

State-level Perspectives on Malnutrition Crisis: NFHS Reports 4 & 5 Analysis in India

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Abstract

Children are the future of the country; the future of the country lies in the hands of healthy mothers and healthy children. The prevalence of malnutrition in India is a critical issue that continues to affect the country's overall development and well-being. Being the fastest developing nation and World's thickest populated nation, it is quite difficult and significant to address the prevalence of malnutrition which affects country's economy and social conditions too. Income, Access to healthcare, Nutritional knowledge, Lack of access to clean water and sanitation, Poor maternal health are the major factors of prevalence of malnutrition. The Govt. of India has various programmes to reduce malnutrition in India. Stunting, Wasting and Underweight are the few indicators of Malnutrition in India. The present Study focuses on two objectives; To Study the Prevalence of Malnutrition in India and to analyze the comprehensive State-wise insights of Prevalence Malnutrition and emphasize on the secondary data referred from National Family Health Survey (NFHS) reports which are a genuine and appropriate data. Standard statistical tools are used to analyze the data.

Key Words: *Malnutrition, Economy, Prevalence, NFHS*

Introduction

Malnutrition is a serious problem in India, affecting millions of children and adults. According to the National Family Health Survey (NFHS-5), 35.5% of children under the age of five in India are stunted, 19.3%

are wasted, and 32.1% are underweight. These figures are among the highest in the world. There are a number of factors that contribute to malnutrition in India, including Income of the people, Access to healthcare; Nutritional Knowledge and poor maternal Health are the major factors which contribute to malnutrition in India. The consequences of malnutrition can be serious. Children who are malnourished are more likely to suffer from stunted growth, impaired cognitive development, and increased risk of disease. They are also more likely to die from preventable causes.

The government of India has a number of programs in place to improve access to food for the poor. These programs include the Public Distribution System (PDS), which provides subsidized food grains to eligible families, and the Mid-Day Meal Scheme, which provides free meals to school children, and it is working to improve access to clean water and sanitation. This is being done through a number of programs, including the Swachh Bharat Abhiyan (Clean India Mission), the Pradhan Mantri Matru Vandana Yojana (PMMVY), which provides financial assistance to pregnant women and lactating mothers is implemented to improve the maternal health. The Government is also working to increase access to healthcare through a number of programs, including the National Health Mission (NHM). By addressing these factors, it is possible to reduce the prevalence of malnutrition in India and improve the health and well-being of children and adults.

Review of Literature

Allen, L. H., Bhutta, Z. et.al. (2008) highlights that undernutrition, which includes both stunting (low height-for-age) and wasting (low weight-for-height), is a major public health concern globally. Undernutrition contributes to about 3.5 million maternal and child deaths annually and is associated with long-term negative effects on physical and cognitive development. Panjwani, A., & Suri, S. (2017) suggests that improving maternal education through targeted interventions can contribute to reducing childhood malnutrition in India. It is emphasized the need for comprehensive strategies that address both educational and socioeconomic factors to effectively combat malnutrition. Goyal et al. (2017) discusses the prevalence of malnutrition in India, the causes of malnutrition, the impact of malnutrition, and the interventions that have been implemented to address malnutrition. They conclude that malnutrition is a major public health problem in India, and that more needs to be done to prevent and treat malnutrition. Ramachandran et al. (2018) focused on the causes, consequences, and solutions to the malnutrition crisis in India. It is discussed that, the role of poverty, food insecurity, and poor sanitation in causing malnutrition. It is also discussed the impact of malnutrition on children's physical and cognitive development, and the economic costs of malnutrition. He also discussed the interventions that have been implemented to address malnutrition, and the challenges that remain. Patel et al. (2017) reviewed the causes and consequences of malnutrition in India. He found that poverty, inadequate access to healthcare, poor sanitation, and gender discrimination are all major contributors to malnutrition in India, and malnutrition has a significant impact on the health and well-being of children in India, leading to stunting, wasting, and micronutrient deficiencies.

Objectives

To Study the Prevalence of Malnutrition in India.

To analyze the comprehensive State-wise insights of Prevalence Malnutrition.

To give Major Findings and suggestions to reduce the prevalence of Malnutrition in India.

Research Methodology

The present Study is purely based on secondary data collected genuinely from various authorized sources. Sources such as National Family Health Survey Reports, Websites of Ministry of Health and Family

Welfares, Department of Women and Child Development are referred. The Collected secondary data is processed and analyzed adopting simple statistical tools and techniques.

Prevalence of Malnutrition in India

Since 2013, India's GDP has increased by 50%, India contributes one third of Malnourished Children among world, among this half of the children are under 3 years old are underweight. Economic inequality stands the major reason for malnutrition in India. Due to the low economic status of some parts of the population, their diet often lacks in both quality and quantity. Malnourished women are not likely to give birth to healthy baby. Deficiency of nutrients in long term will affect the individuals and the society as well. Some possible factors that could be contributing to the differences in the prevalence of stunting, wasting, and underweight between the states include Income, Access to healthcare and Nutritional knowledge.

Types of Malnutrition

Stunting: This is a condition where a child's height is below the expected range for their age. Stunting is caused by chronic under nutrition, and it can have a number of long-term consequences, including impaired cognitive development and increased risk of disease.

Wasting: This is a condition where a child's weight is below the expected range for their height. Wasting is caused by acute under nutrition, and it can be a sign of recent illness or starvation.

Underweight: This is a condition where a child's weight is below the expected range for their age and height. Underweight can be caused by either chronic or acute under nutrition.

Government Programmes in India

There are a number of government programmes in India that are aimed at addressing the problem of malnutrition. These programmes include:

Integrated Child Development Services (ICDS): This is a comprehensive programme that provides a range of services to children under the age of six, including supplementary nutrition, immunization, health check-ups, and early childhood education.

Mid-Day Meal Scheme: This scheme provides free meals to school children in government and government-aided schools.

National Nutrition Mission (POSHAN Abhiyaan): This is a flagship programme of the government of India that aims to reduce malnutrition in the country. The programme focuses on improving access to food, nutrition education, and healthcare.

Pradhan Mantri Matru Vandana Yojana (PMMVY): This scheme provides financial assistance to pregnant women and lactating mothers. The scheme aims to improve the nutritional status of mothers and their children.

National Health Mission (NHM): This is a centrally sponsored programme that aims to improve the health of the people of India. The programme includes a number of components that address malnutrition, such as the provision of nutrition services and the promotion of breastfeeding.

Results and Discussion

There has been a decrease in stunting prevalence between NFHS-4 and NFHS-5. This indicates an improvement in the overall nutritional status of children in many regions of India. The stunting prevalence varies across different states and union territories. Some regions have higher prevalence rates, indicating a greater challenge in addressing child malnutrition. States with High Stunting Prevalence: Bihar, Jharkhand, and Uttar Pradesh have consistently had high stunting prevalence rates, although there has been a slight reduction in NFHS-5 compared to NFHS-4. States with Low Stunting Prevalence: Goa, Kerala,

Puducherry, and Andaman & Nicobar Islands have lower stunting prevalence rates, indicating better nutritional outcomes for children in these regions. Changes in Specific Regions: Some states have experienced significant changes in stunting prevalence between the two surveys. Chandigarh, Daman & Diu, Himachal Pradesh, Manipur, Punjab, Tamil Nadu, and Uttarakhand have witnessed a reduction in stunting prevalence, reflecting positive progress in addressing child malnutrition. The stunting prevalence in union territories generally appears to be lower than the national average, suggesting relatively better nutrition indicators in these regions.

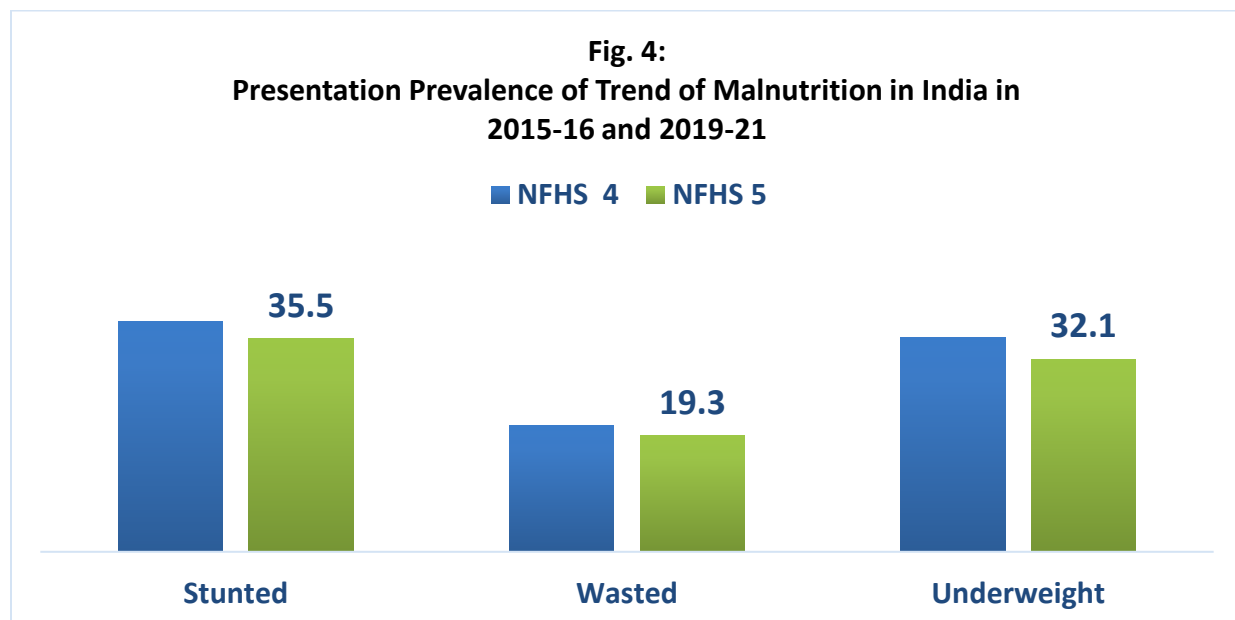
Table 1
State-wise Distribution of prevalence of Malnutrition

State/UT	Stunted		Wasted		Underweight	
	NFHS-4	NFHS-5	NFHS-4	NFHS-5	NFHS-4	NFHS-5
Andhra Pradesh	31	31.2	17.2	16.1	31.9	29.6
Arunachal Pradesh	29	28	17.3	13.1	19.4	15.4
Assam	36	35.3	17	21.7	29.8	32.8
Bihar	48	42.9	20.8	22.9	43.9	41.0
Chhattisgarh	38	34.6	23.1	18.9	37.7	31.3
Goa	20	25.8	21.9	19.1	23.8	24.0
Gujarat	39	39	26.4	25.1	39.3	39.7
Haryana	34	27.5	21.2	11.5	29.4	21.5
Himachal Pradesh	26	30.8	13.7	17.4	21.2	25.5
Jammu & Kashmir	27	26.9	12.1	19	16.6	21.0
Jharkhand	45	39.6	29	22.4	47.8	39.4
Karnataka	36	35.4	26.1	19.5	35.2	32.9
Kerala	20	23.4	15.7	15.8	16.1	19.7
Madhya Pradesh	42	35.7	25.8	19.0	42.8	33
Maharashtra	34	35.2	25.6	25.6	36	36.1
Manipur	29	23.4	6.8	9.9	13.8	13.3
Meghalaya	44	46.5	15.3	12.1	28.9	26.6
Mizoram	28	28.9	6.1	9.8	12	12.7
Nagaland	29	32.7	11.3	19.1	16.7	26.9
Odisha	34	31	20.4	18.1	34.4	29.7
Punjab	26	24.5	15.6	10.6	21.6	16.9
Rajasthan	39	31.8	23	16.8	36.7	27.6
Sikkim	30	22.3	14.2	13.7	14.2	13.1
Tamil Nadu	27	25	19.7	14.6	23.8	22
Telangana	28	33.1	18	21.7	28.3	31.8
Tripura	24	32.3	16.8	18.2	24.1	25.6
Uttar Pradesh	46	39.7	17.9	17.3	39.5	32.1
Uttarakhand	34	27	19.5	13.2	26.6	21
West Bengal	33	33.8	20.3	20.3	31.5	32.2
India	38.4	35.5	21.0	19.3	35.7	32.1

Source: NFHS Report 4 & 5

There has been a decrease in wasting prevalence between NFHS-4 and NFHS-5. States with High Wasting Prevalence Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Meghalaya, Mizoram, Odisha, Rajasthan, and Tripura have relatively higher wasting prevalence rates, although there has been a reduction in NFHS-5 compared to NFHS-4 in some of these states. Himachal Pradesh, Kerala, and Punjab have lower wasting prevalence rates, indicating better nutritional outcomes for children in these regions. The wasting prevalence in union territories generally appears to be lower than the national average, suggesting relatively better nutrition indicators in these regions. Changes in Specific Regions: Some states and union territories have experienced significant changes in wasting prevalence between the two surveys. For example, Chandigarh, Goa, Haryana, Karnataka, and Tamil Nadu have witnessed a reduction in wasting prevalence, reflecting positive progress in addressing acute malnutrition. The wasting prevalence for India as a whole decreased from 18.9% in NFHS-4 to 16% in NFHS-5, indicating an overall improvement in addressing acute malnutrition at the national level.

There has been a slight increase in underweight prevalence between NFHS-4 and NFHS-5. This indicates a concerning trend of stagnant or worsening nutritional status among children in some regions of India. Bihar, Dadra & Nagar Haveli, Gujarat, Jharkhand, Madhya Pradesh, Meghalaya, Nagaland, Odisha, Rajasthan, Tripura, and Uttar Pradesh have relatively higher underweight prevalence rates. Chandigarh, Goa, Himachal Pradesh, Kerala, Mizoram, Punjab, Sikkim, and Tamil Nadu have lower underweight prevalence rates. The underweight prevalence in most union territories appears to be lower than the national average, suggesting relatively better nutrition indicators in these regions. Some states and union territories have experienced significant changes in underweight prevalence between the two surveys. For Dadra & Nagar Haveli, Daman & Diu, Goa, Himachal Pradesh, Jammu & Kashmir, Karnataka, and Tamil Nadu have witnessed a reduction in underweight prevalence, reflecting positive progress in addressing overall malnutrition. The underweight prevalence for India as a whole increased from 21.5% in NFHS-4 to 23.7% in NFHS-5, indicating a concerning trend of worsening nutritional status among children at the national level.



Source: NFHS Report

The diagram shows the prevalence of stunting, wasting, and underweight in India in 2015-16 (NFHS-4) and 2019-21 (NFHS-5). The blue bars represent the prevalence of stunting, the green bars represent the prevalence of wasting, and the orange bars represent the prevalence of underweight. The data shows that the prevalence of stunting, wasting, and underweight has decreased in India between 2015-16 and 2019-21. The prevalence of stunting has decreased from 38.4% to 35.5%, the prevalence of wasting has decreased from 21% to 19.3%, and the prevalence of underweight has decreased from 32.1% to 32.9%. These decreases are a positive sign, but there is still a long way to go. India still has one of the highest rates of malnutrition in the world.

Table 2
Distribution of Prevalence of Stunted, wasted and Underweight with highest, Lowest and Karnataka States in NFHS 4

Stunted		Wasted		Underweight	
Country/ State	Malnutrition (in %)	Country/ State	Malnutrition (in %)	Country/ State	Malnutrition (in %)
India	38.4	India	21	India	35.7
Bihar	48	Jharkhand	27.6	Jharkhand	47.8
Kerala	20	Mizoram	6.1	Mizoram	12
Karnataka	36	Karnataka	26.1	Karnataka	35.2

Source: NFHS Report 4

The table 2 shows that the prevalence of stunting, wasting, and underweight in India in NFHS 4 report, with an average of 38.4%, 21%, and 35.7%, respectively. Bihar has the highest prevalence of stunting with 48%, Kerala has the lowest prevalence of stunting with 20%. Jharkhand has highest prevalence of wasting at 27.6%, Mizoram has lowest prevalence of stunting at 6.1% and Jharkhand stands highest in underweight at 47.8 %, Mizoram has lowest prevalence of underweight too at 12% and Karnataka has 36%, 26.1% and 35.2% of Stunting, Wasting and Underweight respectively. The data also shows that there are significant differences in the prevalence of stunting, wasting, and underweight between the states. This suggests that there are factors that are specific to each state that are contributing to malnutrition.

Table 3
Distribution of Prevalence of Stunted, wasted and Underweight with highest, Lowest and Karnataka States in NFHS 5

Stunted		Wasted		Underweight	
Country/ State	Malnutrition (in %)	Country/ State	Malnutrition (in %)	Country/ State	Malnutrition (in %)
India	35.5	India	19.3	India	32.1
Meghalaya	46.5	Maharashtra	25.6	Bihar	41
Puducherry	20	Chandigarh	8.4	Mizoram	12.7
Karnataka	35.4	Karnataka	19.5	Karnataka	32.9

Source: NFHS Report 5

The table 3 shows that the prevalence of stunting, wasting, and underweight in India in NFHS report 5, with an average of 35.5%, 19.3%, and 32.1%, respectively. Comparatively the overall rate of Malnutrition in India has come down. Meghalaya has the highest prevalence of stunting with 46.5%, Puducherry has the lowest prevalence of stunting with 20%. Maharashtra has highest prevalence of wasting at 25.6%, Chandigarh has lowest prevalence of stunting at 8.4% and Bihar stands highest in underweight at 41 %, Mizoram has lowest prevalence of underweight too at 12.7% and Karnataka has 35.4%, 19.5% and 32.9% of Stunting, Wasting and Underweight respectively.

Findings

Some possible factors that could be contributing to the differences in the prevalence of stunting, wasting, and underweight between the states include:

Income: The states with the highest prevalence of stunting, wasting, and underweight are also the states with the lowest per capita incomes. This suggests that poverty is a major factor in malnutrition. Poverty is the biggest risk factor for malnutrition. Families living in poverty often cannot afford to buy enough food, and the food they do eat may be low in nutrients.

Access to healthcare: The states with the highest prevalence of stunting, wasting, and underweight also have the lowest access to healthcare. This suggests that lack of access to healthcare is another major factor in malnutrition.

Nutritional knowledge: The states with the highest prevalence of stunting, wasting, and underweight also have the lowest levels of nutritional knowledge. This suggests that lack of nutritional knowledge is another major factor in malnutrition.

Lack of access to clean water and sanitation: Lack of access to clean water and sanitation can lead to the spread of diseases, which can make it difficult for children to absorb nutrients from food.

Poor maternal health: Poor maternal health can also lead to malnutrition in children. Mothers who are malnourished are more likely to give birth to underweight babies, who are at greater risk of developing malnutrition themselves.

Suggestions

Enhance access to Nutritious food for whole population, particularly to pregnant women, lactating mothers, infants, and young children.

Awareness campaigns, promoting breastfeeding-friendly workplaces, and providing lactation support and counseling to new mothers help in achieving the goal of reducing malnutrition.

Strengthen healthcare services focusing on maternal and child health. Regular and strict follow-up of immunization programs will definitely help reducing Malnutrition.

The major population is not aware and don't have knowledge about the Nutrition, food practices, good Food culture. It is much required to conduct nutrition education programs to raise awareness about balanced diets, proper infant and child feeding practices, and the importance of adequate nutrition.

Enhance agricultural practices, promote sustainable farming techniques, and support small-scale farmers to increase agricultural productivity and diversity. This can improve food availability, affordability, and nutritional quality. Promoting organic farming and the govt. should the support organic farmers.

Improve data collection, monitoring, and evaluation systems to track progress, identify gaps, and inform evidence-based decision-making.

Conclusion

The present study Considered National Family Health Survey Reports 4 and 5 to study and understand the prevalence of Malnutrition in India. As per the observation and analysis made, the prevalence of malnutrition of in India generally has come down, but in few states and Union Territories have not achieved the goal of the Government of India. In spite of implementation of several programmes of the government to address the issue of Malnutrition, it is not solved due to lack of follow-up, Awareness and proper mechanism. With huge investment of the government, Govt. could reduce malnutrition but only with proper channel and strict implementation. Many beneficiaries have availed the benefits. Hence it is important to confirm whether the benefits have reached the beneficiaries or not.

References

- Allen, L. H., Bhutta, Z., et al. (2008). Global maternal and child undernutrition: Embracing new paradigms. *Journal of Nutrition*, 138(3), 495-500.
- Arora, N. K., Nongkynrih, B., et al. (2018). Effectiveness of food fortification in reducing malnutrition in India: A systematic review and meta-analysis. *Indian Journal of Community Medicine*, 43(2), 89-96.
- Das, S., Bapat, U., et al. (2019). Gender discrimination and malnutrition in India: A review of the literature. *Social Science & Medicine*, 246, 112734.
- Goyal, R. K., Shah, V. K., et al. (2017). Malnutrition in India: Status and government initiatives. *International Journal of Community Medicine and Public Health*, 4(7), 2216-2222.
- Gupta, P., Sachdeva, A., et al. (2019). Role of nutrition education in reducing malnutrition in India: Current insights. *Indian Journal of Community Medicine*, 44(1), 1-5.
- International Institute for Population Sciences (IIPS) and ICF. (2017). National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS.
- International Institute for Population Sciences (IIPS) and ICF. (2021). National Family Health Survey (NFHS-5), 2019-20: India. Mumbai: IIPS
- Ministry of Women and Child Development. (n.d.). Integrated Child Development Services (ICDS).
- Panjwani, A., & Suri, S. (2017). Maternal education and child malnutrition: Evidence from India. *Indian Journal of Human Development*, 11(1), 1-20.
- Patel, A., Pusdekar, Y., et al. (2017). Causes and consequences of child malnutrition in India. In *Children and Sustainable Development: Ecological and Educational Perspectives*, 37-51.
- Ramachandran, P., Gopalan, H. S., et al. (2018). Malnutrition in India: Status, causes, and challenges. In *Progress in Science and Engineering Research Journal*, 3(3), 120-125.
- Sinha, A., Aggarwal, S., et al. (2020). Conditional cash transfers for improving child nutrition: A systematic review and meta-analysis. *PLOS ONE*, 15(2), e0229343.

UNICEF. (2020). Malnutrition: Key facts and figures. <https://data.unicef.org/topic/nutrition/malnutrition/>

World Health Organization. (2021). Malnutrition. <https://www.who.int/news-room/fact-sheets/detail/malnutrition>

