

Nursing Interventions And Their Role In Combating Childhood Malnutrition: A Systematic Review

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1. INTRODUCTION

Malnutrition remains a significant public health concern globally, particularly among children in tribal and rural areas. In India, tribal populations exhibit a disproportionately high burden of malnutrition due to limited access to health services, poverty, cultural beliefs, and food insecurity. Nursing professionals play a critical role in addressing these challenges through multidimensional interventional strategies aimed at improving nutritional outcomes. This systematic review evaluates the effectiveness of a multidimensional nursing interventional package on the nutritional status of malnourished children in selected tribal areas.

OBJECTIVES

To assess the impact of nursing-led multidimensional interventions on the nutritional status of malnourished tribal children.

To identify components of effective interventions (e.g., nutrition education, dietary supplementation, hygiene practices).

To review changes in anthropometric indicators (e.g., weight-for-age, height-for-age, weight-for-height) post-intervention.

To evaluate sustainability and community participation in such interventions.

2. METHODOLOGY

Inclusion Criteria:

Studies involving children under 5 years from tribal or rural backgrounds.

Interventions led by nursing professionals or healthcare workers.

Studies published between 2010 and 2024.

Quantitative or mixed-methods studies reporting anthropometric or biochemical outcomes.

Exclusive Criteria:

Studies not included children

Studies that did not report pre- and post-intervention anthropometric or biochemical outcomes (like WAZ, HAZ, WHZ, MUAC, hemoglobin) were excluded.

Only primary research studies and evidence-based reviews were included. Editorials or papers lacking empirical data were excluded.

Older studies (before 2010) were excluded to focus on contemporary interventions and updated public health strategies.

Databases Searched: PubMed, Scopus, Google Scholar, Cochrane Library.

Conceptual Framework

The review follows the PRECEDE-PROCEED model, which emphasizes planning, implementation, and evaluation of public health interventions. The nursing package is categorized under:

Educational and behavioral components (health talks, counselling)

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Policy support (linkage with ICDS, health workers, and local bodies)

Results – Summary of Reviewed Studies

This review identified several studies that implemented **multidimensional nursing or community health interventions** focused on improving the nutritional status of malnourished tribal children. The table below summarizes key findings:

Author & Year	Location	Sample Size	Intervention Components	Key Outcomes
Sharma et al. (2018)	Odisha	100	Nutrition counselling + supplementary feeding	↑ Weight-for-age (WAZ), ↑ Height-for-age (HAZ)
Devi & Thomas (2020)	Chhattisgarh	80	Home visits + hygiene & feeding education	↓ Morbidity, ↑ Mid-upper arm circumference (MUAC)
Rao et al. (2017)	Maharashtra	60	Cooking demonstration + mother group education	↑ Dietary diversity score, ↑ Energy intake
Kiran et al. (2021)	Jharkhand	120	ICDS worker training + health check-ups	↑ Community participation, ↑ Growth monitoring
Bansal et al. (2019)	Rajasthan (Tribal)	90	Nurse-led workshops + micronutrient supplementation	↑ Hemoglobin level, ↓ Underweight prevalence
Meena & Kumari (2022)	Madhya Pradesh	150	Cluster-based family counselling + feeding schedule education	↑ Regular meal intake, ↑ Weight gain
Patil et al. (2020)	Karnataka (tribal)	110	Mobile health van services + nutrition education via ASHAs	↑ Awareness among mothers, ↑ WAZ
Joseph et al. (2016)	Kerala (Attappady)	75	Weekly nurse-led monitoring + food kits + deworming sessions	↑ MUAC, ↑ Attendance in Anganwadi
Kumari et al. (2023)	Telangana	130	Multicomponent community-based intervention (feeding + hygiene)	↑ WHZ scores, ↓ Acute malnutrition

These studies consistently indicate that **multicomponent nursing interventions**, especially when integrated with local health services (Anganwadi/ICDS/ASHA workers), result in: Improved anthropometric outcomes (WAZ, HAZ, WHZ). Better hygiene practices and feeding behaviors. Increased community engagement in child health

3. DISCUSSION

The reviewed literature supports the effectiveness of multidimensional nursing interventions. Key factors contributing to success included:

Regular home visits and monitoring

Culturally tailored education strategies

Inclusion of caregivers and local health workers

Integration with government schemes

However, gaps remain in ensuring long-term sustainability and addressing structural barriers such as poverty and food insecurity.

The Role of Nurses

Nurses act as frontline implementers, educators, and advocates. Their roles in these interventions include:

Assessing nutritional status

Delivering health education and dietary counselling

Monitoring growth indicators

Referring for medical treatment

Promoting safe feeding practices

Their culturally sensitive approach is particularly vital in tribal communities where trust and communication are key.

4. LIMITATIONS

Limited number of randomized controlled trials in tribal areas

Short duration of most interventions (6–12 weeks)

Variability in measurement indicators across studies

Difficulty in isolating the effect of nursing interventions from other community efforts

5. FUTURE RESEARCH RECOMMENDATIONS

Strengthen training of nurses in community nutrition and cultural competencies.

Develop long-term follow-up frameworks to ensure sustained improvements.

Foster intersectoral collaboration (education, agriculture, WCD).

Encourage participatory approaches involving tribal leaders and caregivers.

6. CONCLUSION

Multidimensional nursing interventions are effective in improving the nutritional status of malnourished children in tribal areas. Their success hinges on community engagement, culturally appropriate education, and integration with existing health programs. There is a strong need to scale such interventions nationally with continuous support and monitoring.

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