

The Impact of Nurse–Dietitian Collaboration on Hospital Patient Outcomes: A Literature Review

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ABSTRACT

Proper nutrition is an integral part of the hospital treatment which is especially important for critically ill patients, where the metabolic needs, protein catabolism and food intake are enhanced. This literature review looks at the role of nurse–dietitian partnerships in nutrition support and the effect of nurse–dietitian partnership on the outcomes of hospitalised and critically ill patients. Nurses can contribute by ongoing bedside monitoring, nutrition management, assessment of feeding tolerance, recording into the patient's documentation, and early identification of nutrition problems, whereas dietitians can contribute with their expertise in nutrition assessment skills, individual energy and protein needs, development of nutrition plans and adaptation of nutrition interventions as needed in the clinical situation. Collective nutrition care has been demonstrated to improve communication, nutrition assessment, timely access to enteral/parenteral nutrition if necessary and timely monitoring of nutrition and feeding related complications. Standardized protocols for nutrition can also be available to evidence-based specifications and reduce wasteful feeding interruptions. Despite these, there are some barriers in place, including: communication issues, workload, limited availability of dietitians, unclear roles, poor documentation, and inconsistent institutional protocols. Improving interdisciplinary communication, nutrition-support protocols, clarifying roles/responsibilities of nutrition professionals and providing continuous nutrition education may improve nutrition care quality and safety. In conclusion, the integrated approach of nurse–dietitian partnership is an important tool in optimizing nutritional support and potentially enhancing the clinical and functional outcomes in hospitalized and critically ill patients.

Keywords: Nurse dietitian collaboration; Nutrition support; Critical care; Hospitalized patients; Enteral nutrition; Parenteral nutrition; Nutritional assessment; Patient outcomes.

INTRODUCTION

Nutrition is a cornerstone of holistic hospital services and is essential to health and wellbeing, recovery and clinical outcomes [1]. Treatment in a hospital setting is often complicated by a lack of adequate food intake due to acute illness, metabolic stress, gastrointestinal dysfunction, decreased appetite, altered mental status or due to diagnostic and/or therapeutic restrictions [2]. Malnutrition and nutrition related complications are therefore common in hospitalized patients and are linked to longer hospitalizations, greater risk for infection, delayed healing, decreased functional ability, more complications, and greater health care costs [3]. Therefore, early detection of nutritional risk and prompt implementation of appropriate nutrition support are essential elements of the safe and effective management of patients [4].

In critical care, nutrition support is a difficult challenge due to the alterations that are experienced in the metabolic and physiological status of the patient in critical condition [5]. The influence of the inflammatory response of severe illness on energy requirements and protein catabolism, as well as the difficulty of nutritional therapy selection, timing and delivery of nutritional therapy due to organ dysfunction, may all further challenge the approach to nutritional therapy [6]. Parenteral nutrition may be necessary if enteral feeding is not feasible or adequate, while enteral nutrition is usually preferred if the gastrointestinal tract is intact. Nutritional therapy should be carefully planned to address nutritional needs, tolerability, fluid and electrolyte status, glucose control, and alterations in clinical status [7]. Nutritional provision can also be inadequate or excessive, and these nutritional imbalances have the potential to lead to adverse outcomes, further emphasizing the importance of individualized nutritional management [8].

The nutrition care in the hospital is inherently multidisciplinary. Nurses and dietitians work in tandem and have complementary roles in the nutrition care of patients [9]. Dietitians offer specialized nutritional assessment, execute individual energy and protein needs, create an individualized nutrition care plan, suggest feeding suggestions, and track nutritional progress. Nurses, on the other hand, have constant access to patients in the bed and play an active role in the actual implementation and management of nutrition support [10]. They can be involved in the administration of enteral and parenteral nutrition as per the protocols, checking for feeding tolerance, identifying gastrointestinal complications associated with feeding, recording intake, keeping feeding access, and communicating changes that occur in the patient's condition to the healthcare team [11].

Review

Nutrition care is an integral part of hospital management, because illness often leads to greater metabolic needs and to a decrease in oral intake and an interference with the utilization of nutrients. Patients who are hospitalized are at risk of nutritional deterioration, especially for individuals with severe infections, trauma, malignancy, gastrointestinal disorders, or prolonged hospitalization [12]. Nutritional screening at an early stage enables health care services to detect the patient's nutritional risk and start the treatment process. Their constant presence at the bedside of the patient often enables the nurse to be the first health care professional to notice the patient's poor appetite, feeding problems, weight loss, intolerance to food or little interest in eating [13]. Dietitians provide nutrition care plan development, specialized assessment of the patient's nutrition status, and the creation of individualized nutrition plans, depending on the patient's clinical condition, nutrition needs, lab results, and feeding route. There is a need to work closely with dietitians to achieve better communication and timely delivery of nutrition interventions [14].

Table1 . Roles of Nurses and Dietitians in Hospital Nutrition Care

Aspect of Nutrition Care	Nursing Role	Dietitian Role	Importance of Collaboration
Nutritional risk identification	Identifies patients showing poor appetite, reduced intake, feeding difficulties, or weight loss through continuous bedside observation.	Performs specialized nutritional assessment and identifies the degree and nature of nutritional risk.	Facilitates early recognition and timely nutritional intervention.
Assessment of nutritional status	Monitors oral intake, feeding tolerance, weight changes, and clinical signs of nutritional deterioration.	Conducts comprehensive assessment using clinical condition, nutritional requirements, and laboratory findings.	Provides a more complete understanding of the patient's nutritional status.
Development of nutrition plan	Implements the prescribed nutrition plan and observes the patient's response.	Develops individualized nutrition care plans according to nutritional requirements, disease status, laboratory findings, and feeding route.	Ensures that nutritional recommendations are appropriately implemented at the bedside.
Monitoring of feeding	Continuously observes appetite, food intake, feeding difficulties, and intolerance.	Reviews nutritional adequacy and modifies the nutrition plan when required.	Promotes timely identification and management of feeding-related problems.
Communication	Reports changes in appetite, intake, tolerance, and clinical condition to the healthcare team.	Communicates nutritional recommendations and required modifications to the nursing team.	Improves continuity and coordination of nutritional care.
Timely intervention	Identifies problems early because of frequent patient contact.	Initiates or modifies specialized nutritional interventions based on assessment findings.	Supports prompt implementation of appropriate nutrition therapy.
Overall contribution	Provides continuous bedside monitoring and implementation of nutrition care.	Provides specialized nutritional expertise and individualized nutritional management.	Promotes comprehensive, patient-centered nutrition care and may improve clinical outcomes.

The benefits of nurse–dietitian collaboration are numerous.

There are several benefits to working together as a nurse and a dietitian with hospitalized and critically ill patients [16]. Nurses are always present and early recognition of decreased intake, feeding intolerance, gastrointestinal symptoms and interruptions in nutrition delivery are observed. Dietitians can then review these results and adjust nutrition plans as needed [17]. The synergy between assessment, prescription, implementation and monitoring is encouraged. It can also help to eliminate communication barriers and enhance compliance to personalized nutrition plans. Close communication is a vital part of critical care where patients can have multiple procedures performed and changes in physiological status can occur quickly, and without interruption for a prolonged time, or the delivery of appropriate nutrition [18].

Table2 . Benefits of Nurse–Dietitian Collaboration in Hospitalized and Critically Ill Patients

Benefit	Nursing Contribution	Dietitian Contribution	Result of Collaboration
Early recognition of nutritional problems	Continuous bedside observation of reduced intake, poor appetite, and feeding difficulties	Evaluates identified nutritional concerns	Earlier identification and management of nutritional risk
Detection of feeding intolerance	Observes gastrointestinal symptoms such as nausea, vomiting, abdominal discomfort, or altered bowel function	Reviews symptoms and modifies the nutrition plan when required	Improved feeding tolerance and safer nutrition delivery
Management of nutrition interruptions	Identifies and documents interruptions caused by procedures or changes in clinical status	Reassesses nutritional adequacy and recommends adjustments	Reduced duration of inadequate nutritional delivery
Individualized nutrition care	Implements prescribed nutrition interventions and monitors patient response	Develops and modifies individualized nutrition plans	Better alignment of nutrition therapy with patient needs
Improved communication	Communicates bedside observations and changes in patient condition	Communicates nutritional recommendations and modifications	Reduced communication gaps and improved continuity of care
Better implementation of nutrition plans	Ensures prescribed nutrition is delivered and monitored	Provides evidence-based nutritional prescriptions	Improved adherence to personalized nutrition plans
Continuous monitoring	Provides ongoing bedside monitoring of intake and tolerance	Periodically reassesses nutritional status and requirements	Timely modification of nutrition therapy
Improved critical-care nutrition management	Responds rapidly to changes in physiological status and procedures	Adjusts nutritional goals according to changing clinical requirements	More responsive and coordinated nutrition support
Integration of nutrition care	Supports implementation and monitoring	Provides assessment and prescription	Strengthens the complete cycle of assessment → prescription → implementation → monitoring

Nutrition Interventions for Critical Care.Nutrient interventions for critical care.

In critical care, individual nutrition support is necessary due to the complex metabolic changes that occur in the patient (such as protein catabolism, increased energy expenditure etc.). Enteral nutrition is preferred unless enteral feeding is contraindicated or insufficient and parenteral nutrition may be necessary [19]. Nutritional interventions are early assessment, early indication of an energy and protein requirement, appropriate choice of feeding route, step up of enteral feeding, monitoring of tolerance, and correcting nutritional deficiencies. These practices can be standardized and minimize variation using evidence-based protocols [20]. Because nurses are responsible for feeding and monitoring patients all day, they will play an important role in implementing such protocols, whereas dietitians are able to undertake specialist nutritional assessment and adjust the nutritional protocol [21].

Table3 . Nutrition Interventions in Critical Care and the Roles of Nurses and Dietitians

Nutrition Intervention	Purpose/Clinical Importance	Nursing Role	Dietitian Role
Early nutritional assessment	Identifies nutritional risk and establishes the patient's baseline nutritional status.	Screen patients, monitor intake, and report nutritional concerns.	Conduct comprehensive nutritional assessment and determine nutritional priorities.
Determination of energy requirements	Helps provide adequate energy according to the patient's metabolic and clinical condition.	Monitor nutritional intake and communicate changes in clinical status.	Estimate individualized energy requirements and establish nutritional targets.
Determination of protein requirements	Supports preservation of lean body mass and management of increased protein catabolism.	Monitor delivery and tolerance of prescribed protein intake.	Calculate individualized protein requirements and modify targets as needed.
Selection of feeding route	Ensures nutrition is delivered through the safest and most appropriate route.	Assist with feeding, maintain feeding access, and monitor tolerance.	Determine the appropriate route based on nutritional needs and clinical condition.
Enteral nutrition	Provides nutrition through the gastrointestinal tract when it is functional and appropriate.	Administer feeds, monitor intake, and identify feeding-related complications.	Select appropriate formula, feeding regimen, and nutritional targets.
Advancement of enteral feeding	Helps progressively achieve nutritional targets while assessing tolerance.	Monitor tolerance and report symptoms such as vomiting, diarrhea, or abdominal distension.	Determine the appropriate rate of progression and modify the regimen when necessary.
Monitoring of feeding tolerance	Identifies complications that may interfere with adequate nutrition delivery.	Provide continuous bedside monitoring and document gastrointestinal symptoms.	Evaluate tolerance and recommend appropriate modifications to nutrition therapy.
Parenteral nutrition	Provides nutritional support when enteral nutrition is contraindicated or insufficient.	Administer and monitor prescribed therapy and observe for complications.	Determine indications, nutritional composition, and adequacy of parenteral nutrition.
Correction of nutritional deficiencies	Addresses deficiencies and supports recovery during critical illness.	Monitor clinical changes and administer prescribed nutritional supplementation.	Identify deficiencies and recommend appropriate nutrient replacement.
Evidence-based nutrition protocols	Standardizes nutrition practices and reduces variations in care.	Implement protocols consistently and monitor patient response.	Develop, evaluate, and modify protocols according to nutritional requirements and clinical evidence.
Continuous reassessment	Ensures nutrition therapy remains appropriate as the patient's condition changes.	Provide continuous observation and communicate changes promptly.	Reassess nutritional requirements and adjust the nutrition plan accordingly.

Impact on Patient Outcomes Disadvantages and Barriers to Effective Collaboration

Multidisciplinary nutrition care may be impacted by a number of barriers, despite its potential benefits. Communication issues, unclear job roles, low staff levels, nurses' workload, lack of dietitians and poor documentation can limit the effectiveness of working together [22]. In addition, feedings can be temporarily discontinued due to diagnostic tests, surgery, hemodynamic instability, or other clinical needs. Failure to communicate these interruptions may mean that patients receive much less than the recommended nutrition [23]. Variations in professional knowledge and non-standardisation of institutional nutrition practice can also add to the variation in practice [24]. The challenges suggest the need for standardized protocols, clear responsibilities, regular communication between the disciplines and ongoing education [25].

Table4 . Disadvantages and Barriers to Effective Nurse–Dietitian Collaboration

Barrier/Disadvantage	Effect on Nutrition Care	Potential Consequence for Patient	Suggested Approach
Poor communication	Delays sharing of changes in nutritional status and feeding requirements	Delayed or inappropriate nutritional intervention	Regular nurse–dietitian communication and multidisciplinary rounds
Unclear professional roles	Creates duplication or omission of nutrition-related responsibilities	Inconsistent delivery of nutrition care	Clearly defined roles and responsibilities
Nursing workload	Limits time available for feeding, monitoring, and documentation	Reduced monitoring and inadequate nutrition delivery	Appropriate staffing and workload distribution
Insufficient dietitian availability	Delays specialized nutritional assessment and reassessment	Delayed individualized nutrition intervention	Adequate dietitian staffing and timely referral systems
Poor documentation	Makes it difficult to determine actual nutritional intake and feeding interruptions	Nutritional inadequacy may remain unidentified	Standardized nutrition documentation
Feeding interruptions	Reduces the amount of nutrition delivered to the patient	Failure to achieve energy and protein targets	Minimize avoidable interruptions and promptly communicate necessary interruptions
Diagnostic procedures and surgery	Feeding may be temporarily stopped before or during procedures	Prolonged periods without adequate nutrition	Coordinated planning and timely resumption of feeding
Hemodynamic instability	May delay or restrict enteral nutrition	Reduced nutritional intake during critical illness	Individualized assessment and reassessment of feeding safety
Differences in professional knowledge	Leads to variation in nutrition-support practices	Inconsistent or inappropriate implementation	Continuing education and multidisciplinary training
Lack of standardized protocols	Causes variation in assessment, feeding, monitoring, and management	Inconsistent quality of nutrition care	Development and implementation of evidence-based protocols
Inadequate interdisciplinary coordination	Reduces continuity between assessment, prescription, implementation, and monitoring	Increased risk of nutritional inadequacy	Regular multidisciplinary review and coordinated care planning

Impact on Patient Outcomes

Collaborative nutrition care has as its primary aim to optimize patient care and reduce the risk of complications by identifying nutritional needs and providing for them during the course of hospitalization [26]. Proper nutrition could help support immune function, wound healing, maintenance of lean body mass and functional recovery [27]. In patients who are very sick, adequate nutrition can also help to improve nutritional status and tolerability of therapy. However, many clinical factors affect outcomes including mortality, infection rates, length of stay and mechanical ventilation, and the independent impact of nurse–dietitian collaboration is challenging to determine [28]. Therefore, while there is existing evidence to support multidisciplinary nutrition management, more high-quality prospective studies are needed to establish the extent to which this intervention impacts major clinical outcomes.

Overall Evidence

The literature that is available shows that the nutritional support program is most successful when nutritional assessment, nutrition prescription, implementation and monitoring are part of a multidisciplinary approach [29]. The combined expertise of nurses provides essential bedside supervision and application, while dietitians provide unique nutrition and individual nutrition planning. They can help to enhance communication, nutrition monitoring, continuity of care and, potentially, decrease barriers to providing adequate nutrition delivery [30]. The lack of staff, communication issues, disruptions in feeding time and lack of standardization are major problems, however. Therefore, implementing nurse–

dietitian collaboration via protocols, multidisciplinary rounds, role clarification, education, and documentation may be valuable strategies to optimize nutrition care and patient outcomes in the hospital and critical-care setting [31].

DISCUSSION

The literature suggests that the collaboration between nurses and dietitians is essential for effective nutrition care in hospitalized and critically ill patients [32]. Both nurses and dietitians are integral contributors, with nurses constantly assessing the patient on the bed, feeding and assessing tolerance, detecting gastrointestinal symptoms, and reporting changes in the clinical condition, and dietitians assessing the patient nutritionally, calculating energy and protein requirements, formulating and adjusting nutrition interventions based on patients' needs [33]. This partnership model will enhance the nutritional assessments, prescription, delivery and monitoring and may increase the quality and safety of nutrition delivery [34]. Nutrition support is especially critical in critical care because the nutritional requirements can change quickly due to metabolic changes, protein catabolism, procedures, hemodynamic instability, or interruptions in treatment [35]. Using evidence-based protocols can help to standardise feeding practices and therefore minimise unnecessary variation, however the impact of this would be dependent on the correct implementation and communication between health care professionals [36]. However, the numerous advantages come with a number of challenges, including the lack of staff, high workload, insufficient dietitian availability, and unclear roles, a lack of documentation, communication issues, feeding interruptions, and differences in nutritional knowledge, all of which can impact nutritional care [37]. Improving the collaboration between nurse and dietitian by delineating their roles, establishing standardized nutrition-support protocols, establishing regular interdisciplinary communication, continuing professional education, and systematic nutrition monitoring can lead to improved delivery of nutrition support and support better patient recovery, although further high-quality research is required to prove the direct link between this nurse-dietitian collaboration and major outcomes, such as length of hospital stay, complications, functional recovery, and mortality [38].

CONCLUSION

The nurse–dietitian partnership is a vital element in the provision of successful nutrition care for the hospitalized and critically ill patients. Nurses continue to monitor patient conditions at bedside and carry out nutrition interventions and dietitians bring expertise to the nutrition assessment, development and modification of nutrition therapy as patient clinical needs change. Collaborative practice can facilitate timely nutrition assessment, timely energy and protein delivery, early detection of feeding-related complications, and continuity of care. There may be communication difficulties, workload, insufficient staffing, poor responsibility, disruptions to feeding and inconsistent protocols, which will reduce its effectiveness. Effective communication between other disciplines, nutrition protocols based on evidence, clear job roles and responsibilities, and frequent nutrition education can enhance nutrition support quality and safety and may result in improved outcomes.

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