

# The Role of Nutritional Nursing Interventions in Improving Outcomes for Long-Term Care Patients

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## Abstract

Long-term care (LTC) patients often face multiple health challenges, including malnutrition, which can significantly impact their overall health and quality of life. Nutritional deficiencies in LTC settings are associated with a higher risk of infections, delayed wound healing, muscle weakness, and increased morbidity. Nursing interventions that focus on optimizing nutritional care are critical to improving patient outcomes in these settings. This paper reviews the role of **nutritional nursing interventions** in **long-term care** and how they contribute to better clinical outcomes. We explore the assessment of nutritional status, individualized care planning, and the implementation of dietary strategies to enhance the nutritional status of patients in LTC facilities. Through a comprehensive approach involving assessment, education, and collaboration with multidisciplinary teams, nurses can significantly improve both the physical and psychological well-being of long-term care patients.

**Keywords:** Nutritional nursing interventions, long-term care, malnutrition, patient outcomes, nursing practice, dietary strategies, patient-centered care.

## 1. Introduction

Long-term care (LTC) patients, especially the elderly, often experience a complex range of medical conditions, including chronic illnesses, cognitive impairment, and mobility limitations. These conditions can significantly affect their ability to maintain a balanced diet, leading to **malnutrition**, a prevalent issue in LTC settings. (1)

According to the World Health Organization (WHO), malnutrition affects an estimated 20% to 60% of LTC residents, depending on their health conditions and the care environment.(2)

Nutritional nursing interventions are integral to improving outcomes for LTC patients, especially those at risk of malnutrition. Through early screening, individualized care plans, nutritional supplementation, and patient education, nurses can significantly enhance the health and quality of life of their patients. (3)

By addressing both the physical and psychological aspects of nutrition, nurses can help prevent complications, promote recovery, and improve the overall well-being of LTC residents. Ongoing efforts to support nursing education in nutrition and improve resource access are essential to furthering these goals and ensuring that all LTC patients receive the best possible care.(4)

Malnutrition in LTC patients is linked to a higher incidence of **infections, delayed wound healing, muscle atrophy, and reduced immune function**. It can also exacerbate chronic conditions like **diabetes, hypertension, and heart disease**, increasing the likelihood of **hospital readmissions and functional decline**. Given that **nurses** play a central role in patient care in these settings, the implementation of **nutritional nursing interventions** is critical to improving clinical outcomes.(5)

This paper explores the **role of nutritional nursing interventions** in improving outcomes for LTC patients, focusing on assessment, individualized care planning, and collaborative approaches that enhance the nutritional status and quality of life of these patients.(6)

## 2. The Impact of Nutrition on Long-Term Care Patients

Nutrition is a fundamental determinant of health and well-being, and it directly influences recovery, immune function, and the management of chronic diseases in LTC patients. Nutrition plays a crucial role in the overall health of LTC patients. Malnutrition, which is often underrecognized in these settings, can lead to multiple complications:(7)

- **Impaired Immune Function:** Malnutrition leads to immune system suppression, increasing the susceptibility to infections like pneumonia and urinary tract infections .
- **Muscle Weakness and Sarcopenia:** Insufficient intake of protein and calories contributes to muscle wasting and sarcopenia, which can result in decreased mobility and increased risk of falls .
- **Delayed Wound Healing:** Nutritional deficiencies, especially in **vitamin C, zinc, and protein**, impair wound healing, making it harder for patients to recover from pressure ulcers or surgical wounds.
- **Cognitive Decline:** Malnutrition, particularly deficiencies in **omega-3 fatty acids, vitamin D, and B-vitamins**, is associated with cognitive impairment, including **dementia and delirium** in older adults .(8)

Addressing these issues through **nutritional nursing interventions** is vital for improving patient outcomes. Nurses, with their regular patient interactions, are in a key position to identify signs of malnutrition and implement interventions to mitigate these effects.(9)

## 3. Nutritional Assessment and Screening

A core responsibility of nurses in LTC is the early identification of patients at risk for malnutrition. Accurate and timely nutritional assessment is the first step toward preventing or addressing malnutrition. (10)

Nurses conduct these assessments through a combination of screening tools, clinical evaluation, and interdisciplinary collaboration. Early identification of **nutritional deficiencies** is essential to preventing malnutrition and its associated complications. Nurses are typically the first to assess a patient's nutritional status in LTC settings. This process includes:(11)

- **Screening Tools:** Several validated tools are used in LTC settings to assess nutritional risk, including the **Mini Nutritional Assessment (MNA)** and the **Nutrition Risk Screening (NRS)** . These tools allow nurses to identify at-risk patients early and trigger further interventions.

- **Physical Examination:** Nurses assess clinical signs of malnutrition, including changes in weight, muscle mass, and skin condition, such as **poor wound healing** or **skin thinning** .
- **Laboratory Data:** Nurses often collaborate with physicians to review lab results, including **albumin** and **prealbumin** levels, which can indicate malnutrition or protein-energy deficiencies.(12)

By conducting comprehensive nutritional assessments, nurses can identify patients who need more targeted interventions, including dietary changes, nutritional supplements, or referrals to dietitians and other specialists.(13)

#### **4. Nutritional Nursing Interventions**

Once patients are identified as being at risk of malnutrition, nurses can implement a variety of interventions to improve nutritional intake and prevent further complications. These interventions include individualized care planning, dietary modifications, nutritional supplementation, and patient education.(14)

Once malnutrition or nutritional risk is identified, nurses play an essential role in implementing **nutritional nursing interventions**. These interventions can be categorized into several key areas:(15)

##### **A. Individualized Care Plans**

Each LTC patient has unique nutritional needs based on their medical history, cognitive status, and functional abilities. Developing an **individualized care plan** is critical to addressing these needs:(16)

- **Dietary Modifications:** Based on the patient's nutritional assessment, nurses collaborate with dietitians to create personalized meal plans. For example, patients with **dysphagia** (difficulty swallowing) may require **modified-texture diets**, while patients with **diabetes** may need carbohydrate-controlled meals.
- **Enhancing Food Intake:** Nurses can encourage small, frequent meals or offer nutrient-dense snacks, such as protein shakes or fortified foods, to help patients who are struggling to meet their calorie and protein needs.(17)

##### **B. Nutritional Supplementation**

In cases where dietary intake alone is insufficient to meet nutritional needs, nurses can administer or monitor **nutritional supplements**:(18)

- **Oral Nutritional Supplements (ONS):** These can be used to provide essential nutrients such as protein, vitamins, and minerals to patients at risk of malnutrition .
- **Enteral Nutrition:** For patients who cannot consume adequate nutrition orally, nurses may assist with feeding tubes (e.g., **nasogastric tubes** or **gastrostomy tubes**), ensuring proper administration and monitoring for complications.(19)

##### **C. Education and Empowerment**

Patient education is a cornerstone of nutritional nursing interventions. Nurses play an active role in educating patients and their families about the importance of nutrition in managing chronic conditions and improving quality of life. This includes:(20)

- **Dietary Education:** Providing information on the importance of nutrient-dense foods, portion sizes, and the relationship between nutrition and overall health outcomes.
- **Encouraging Hydration:** Nurses educate patients on the importance of maintaining hydration to avoid dehydration, which can exacerbate other health problems.
- **Family Involvement:** Educating families about their loved one's dietary needs and how they can assist in meal preparation or monitoring food intake can lead to better outcomes.(21)

#### D. Collaboration with the Healthcare Team

Nurses regularly monitor the progress of nutritional interventions and adjust care plans as necessary. This includes tracking weight changes, assessing patient satisfaction with meals, and following up on lab results related to nutritional markers (e.g., albumin, prealbumin).(22)

Nurses are integral members of the multidisciplinary team and play a vital role in ensuring that **nutritional care** is well-coordinated. Collaboration with dietitians, physicians, speech therapists, and occupational therapists is essential to ensuring that the nutritional needs of LTC patients are fully addressed.(23)

- **Referrals to Dietitians:** Nurses collaborate with dietitians to create comprehensive meal plans that address the complex nutritional needs of LTC residents, particularly those with chronic conditions or swallowing difficulties.
- **Medical Oversight:** Nurses work with physicians to monitor the patient's medical status and adjust nutritional interventions as needed, such as adjusting supplement dosages based on lab results.(24)

#### 5. Challenges and Barriers to Effective Nutritional Nursing Interventions

Despite the critical role of nurses in managing nutrition in LTC, several barriers may impede the effectiveness of nutritional interventions:(25)

- **Staffing and Time Constraints:** High patient-to-nurse ratios and limited time for patient care can reduce the ability to perform thorough nutritional assessments or interventions.
- **Patient Preferences and Compliance:** Some patients may refuse to eat or may have preferences that conflict with their nutritional needs. This can be especially true in patients with **cognitive impairments** like **dementia**.
- **Resource Availability:** Access to high-quality food, supplements, or nutrition-focused training for nursing staff can be limited in some LTC settings, especially in resource-constrained environments.(26)

Addressing these barriers requires systemic changes, including better staffing models, increased access to resources, and ongoing training for nursing staff in nutrition assessment and intervention.(27)

Nutritional nursing interventions are a cornerstone of patient care in long-term care settings. By proactively screening for malnutrition, creating individualized care plans, providing nutritional supplementation, and educating both patients and their families, nurses can significantly improve the health outcomes of LTC residents. (28)

Addressing malnutrition early and effectively helps reduce complications, promote recovery, and enhance the overall quality of life for these vulnerable individuals. As healthcare systems continue to evolve, it is critical to prioritize the integration of nutrition into nursing practice to optimize care for long-term care patients.(29)

Nurses are at the forefront of patient care in these settings and are uniquely positioned to assess, intervene, and prevent the adverse effects of malnutrition. Nutritional nursing interventions are essential in identifying at-risk patients, implementing tailored care plans, educating patients and families, and working collaboratively with other healthcare professionals to optimize nutritional intake and improve health outcomes. (30)

Once malnutrition is identified, nutritional nursing interventions must be tailored to meet the individual needs of each patient. These interventions may include dietary modifications, nutritional supplements, patient education, and ongoing monitoring.(31) This paper examines the role of **nutritional nursing interventions** in LTC settings and outlines effective strategies that enhance patient care, focusing on early screening, individualized interventions, and ongoing evaluation.(32)

The first step in managing malnutrition is identifying patients at risk. Nurses are responsible for conducting routine nutritional assessments and screenings to detect early signs of malnutrition. Early identification of malnutrition can lead to timely interventions that prevent further deterioration in health.(33)

## 6. Conclusion

Nutritional nursing interventions play a pivotal role in improving the health and well-being of long-term care patients. Through early assessment, individualized care plans, nutritional supplementation, and collaboration with the multidisciplinary team, nurses can help prevent and manage malnutrition, thereby enhancing patient outcomes. By addressing both the **physical** and **psychosocial** aspects of nutrition, nursing interventions can improve not only the clinical outcomes of LTC patients but also their overall quality of life.

## References

1. Obeagu EI, Anyiam AF, Obeagu GU. Managing Anemia in HIV through Blood Transfusions: Clinical Considerations and Innovations. *Elit J HIV*. 2024;2(1):16–30.
2. Fulmer T, Reuben DB, Auerbach J, Fick DM, Galambos C, Johnson KS. Actualizing Better Health And Health Care For Older Adults: Commentary describes six vital directions to improve the care and quality of life for all older Americans. *Health Aff*. 2021;40(2):219–25.
3. Volkert D, Beck AM, Cederholm T, Cruz-Jentoft A, Hooper L, Kiesswetter E, et al. ESPEN practical guideline: Clinical nutrition and hydration in geriatrics. *Clin Nutr*. 2022;41(4):958–89.
4. Lavoie-Tremblay M, G elinas C, Aub e T, Tchouaket E, Tremblay D, Gagnon M, et al. Influence of caring for COVID-19 patients on nurse’s turnover, work satisfaction and quality of care. *J Nurs Manag*. 2022;30(1):33–43.
5. Obeagu EI, Obeagu GU. Unveiling the Role of Innate Immune Activation in Pediatric HIV: A Review. *Elit J Immunol*. 2024;2(3):33–44.
6. McArthur C, Bai Y, Hewston P, Giangregorio L, Straus S, Papaioannou A. Barriers and facilitators to implementing evidence-based guidelines in long-term care: a qualitative evidence synthesis. *Implement Sci*. 2021;16:1–25.
7. Hoşg r H, Yaman M. Investigation of the relationship between psychological resilience and job performance in Turkish nurses during the Covid-19 pandemic in terms of descriptive characteristics. *J Nurs Manag*. 2022;30(1):44–52.
8. Lazarus J V, Safreed-Harmon K, Kamarulzaman A, Anderson J, Leite RB, Behrens G, et al. Consensus statement on the role of health systems in advancing the long-term well-being of people living with HIV. *Nat Commun*. 2021;12(1):4450.
9. Karam M, Chouinard MC, Poitras ME, Couturier Y, Vedel I, Grgurevic N, et al. Nursing care coordination for patients with complex needs in primary healthcare: a scoping review. *Int J Integr Care*. 2021;21(1).
10. Wong C, Walsh EJ, Basacco KN, Mendes Domingues MC, Pye DRH. Authentic leadership and job satisfaction among long-term care nurses. *Leadersh Heal*

- Serv. 2020;33(3):247–63.
11. Aiken LH, Simonetti M, Sloane DM, Cerón C, Soto P, Bravo D, et al. Hospital nurse staffing and patient outcomes in Chile: a multilevel cross-sectional study. *Lancet Glob Heal*. 2021;9(8):e1145–53.
  12. Obeagu EI, Obeagu GU. Maternal Influence on Infant Immunological Responses to HIV: A Review. *Elit J Lab Med*. 2024;2(1):46–58.
  13. Hoel RW, Connolly RMG, Takahashi PY. Polypharmacy management in older patients. In: *Mayo Clinic Proceedings*. Elsevier; 2021. p. 242–56.
  14. Obeagu EI, Akinleye CA. Minimizing Treatment-Related Depression: Blood Transfusions and Mental Health Support in HIV Care. *Elit J Public Heal*. 2024;2(7):16–24.
  15. Rousseau AF, Prescott HC, Brett SJ, Weiss B, Azoulay E, Creteur J, et al. Long-term outcomes after critical illness: recent insights. *Crit Care*. 2021;25:1–7.
  16. Karunarathna I, De Alvis K, Gunasena P, Jayawardana A. Managing difficulties in ventilator weaning. Retrieved from ResearchGate; 2024.
  17. Bethell J, Aelick K, Babineau J, Bretzlaff M, Edwards C, Gibson JL, et al. Social connection in long-term care homes: a scoping review of published research on the mental health impacts and potential strategies during COVID-19. *J Am Med Dir Assoc*. 2021;22(2):228–37.
  18. Marshall NE, Abrams B, Barbour LA, Catalano P, Christian P, Friedman JE, et al. The importance of nutrition in pregnancy and lactation: lifelong consequences. *Am J Obstet Gynecol*. 2022;226(5):607–32.
  19. Scales K. It is time to resolve the direct care workforce crisis in long-term care. *Gerontologist*. 2021;61(4):497–504.
  20. Mechanick JI, Carbone S, Dickerson RN, Hernandez BJD, Hurt RT, Irving SY, et al. Clinical nutrition research and the COVID-19 pandemic: a scoping review of the ASPEN COVID-19 task force on nutrition research. *J Parenter Enter Nutr*. 2021;45(1):13–31.
  21. Karunarathna I, De Alvis K, Gunasena P, Jayawardana A. Challenges and solutions in anesthesia for COPD patients: A perioperative perspective. ResearchGate. [https://www.researchgate.net/publication ...](https://www.researchgate.net/publication...); 2024.
  22. Chen L, Xu X. Effect evaluation of the long-term care insurance (LTCI) system on the health care of the elderly: a review. *J Multidiscip Healthc*. 2020;863–75.
  23. Inzitari M, Risco E, Cesari M, Buurman BM, Kuluski K, Davey V, et al. Nursing homes and long term care after COVID-19: A new ERA? Vol. 24, *The journal of nutrition, health & aging*. Springer; 2020. p. 1042–6.
  24. Glick I, Kadish E, Rottenstreich M. Management of pregnancy in women of

- advanced maternal age: improving outcomes for mother and baby. *Int J Womens Health*. 2021;751–9.
25. Ronquillo CE, Peltonen L, Pruinelli L, Chu CH, Bakken S, Beduschi A, et al. Artificial intelligence in nursing: Priorities and opportunities from an international invitational think-tank of the Nursing and Artificial Intelligence Leadership Collaborative. *J Adv Nurs*. 2021;77(9):3707–17.
  26. Yosep I, Hikmat R, Mardhiyah A, Hazmi H, Hernawaty T. Method of nursing interventions to reduce the incidence of bullying and its impact on students in school: a scoping review. In: *Healthcare*. MDPI; 2022. p. 1835.
  27. Perkins GD, Neumar R, Hsu CH, Hirsch KG, Aneman A, Becker LB, et al. Improving Outcomes After Post-Cardiac Arrest Brain Injury: A Scientific Statement From the International Liaison Committee on Resuscitation. *Circulation*. 2024;150(7):e158–80.
  28. Karunarathna I, Hapuarachchi T, De Alvis K, Jayawardana A. Optimizing IBS management: A patient-centered approach. *ResearchGate*. [https://www.researchgate.net/publication ...](https://www.researchgate.net/publication...); 2024.
  29. Aloisio LD, Coughlin M, Squires JE. Individual and organizational factors of nurses' job satisfaction in long-term care: A systematic review. *Int J Nurs Stud*. 2021;123:104073.
  30. Karunarathna I, De Alvis K, Gunasena P, Jayawardana A. Perioperative and ICU care for COPD patients: Enhancing outcomes through multidisciplinary approaches. *ResearchGate*. <https://www.researchgate.net/publication/383024887>; 2024.
  31. Zeng D, Takada N, Hara Y, Sugiyama S, Ito Y, Nihei Y, et al. Impact of intrinsic and extrinsic motivation on work engagement: a cross-sectional study of nurses working in long-term care facilities. *Int J Environ Res Public Health*. 2022;19(3):1284.
  32. Karunarathna I, De Alvis K, Gunasena P, Jayawardana A. Perioperative and intensive care management of chronic obstructive pulmonary disease (COPD) patients: A comprehensive review. Retrieved from *ResearchGate*; 2024.
  33. Fang EF, Xie C, Schenkel JA, Wu C, Long Q, Cui H, et al. A research agenda for ageing in China in the 21st century: Focusing on basic and translational research, long-term care, policy and social networks. *Ageing Res Rev*. 2020;64:101174.