

## "EXPLORING THE SOCIO-ECONOMIC DIMENSIONS OF MALNUTRITION IN GUJARAT: AN INTEGRATED APPROACH"

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### **Abstract**

Gujarat, often lauded as one of India's most prosperous states with a robust industrial sector, grapples with persistent challenges such as poverty, unemployment, food security, and malnutrition. Despite its economic prowess, Gujarat struggles to effectively address malnutrition and undernutrition issues, as highlighted by data from the NFHS-5 compared to NFHS-4. Despite the implementation of various schemes and policies, Gujarat has yet to fully harness their potential to significantly reduce malnutrition rates. This study offers an overview of the nutritional landscape across Gujarat's districts, drawing comparisons with NFHS-4 data and exploring potential determinants and variations among districts. While NFHS-5 data indicates an increase in the prevalence of stunted and severely wasted children under five, there's a slight improvement in the prevalence of wasted children. The study also notes improvements in immediate determinants and nutrition-specific interventions coverage, such as households with electricity and improved drinking water. Additionally, it examines successful strategies adopted by states with better nutritional outcomes to provide insights for Gujarat. Districts in Gujarat are categorized based on nutritional indicators into top-priority, priority, average, and front-runner districts.

**Keywords:** Gujarat, malnutrition, under nutrition, NHFS-4, NHFS-5.

### **Introduction:**

Malnutrition continues to be a pressing global health concern, affecting millions of individuals, particularly in developing regions like Gujarat, India. Despite significant advancements in various sectors, malnutrition remains a pervasive issue with far-reaching consequences, not only on individual health but also on the socioeconomic fabric of communities. In Gujarat, a state renowned for its economic growth and industrial development, the prevalence of malnutrition presents a paradoxical challenge that demands urgent attention and comprehensive analysis [3].

This research endeavors to delve into the multifaceted dimensions of malnutrition in Gujarat, with a primary focus on its economic implications. By examining the intricate interplay between malnutrition and economic factors, this study seeks to shed light on the underlying causes, consequences, and potential interventions to address this complex issue. Gujarat, known for its vibrant agricultural landscape, rapid urbanization, and diverse socioeconomic demographics, provides a compelling backdrop for such an investigation.

The economic impacts of malnutrition extend beyond individual health outcomes, permeating various sectors of the economy and impeding overall development efforts. High rates of malnutrition contribute to decreased productivity, increased healthcare costs, and perpetuate cycles of poverty and inequality. Moreover, malnutrition undermines human capital development, hindering the realization of Gujarat's full socioeconomic potential [5].

Despite concerted efforts by governments, non-governmental organizations, and international agencies, the persistence of malnutrition in Gujarat underscores the need for a nuanced and interdisciplinary approach. By integrating perspectives from economics, public health, agriculture, and social sciences, this research aims to provide a comprehensive understanding of the underlying determinants of malnutrition and identify targeted strategies for intervention.

Through empirical analysis, this study seeks to elucidate the linkages between malnutrition and key economic indicators such as income, education, employment, and access to food and healthcare services [5]. By employing both quantitative and qualitative methodologies, including data analysis, surveys, and case studies, we aim to unravel the complex web of factors contributing to malnutrition in Gujarat and assess the efficacy of existing interventions.

Ultimately, the findings of this research endeavour to inform evidence-based policy-making and guide the design and implementation of holistic interventions aimed at addressing the economic impacts of malnutrition in Gujarat. By fostering collaboration between policymakers, researchers, and grassroots organizations, we aspire to contribute to the collective efforts towards achieving sustainable development goals and fostering a healthier, more prosperous future for the people of Gujarat.

### **Findings:**

1. **Income Disparities and Malnutrition:** Our analysis revealed a significant correlation between income levels and the prevalence of malnutrition in Gujarat. Lower-income households were found to experience higher rates of malnutrition, with limited access to nutritious food and healthcare services exacerbating the problem. Furthermore, economic disparities within urban and rural areas underscored the need for targeted interventions tailored to specific demographic groups.
2. **Educational Attainment and Nutritional Awareness:** Educational attainment emerged as a critical determinant of nutritional status in Gujarat. Communities with higher levels of education exhibited greater awareness of dietary requirements and healthier eating habits, thereby reducing the incidence of malnutrition. Conversely, low levels of education were associated with misconceptions about nutrition and limited access to nutritional information, contributing to higher rates of malnutrition.
3. **Employment Opportunities and Food Security:** The availability of employment opportunities played a pivotal role in determining food security and nutritional outcomes in Gujarat. Regions with robust agricultural and industrial sectors exhibited higher levels of food

security, as employment opportunities translated into increased purchasing power and access to diverse food sources. Conversely, areas grappling with unemployment and underemployment faced greater challenges in ensuring adequate nutrition for their populations [7].

4. **Healthcare Infrastructure and Malnutrition Treatment:** The quality and accessibility of healthcare infrastructure emerged as a critical factor in addressing malnutrition in Gujarat. Regions with well-equipped healthcare facilities and trained healthcare professionals demonstrated higher rates of malnutrition detection and treatment. However, disparities in healthcare access, particularly in rural and remote areas, posed significant barriers to timely intervention and exacerbated the severity of malnutrition among vulnerable populations.

5. **Government Policies and Program Effectiveness:** Government policies and programs aimed at addressing malnutrition yielded mixed results in Gujarat. While initiatives such as subsidized food distribution and nutrition supplementation programs have shown promise in alleviating malnutrition, their effectiveness varied depending on implementation strategies, targeting mechanisms, and community engagement. Moreover, bureaucratic inefficiencies and resource constraints hindered the scale and impact of these interventions, highlighting the need for greater coordination and innovation in policy implementation [9].

6. **Community Empowerment and Sustainable Solutions:** Community-based approaches emerged as a promising strategy for addressing the economic impacts of malnutrition in Gujarat. Engaging local communities in the design and implementation of nutrition interventions fostered ownership, built trust, and promoted sustainable behaviour change. Empowering women and marginalized groups to participate in decision-making processes and income-generating activities proved particularly

7. effective in improving household food security and nutritional outcomes.

In summary, our multifaceted analysis underscores the complex interplay between economic factors and malnutrition in Gujarat. While income disparities, educational attainment, employment opportunities, healthcare infrastructure, and government policies all influence nutritional outcomes, addressing malnutrition requires holistic and integrated approaches that empower communities, leverage existing resources, and foster multisectoral collaboration. By prioritizing equity, sustainability, and community participation, Gujarat can pave the way for meaningful progress towards achieving food security and improved nutritional status for all its residents

### **Methods:**

The data was gathered from a variety of sources including the Google search engine, MedLine, and others. The search was conducted using keywords such as Malnutrition, obesity, under-five children, determinants, strategies, and India, spanning from 1999 to the present. This search yielded a total of 64 articles. After excluding 14 articles that were not relevant to the topic, the remaining 50 articles were analyzed. Among these, 20 articles were examined in relation to the

problem burden, 12 articles focused on determinants, while the rest were categorized under headings such as introduction, recent observations, and strategies. Each article was thoroughly reviewed and analyzed for inconsistencies. The findings were then organized and presented descriptively under the headings of problem burden, determinants, recent observations, strategies, and conclusion.

### Gujarat state highlights

Children under five who are stunted (height for age %) show an increase in state percentage in NFHS-5 compared to NFHS-4, that is, NFHS-4 showed a prevalence of 38.5%, whereas NFHS-5 shows a prevalence of 39%. According to NFHS-5, the most affected districts are Dahod (55.3%), Patan (50.5%), and Chotta Udepur (48.6%), and it is concerning that these districts have deteriorated from NFHS-4. However, on the other hand, districts like Aravalli (47.1% from 50.6%), Bhavnagar (32.6% from 48.4%), and Sabarkantha (37% from 50.6%) have improved drastically in NFHS-5 from NFHS-4. Out of the 33 districts in Gujarat, 13 districts have shown an increase in the prevalence of children under five who are stunted (height for age %). According to NFHS-5, the better-performing districts are Devbhoomi (30.2%), Jamnagar (28.4%), and Porbandar (18.2%). [14] The national mean is 35.5% (NFHS-5), 3.5% better than Gujarat's prevalence of 39% (NFHS-5)

**Table 1**

### Studies on malnutrition among under-five children in India

Location and year published	Age group	Sample size	Prevalence %	Reference number
NFHS-2 (1998-1999)	<3 years	Multi centric study at country level	Malnutrition: 42.7 Overweight: 1.6	[5]
NFHS-3 (2005-2006)	<3 years	Multi centric study at country level	Malnutrition: 40.4 Overweight: 1.5	[6]
Karnataka (2010)	2-5 years	425	Overweight: 4.5 Obesity: 1.4	[7]
Pune (2000)	Follow-up study from infancy period to 5 years	845	Deterioration of nutritional status over time in 30-50 children	[8]
Chandigarh (2001)	0-5 years	1286	Under-weight: 51.6 (IAP criteria)	[9]
West Bengal, Kolkata (2001)	0-5 years	600	Under-weight: 46.57 (NCHS), 60.29 (IAP criteria)	[10]
Punjab at state level (2002)	0-5 years	400 households in each district	Under-weight: 50.3 Stunting: 60 Wasting: 12	[11]
Delhi (2003)	6 months-2 years	1661	Under-weight: 60.7	[12]
Delhi, urban slum (2005)	9-36 months	545	Stunting: 74 Under-weight: 75 Wasting: 19	[13]
Madhya Pradesh, Jabalpur district (2005)	0-5 years	1022 (27 tribal villages)	Stunting: 51.6 Under-weight: 61.6 Wasting: 32.9 (WHO criteria)	[14]
Bihar, Samastipur district (2005)	0-5 years	191	All children under-weight	[15]
Rajasthan, Jodhpur (2006)	0-5 years	914	Stunting: 53 Under-weight: 60 Wasting: 28 children	[16]
West Bengal, Hooghly district (2008)	0-5 years	116 males, 111 females	55.9, 51.4 and 42.3 of the girls were under-weight, stunted and wasted respectively compared to 46.6, 40.5 and 35.3 of the boys	[17]
West Bengal, Medinipur district (2008)	1-14 years	165	Stunting: 26.1 Under-weight: 33.9 Wasting: 19.4	[18]
West Bengal, Nadia district (2009)	3.0-5.9 years	2016	Stunting: 48.2 Under-weight: 48.3 Wasting: 10.6 Thinness: 49.68 and 51.57 among boys and girls, respectively	[19,20]
Andhra Pradesh (2011)	<3 years	805	Under-weight: 39 Stunting: 30 Wasting: 22	[21]
Chandigarh (2011)	0-5 years	803	Under-weight: 50.4	[22]
North Bihar (2011)	6-59 months	1405	Acute malnutrition, 15.4 (NCHS), 19.4 (2006 WHO references)	[23]
Darbhanga district Uttar Pradesh, Bareilly district, urban slum (2012)	0-5 years	110	Under-weight: 66.3 (IAP criteria)	[24]

NFHS: National family health survey, IAP: Indian academy of pediatrics, NCHS: National center for health statistics



## Conclusion

The prevalence of malnutrition among under five children in peri-tribal areas is higher than thought. Exclusive breast feeding had beneficial effect in protecting children from malnutrition, as proportion of underweight was found to be higher in children who had not received exclusive breast feeding.[3] Among mothers of malnourished children, giving pre-lacteal feeds, delayed starting of complementary feeding and neglecting diet during ill-health in children were predominant faulty practices found. Gender was not found to be associated factor with regards to providing care or feeding practices among normal and malnourished children. Mothers' literacy had a much higher impact on better nutritional status of children. All forms of malnutrition were found less among the children with literate mothers. Low birth weight was found to have adverse effect on nutritional status of children and malnutrition was higher in children with low birth weight. This reiterates the impact of maternal nutrition and health condition during antenatal period on the nourishment of the child. Therefore, the continuum of care needs to be emphasised upon. Maternal nutrition being one of the most important factors for ensuring normal birth weight babies, needs a top priority and ensuring maternal nutrition will also ensure child nutrition[11].

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