised to launch programs that enhance public engagement, especially focusing on SC/ST communities, thereby further improving nutrition indices (Saigal *et al.* 2022) <sup>[4]</sup>. Govender *et al.* (2021) <sup>[7]</sup> underscore the importance of primary healthcare in meeting community healthcare demands. Primary healthcare practitioners are crucial for screening, identifying, appropriately referring, and managing malnutrition in children under five years. Active community-based surveillance by healthcare professionals, using locally sourced, culturally appropriate meals, provides an opportunity for a primary healthcare provider to comprehend the background of malnutrition and formulate high-energy diets for children.

### To comprehensively combat malnutrition among young children, the following recommendations are essential

1. **Promote exclusive breastfeeding:** Encourage and support exclusive breastfeeding for the first six months, leveraging the essential nutrients and antibodies present in breast milk.
2. **Nutrition Education:** Provide comprehensive education to parents and caregivers regarding the significance of a balanced diet, proper feeding practices, and the specific nutritional needs of young children.
3. **Supplemental nutrition programs:** Implement or support government-led programs providing essential nutritional supplements such as iron, vitamin A, and zinc, especially in areas where deficiencies are prevalent.
4. **Access to clean water and sanitation:** Ensure universal access to clean water and sanitation facilities to prevent



waterborne diseases and enhance overall health.

5. **Fortification of Foods:** Advocate for the fortification of staple foods with essential nutrients to address widespread deficiencies, encompassing initiatives like fortifying salt with iodine and flour with iron and folic acid.
6. **Community gardens and agriculture programs:** Encourage and support community-based agriculture programs and community gardens to augment the availability of diverse and nutritious foods.
7. **Healthcare Access:** Improve accessibility to healthcare services, including regular check-ups and immunizations, to monitor children's growth, nutritional status, and promptly address health issues.
8. **Hygiene and Sanitation Practices:** Promote and install good hygiene practices, including regular hand washing, to mitigate the risk of infections contributing to malnutrition.
9. **Income Generation Activities:** Implement programs supporting income generation for families, recognizing that poverty is often a root cause of malnutrition, and increased economic stability facilitates better access to nutritious foods.
10. **Early Childhood Development Programs:** Implement programs focusing on early childhood development, encompassing cognitive stimulation and psychosocial support for holistic development.
11. **Monitoring and Evaluation:** Establish robust monitoring and evaluation systems to track the nutritional status of children and the effectiveness of intervention programs, ensuring regular assessments to identify areas needing improvement.
12. **Community Involvement:** Actively involve communities in the planning and implementation of nutrition programs to ensure cultural appropriateness and sustainability.
13. **Emergency Preparedness:** Develop and implement emergency preparedness plans to respond promptly to situations like natural disasters, conflicts, or other crises that can exacerbate malnutrition.

Collaboration among government agencies, non-governmental organizations, communities, and international partners is imperative for creating a coordinated and sustained effort in the fight against child malnutrition.

## 7. Conclusion

Malnutrition among children under the age of five is a critical health issue characterized by inadequate or unbalanced nutrition, resulting in detrimental physical and developmental effects. This challenge persists in Odisha, an eastern Indian state known for its diverse landscapes and cultural richness. Despite advancements in economic development and healthcare, a significant portion of the population, especially children and women, grapples with malnutrition. This problem is rooted in a complex interplay of socio-economic factors, including limited access to quality healthcare, insufficient awareness about proper nutrition, and existing socio-economic disparities.

Efforts to address malnutrition in Odisha necessitate comprehensive strategies. Although initiatives have been undertaken to improve healthcare and nutrition, a considerable number of young individuals in the state

continue to face stunted growth, underweight issues, and micronutrient deficiencies. To effectively combat malnutrition, a multifaceted approach is imperative, involving enhancements in healthcare infrastructure, community education programs, and poverty alleviation measures. Breaking the cycle of malnutrition in Odisha requires a concerted effort to create sustainable solutions and ensure a healthier future for the state's children.

Recognizing the pivotal role of nutrition in combating malnutrition is crucial. A well-rounded diet, encompassing adequate calories, proteins, vitamins, and minerals, is essential for fostering the physical and cognitive development of vulnerable populations, particularly children and pregnant women. Beyond promoting growth, proper nutrition strengthens the immune system, reducing vulnerability to diseases and contributing to overall health improvement. Implementing educational programs that advocate for optimal nutrition, coupled with initiatives aimed at improving access to diverse and nutritious food, forms a cornerstone in the fight against malnutrition. These efforts not only contribute to healthier communities but also play a vital role in breaking the cycle of deprivation and ensuring a brighter and more nourished future for individuals in need.

## 8. References

1. Satapathy A, Ansuman S, Dwity SR, Prusty AK, Rout S. Prevalence of protein energy malnutrition among under-five children in Odisha: a review. *J Phytopharm.* 2021;10:272-6.
2. Sethy SG, Jena D, Jena P, Pradhan S, Biswas T. Prevalence of malnutrition among under five children of urban slums of Berhampur, Odisha, India: A community a community based cross-sectional study. *International Journal of Contemporary Paediatrics.* 2017;4(6):2180-2186.
3. Rabiul A, Rath KC. Measuring and mapping undernutrition and its determinants among under-five children in Odisha. *Demography India.* 2021;50:88-111.
4. Saigal N, Saumya S. Access to nutrition in Odisha. *South Asia Research.* 2022;42(1):109-120.
5. Chandrashree L. Prevalence of Malnutrition and Family Milieu-An Empirical Study on Tribal Children of Odisha. *Social science international.* 2013;29:1.
6. Prost A, Nirmala N, Andrew C, Pradhan H, Saville N, Tripathy P, *et al.* Mortality and recovery following moderate and severe acute malnutrition in children aged 6-18 months in rural Jharkhand and Odisha, eastern India: A cohort study. *PLOS Medicine.* 2019;16:10 e1002934.
7. Govender I, Rangiah S, Kaswa R, Nzaumvila D. Malnutrition in children under the age of 5 years in a primary health care setting. *South African family practice: Official journal of the South African Academy of Family Practice/Primary Care.* 2021;63(1):e1-e6. <https://doi.org/10.4102/safp.v63i1.5337>
8. Bulliyya G. Micronutrient Malnutrition with Particular Reference to the Situation in the State of Orissa.
9. Shoba S, Kapur K. Poshan Abhiyaan: Fighting Malnutrition in the Time of a Pandemic." Observer Research Foundation; c2020.
10. Vedavati P. The impact of the Mamata conditional cash transfer program on child nutrition in Odisha, India. *Health Economics.* 2023;32(9):2127-2146.

11. Francesca F, Nisbett N. The challenges of institutionalizing community-level social accountability mechanisms for health and nutrition: A qualitative study in Odisha, India. BMC Health Services Research. 2018;18(1):1-13.
12. Bhatia V. Breaking the Chain of Malnutrition: Opportunities, Challenges and Actions. Indian Journal of Public Health. 2020;64(3):216-222. | DOI: 10.4103/ijph.IJPH\_801\_20
13. Debabrata Mohanty 22 June 2023  
<https://www.hindustantimes.com/cities/others/odisha-cabinet-approves-3-354-crore-mspy-nutrition-scheme-after-hc-bashing-101687417501550.html>
14. Mukhyamantri-Sampoorna-Pushti-Yojana, 2 Jan 2024,  
<https://gov.dailyupdateshq.com/mukhyamantri-sampoorna-pushti-yojana/.com>