Content available at: https://www.ipinnovative.com/open-access-journals

IP Journal of Nutrition, Metabolism and Health Science

Journal homepage: https://www.jnmhs.com/

Short Communication

Comprehensive management of nutritional disorders in the geriatric population in India: Challenges and strategies

Amol Hartalkar[1]*, Sheetal Hartalkar[2]

[1]Dept. of Medicine, BKL Walawalkar Rural Medical College, Sawarde Chiplun, Maharashtra, India
[2]Dr. Hartalkar's Dental-implant clinic, Pune, Maharashtra, India

Abstract

Malnutrition in the elderly is an under-recognized yet significant public health issue in India, with implications for morbidity, mortality, and healthcare costs. Nutritional disorders in geriatric populations include under nutrition, micronutrient deficiencies, sarcopenia, and occasionally, over nutrition or obesity-related complications. This article explores the epidemiology, etiology, clinical manifestations, assessment tools, and evidence-based management strategies for nutritional disorders in India's aging population. The review also addresses the socio-economic and cultural determinants impacting geriatric nutrition and suggests public health interventions for prevention and management, including dietary counselling, supplementation, policy initiatives, and caregiver support.

Keywords: Malnutrition, Obesity, Undernutrition, Sarcopenia

Received: 15-05-2025; **Accepted:** 24-06-2025; **Available Online**: 25-07-2025

1. Introduction

India is undergoing a demographic transition with a rapidly increasing geriatric population. As per the Census of India (2011), individuals aged ≥60 years accounted for 8.6% of the total population, a figure projected to reach 19.5% by 2050.[1] This shift is accompanied by a rise in age-related health concerns, including nutritional disorders that are often underdiagnosed and inadequately managed. Malnutrition, both in the form of undernutrition and micronutrient deficiencies, remains a major issue among older adults due to physiological, psychological, and socio-economic factors.[2,3]

2. Epidemiology and Burden

Malnutrition among elderly Indians ranges from 20% to 60%, with higher prevalence among institutionalized or hospitalized individuals.[4,5] A study by Agarwalla et al. (2015) using the Mini Nutritional Assessment (MNA) found 15.8% of community-dwelling elderly were malnourished, and 55.5% were at risk.[6] Micronutrient deficiencies—particularly of vitamin D, B12, calcium, and iron—are widespread, with studies revealing suboptimal intakes even in urban populations.[7]

3. Etiology and Risk Factors

3.1. Physiological factors

Anorexia of aging due to reduced taste and smell sensitivity. Decreased gastric acid secretion, affecting nutrient absorption. Age-related decline in muscle mass (sarcopenia). Poor dentition and dysphagia.

3.2. Medical comorbidities

Chronic illnesses like diabetes, chronic kidney disease, COPD, and depression contribute to poor intake or increased nutritional needs. Polypharmacy can interfere with nutrient absorption or appetite.

3.3. Social and economic factors

Poverty, isolation, and lack of social support lead to food insecurity. Illiteracy and poor health-seeking behaviour. Gender-based disparities in access to nutrition among elderly women.

*Corresponding author: Amol Hartlkar
Email: amolhartalkar@gmail.com

DOI: https://doi.org/10.18231/j.ijnmhs.2025.014

4. Types of Nutritional Disorders

4.1. Under nutrition

Characterized by unintentional weight loss, muscle wasting, and decreased functional status.

4.2. Micronutrient deficiencies

1. Vitamin D deficiency is prevalent in 70–90% of elderly Indians.[8]
2. Vitamin B12 deficiency due to atrophic gastritis and vegetarian diet.
3. Iron deficiency anaemia, particularly in elderly women.

4.3. Sarcopenia

Loss of muscle mass and strength, increasing the risk of falls, frailty, and disability. Indian studies report a sarcopenia prevalence of 14%–40% depending on diagnostic criteria used.[9]

4.4. Over nutrition and obesity

Though less common, obesity among urban elderly is rising, associated with sedentary lifestyles and metabolic syndrome.

5. Clinical Assessment and Diagnosis

A comprehensive geriatric nutritional assessment should include:

5.1. Screening tools

Mini Nutritional Assessment (MNA): Gold standard for geriatric nutrition screening. Malnutrition universal screening tool (MUST) and Subjective global assessment (SGA).

5.2. Anthropometric measurements

BMI, mid-upper arm circumference, and calf circumference. Weight changes over time.

5.3. Biochemical markers

Serum albumin, prealbumin, vitamin B12, vitamin D, iron studies, and haemoglobin levels.

5.4. Functional assessment

Handgrip strength, gait speed, and activities of daily living (ADLs) to evaluate sarcopenia and frailty.

6. Management Strategies

6.1. Nutritional counselling

Individualized Diet Planning: Calorie and protein intake tailored to activity level, comorbidities, and cultural preferences. Small, frequent meals enriched with protein, fibre, and essential micronutrients. Encouragement of traditional Indian foods like pulses, millets, dairy, and vegetables.

6.2. Oral nutritional supplements (ONS)

Energy and protein-dense supplements are effective in reversing malnutrition, especially in hospitalized or frail elderly.[10] B12, calcium, iron, and vitamin D supplementation based on documented deficiencies.

6.3. Multidisciplinary geriatric care

Collaboration between physicians, dietitians, physiotherapists, and social workers. Physiotherapy to improve muscle mass and function in sarcopenic individuals. Treatment of underlying comorbidities (e.g., depression, dysphagia, dental issues).

6.4. Pharmacological and medical interventions

Appetite stimulants (e.g., megestrol acetate) may be used cautiously. Correction of reversible causes (e.g., treating H. pylori for B12 malabsorption).

6.5. Addressing Socioeconomic Barriers

Enrolling elderly in government nutrition support schemes like Indira Gandhi National Old Age Pension Scheme (IGNOAPS) and Integrated Child Development Services (ICDS). Provision of mid-day meals or community kitchens at elderly care centres.

7. Public Health and Policy Recommendations

7.1. Awareness and Training

Sensitizing primary care providers and ASHA workers to screen and manage geriatric malnutrition. Incorporation of geriatric nutrition in medical and nursing curricula.

7.2. National Program Integration

Aligning efforts with National Programme for Health Care of the Elderly (NPHCE). Strengthening nutrition components in elderly care at primary health centres.

7.3. Community-based Interventions

Mobile dietetic services and meal delivery in rural and urban low-income areas. Engaging NGOs and self-help groups for elder-specific meal planning and delivery.

7.4. Digital Health Solutions

Use of tele-nutrition and mobile apps for follow-up and counselling in urban elderly populations with access to smartphones.

8. Challenges in the Indian Context

Diverse cultural dietary patterns complicate the standardization of dietary recommendations. Inadequate geriatric health infrastructure, especially in rural areas. Low caregiver literacy, resulting in poor implementation of

dietary advice. Limited research data from India on long-term outcomes of nutritional interventions in elderly.

9. Future Directions

Need for longitudinal studies on geriatric malnutrition and sarcopenia in Indian cohorts. Development of India-specific MNA norms and food-based dietary guidelines for the elderly. Evaluation of cost-effectiveness of community-based vs institutional nutritional care models.

10. Conclusion

Nutritional disorders in India's elderly population are multifaceted, resulting from a complex interplay of physiological aging, comorbidities, and socioeconomic challenges. A combination of early screening, individualized care, community support, and policy integration is essential for improving geriatric nutrition and enhancing quality of life. With India's aging population on the rise, the timely implementation of holistic, culturally sensitive, and sustainable nutrition management strategies is both a public health necessity and a moral imperative.

11. Source of Funding

None.

12. Conflict of Interest

None.

References

1. Census of India 2011. Office of the Registrar General & Census Commissioner, India. https://censusindia.gov.in
2. Aruljothi S, Devi K, Mathiyalagen P, Thirunavukarasu S. A community based cross-sectional study on prevalence and its associated risk factors of geriatric malnutrition in urban and rural Puducherry. *Discov Public Health* 2025;22:345.
3. Palanivel Rajan, S., Jeevithan, S., Shanmugapriya, D., et al. (2020). Nutritional status assessment among elderly population in a rural area of South India. *Int J Commun Med Public* Health, 2020;7(7):2760–3.
4. John B, George J, Jose P, Joseph A, Manoj AM, Jomon AM, et al. The nutritional status and problems among older adults in a selected rural community of Kerala. *Ann Geriatrics Educ Med Sci.* 2024;11(2):51–7.
5. Kushwaha S, Khanna P, Srivastava R, Jain R, Singh T, Kiran T. Estimates of malnutrition and risk of malnutrition among the elderly (≥60 years) in India: A systematic review and meta-analysis. *Ageing Res Rev*. 2020;63:101137
6. Agarwalla R, Saikia AM, Baruah R. Assessment of the nutritional status of the elderly and its correlates. *J Family Community Med*. 2015;22(1):39–43.
7. Narula R, Tauseef M, Ahmad IA, Agarwal K, Ashok A, Anjana A . Vitamin D deficiency among postmenopausal women with osteoporosis. *J Clin Diagn Res*. 2013;7(2):336–8.
8. Harinarayan CV, Joshi SR. Vitamin D Status in India – Its Implications and Remedial Measures. *J Assoc Physicians India*. 2009;57:40–8
9. Rahman R, Wilson BP, Paul TV, Yadav B, Gopal GK, Viggeswarpu S. Prevalence and factors contributing to primary sarcopenia in relatively healthy older Indians attending the outpatient department in a tertiary care hospital: A cross-sectional study. *Aging Med (Milton)*. 2021;4(4):257–65.
10. Cederholm T, Barazzoni R, Austin P, Ballmer P, Biolo G, Bischoff SC. ESPEN guidelines on definitions and terminology of clinical nutrition. *Clin Nutr.* 2017;36(1):49–64.

Cite this article: Hartalkar A, Hartalkar S. Comprehensive management of nutritional disorders in the geriatric population in India: Challenges and strategies. *IP J Nutr Metab Health Sci*. 2025;8(2):66–68