

The Role of Interdisciplinary Healthcare Teams in Mitigating Malnutrition Among Vulnerable Populations: Review of Collaborative Strategies Among Dietitians, Pharmacists, Dentists, and Social Workers

Khaled Bkeet Abdullah Alzahrani¹, Abdulmuhaymin Hani Alqattan², Khaola Hmood Alharbi³, Amal Hamad Alhassoon⁴, Sahal Mohamed Alrehaili⁵, Sharoog Abdulrahman Alkuraiea⁶, Mwaed Abdulrazaq Ashri⁷, Abdulrahman Atiah Allah Alharshani⁸, Saeed Mana Alqahtani⁹, Khaled Nasser Alharbi¹⁰, Effat Adnan Kadi¹¹, Badreia Mater Almutairi¹², Nasser Mubarak Nasser¹³, Nasser Mubarak Nasser¹⁴, Abdullah Salem Saeed¹⁵

Abstract

Malnutrition, particularly undernutrition, poses significant challenges in healthcare settings, adversely affecting patient outcomes, including increased morbidity and mortality. Effective management of malnutrition requires a collaborative approach among healthcare professionals, including dietitians, pharmacists, dentists, and social workers. This systematic review employed a comprehensive search strategy across multiple databases, including MEDLINE, to identify primary studies that investigated interdisciplinary collaboration in nutritional care for vulnerable populations. The review focused on the roles and contributions of various healthcare disciplines in addressing malnutrition and enhancing patient outcomes. The findings indicate that interdisciplinary healthcare teams significantly improve nutritional management by promoting effective communication and collaboration among diverse professionals. Key stakeholders, including patients and their families, play crucial roles in these collaborative efforts. The analysis revealed that while the implementation of multidisciplinary care models is endorsed, there remains a lack of comprehensive understanding regarding the processes that facilitate effective collaboration and the specific roles of each discipline. The study concludes that fostering interdisciplinary collaboration is essential for optimizing nutritional care in vulnerable populations. Policymakers and healthcare organizations should prioritize the development of frameworks that enhance communication, role clarity, and shared responsibilities among healthcare providers to address malnutrition effectively. Further research is needed to explore the dynamics of interdisciplinary teamwork in nutritional care and its impact on patient outcomes.

Keywords: *Malnutrition, Interdisciplinary Collaboration, Nutritional Care, Vulnerable Populations, Healthcare Teams.*

Introduction

Delivering food and nutritional support in hospitals is essential to patient-centered care. This entails adapting to fluctuating dietary demands and patients' requirements, which will vary based on their health condition. Malnutrition, specifically undernutrition, poses a considerable clinical challenge in hospitals, with

¹ Ksa, Ministry of Health, Durma General Hospital

² Ksa, Ministry of Health, Salwa General Hospital.

³ Ksa, Ministry of Health, Specialized Psychiatric Hospital.

⁴ Ksa, Ministry of Health, Dawadmi General Hospital.

⁵ Ksa, Ministry of Health, King Salman Medical City in Medina

⁶ Ksa, Ministry of Health

⁷ Ksa, Ministry of Health, Al Azhri Phc Medinah

⁸ Ksa, Ministry of Health, Alnuwaibe Phc

⁹ Ksa, Ministry of Health, Dhahran Eye Specialist Hospital

¹⁰ Ksa, Ministry of Health, Al-Zahra Health Care Center /Qassim Health Cluster

¹¹ Ksa. Ministry of Health. King Fahad Hospital in Jeddah

¹² Ksa, Ministry of Health, Al Rayan Medical Center

¹³ Ksa, Ministry of Health, Sulayyil Hospital

¹⁴ Ksa, Ministry of Health, Al Sulil General Hospital

¹⁵ Ksa, Ministry of Health, Wadi Al-Dawasir General Hospital

well-documented detrimental effects such as weakened immune function, clinical complications, increased readmission rates, and heightened mortality. To mitigate these issues, it is imperative to promptly identify and effectively treat patients who are malnourished or at risk of malnutrition [1,2]. There is an increasing recognition of both the prevalence of malnutrition and the challenges associated with adherence to standardized nutritional care protocols, which encompass the utilization of validated screening instruments, referrals for diagnosis, treatment, and the formulation of nutritional management strategies for patients [3-5]. The ramifications of malnutrition for patients are profound and carry significant implications for healthcare providers. Successful management of these requires expertise from several areas [6,7].

Economically developed nations are increasingly prioritizing collaboration among healthcare experts in the provision of nutritional care (MANSOOR et al., 2021). The Alliance to Advance Patient Nutrition, an interdisciplinary organization in the United States, has emphasized the necessity of tackling malnutrition through an interdisciplinary approach and strategies. These strategies involve various stakeholders, including patients, families, volunteers, and multidisciplinary professionals [8].

Multidisciplinary roles and responsibilities are crucial for enhancing overall care quality. In response to the necessity for practice transformation and improved service implementation strategies, an Australian action research study established a Systematized, Interdisciplinary Malnutrition Pathway for Implementation and Evaluation (SIMPLE) in hospitals. The multidisciplinary SIMPLE approach, while not yet assessed, seeks to enhance malnutrition treatment and nutritional therapy in hospital settings [9,10].

A variety of words is sometimes used interchangeably to characterize collaborative working processes, including “interdisciplinary,” “multidisciplinary,” and “transdisciplinary” care. For the purposes of this paper, the term multidisciplinary care denotes a collective of professionals from two or more disciplines collaborating on the same project, either independently or concurrently [11]. The term team refers to a group of individuals possessing complementary skills, dedicated to a shared objective (in this instance, nutritional care), performance targets, and methodologies for which they hold mutual accountability. Additionally, in this review, nutritional care is defined as a coordinated strategy for the provision of food and fluids by various healthcare professionals, recognizing the patient as an individual with distinct needs and preferences. Volunteers and service users (patients) are incorporated within this framework of collaborative nutritional care [12-14].

Previous research and evaluations on nutritional treatment have perhaps shown a limited scope. The efficacy of mealtime interventions to enhance nutritional intake in adult patients has been examined [14]. Other studies have explored and reported outcomes related to meal assistance or supportive interventions designed to improve intake [15,16]. Nevertheless, the review conducted by Rasmussen et al. [17] specifically assessed the effectiveness of multidisciplinary nutritional care, encompassing nutritional support and dietary counseling for older hospitalized patients. The study revealed that interdisciplinary nutritional assistance enhances patients' quality of life and positively influences death rates. In contrast, our analysis examines the many disciplines engaged in the collaborative approach and the activities conducted not just with healthcare professionals but also with patients, family, and volunteers [18-20].

In conclusion, while there is endorsement for the advantages of multidisciplinary care models, there is a lack of evidence on the processes that facilitate efficient collaboration and the circumstances necessary for coordinating activities to provide optimum nutritional care. Moreover, multidisciplinary care presents obstacles. There seems to be a restricted comprehension of how the many elements of a collaborative approach might influence nutritional treatment results both individually and collectively in this setting. These also include the attributes that facilitate effective collaboration to provide optimal quality care to adult in-patients. Consequently, this research delineates the current literature on multidisciplinary cooperation to ascertain the many disciplines involved and examine the characteristics of collaborative nutritional care strategies for adult in-patients undergoing nutritional intake.

Methodology

The search method focused on primary studies and adhered to the three-step procedure advocated by JBI to discover both published and unpublished research in gray literature. The words in the titles and abstracts of pertinent papers, together with the index keywords used to characterize the articles, were utilized to build a comprehensive search strategy. The search technique was established for the Medline Complete database and then modified for each additional database. Databases were examined from their establishment till 2023.

Disciplines Engaged and Dimensions of Nutritional Care Investigated

Multidisciplinary partnerships were mostly documented descriptively, including three or more distinct participant groups. A diverse array of stakeholders, including patients, family, and volunteers, were noted to have participated. Each contributed to various facets of nutritional treatment, depending upon the specific aims of the particular research. Nutritional care procedures were analyzed from the staff's viewpoint to identify the characteristics that facilitate change initiatives aimed at enhancement in many studies. For instance, Laur et al. [21] included nurses, doctors, food service personnel, nutritionists, and hospital administrative staff. Brown and Jones [22] included meal volunteers, speech and language therapists, as well as dietetic and nursing personnel in research that emphasized the significance of meal volunteers in facilitating timely and pleasant nutritional treatment for patients.

The participants in the 31 trials were registered nurses (n=26), dietitians (n=23), doctors (n=12), speech and language therapists (or speech pathologists) (n=12), occupational therapists (n=8), housekeepers (n=2), and social workers (n=3). Physiotherapists, healthcare assistants, and nursing assistants each engaged in five studies, while catering and food preparation personnel participated in 13 investigations.

Eleven studies demonstrate the participation of ward managers, unit leaders, and their assistants in advancing nutritional care practices. The representation includes facilities workers, catering personnel, student nurses, dietetic assistants, dietetic interns, nutritionists, pharmacists, food design researchers, radiographers, and food service professionals. Professionals in these fields were mentioned less often. Other auxiliary personnel were not expressly identified but were said to have participated in two studies.

Characteristics of Multidisciplinary Collaborative Care Strategies

Prior reviews have either assessed the efficacy of nutritional care or the influence of particular interventions on patients' nutritional outcomes and their associated costs. In contrast, our scoping review enhances the literature by concentrating on specific factors that influence collaborative efforts in patients' nutritional care [14]. Notwithstanding the governmental mandate for collaborative efforts to enhance nutritional outcomes, our analysis did not uncover any studies that particularly investigated the function of interdisciplinary collaboration and its association with nutritional care procedures. This discovery indicates a prospective avenue for further investigation. This analysis illustrates that collaborative efforts are apparent in the provision of nutritional treatment, including many disciplines and a broader team, including patients, family, and volunteers, all contributing to these partnerships. All participant group compositions were clear and specified, except for two investigations. This evidence of collaborative care highlights the significance of nutritional care as a collective obligation [23].

Alongside professional healthcare practitioners, patients, their families, and volunteers are essential stakeholders who significantly contribute to nutritional outcomes. The essential function of volunteers was emphasized, acknowledging their impact on patients' nutritional treatment. However, their engagement, as shown by the aforementioned studies, was somewhat context specific. The nations in which these studies were conducted seem to exhibit an increasing acknowledgment within regulatory and accrediting frameworks of the function of volunteer services. This may indicate policy implications for nutritional care treatments for patients.

Public policy significantly influences the duties and obligations of volunteers; hence, effective policies and methods for volunteering, especially for meal volunteers, are crucial. Furthermore, prior research has shown that lunchtime volunteers may be effectively taught to properly help older acute inpatients at meals. This may enhance the overall quality of mealtime care, benefiting both patients and ward personnel [24].

Healthcare personnel in hospitals together have the responsibility of delivering appropriate nutritional care to patients. Their involvement and associated responsibilities in these collaborative actions are essential, since each field contributes distinct knowledge. Therefore, via teamwork, they may enhance their comprehension of each other's tasks, plan, execute, and assess nutritional care together, rather than in isolation [25].

The scoping study underscores the increasing evidence of coordinated efforts concerning several aspects of nutritional therapy. This encompasses nutritional care processes, including malnutrition risk screening, nutritional assessment, and planning, as well as the associated forms and products, such as meal environments, regular hospital diets, food products, and therapeutic diets, including functional and modified foods and fluids [8]. These components embody the recommendations outlined in policy and guideline documents regarding malnutrition management. However, the effective implementation of nutritional care standards and guidelines necessitates the coordination, engagement, and collaboration of various disciplines to address patients' needs [26].

Interdisciplinary Interconnections and Role Definition

Multidisciplinary cooperation, including the several professions outlined in this analysis, reflects the synergistic benefits each offers. The collective viewpoints and the interconnection of disciplines demonstrate that each individual is essential in providing appropriate food and nutritional care. The results indicate that collaborative ties and interdependence were apparent among professionals. To facilitate ward-based nutritional care, new roles were either introduced or refined among staff, promoting collaborative efforts. Professional boundaries and role clarity enhance the coordination of nutritional care by ensuring that multidisciplinary team members have a clear understanding of their own responsibilities and an appreciation for the roles of their colleagues [27,28]. This common understanding is expected to facilitate the identification of care gaps and guarantee the provision of appropriate care to meet agreed objectives [29-31].

A key focus was the concept of job interchangeability in instances when responsibilities assigned to staff or volunteers were not fulfilled due to various factors, such as shift patterns or unavailability. For example, when nursing personnel assumed the auxiliary role of aiding patients during mealtimes, despite mealtime assistance being assigned to other staff, such as nursing assistants and food services personnel. This illustrates the pivotal role of nursing staff while also highlighting the necessity of shared responsibility and role delineation within multidisciplinary collaboration [32]. Two research found similar findings regarding staff views of inpatients' inadequate nutritional intake and the practicality of detecting nutritionally at-risk patients. Both studies underscored the need of integrating coordinated efforts. The importance of role clarification and shared responsibility in multidisciplinary collaboration has been emphasized in existing literature, alongside the practical challenges of attaining these goals. Nevertheless, it is essential to acknowledge these as fundamental components of multidisciplinary approaches to nutritional care [7,33,34].

The Significance of Communication, Knowledge, and Information Exchange in Collaborative Work Processes

A multitude of research have focused on the mechanisms of knowledge and information exchange. Eide et al. [35] corroborate these results. Research from the nurses' viewpoint indicated that limited information results in suboptimal dietary practices, adversely affecting treatment outcomes. Nutrition training and education programs were designed to enhance individuals' capabilities in performing their roles more effectively by acquiring, upgrading, or refining their skill sets. For example, nursing staff received instruction from a speech and language therapist on managing patients with swallowing difficulties to facilitate the identification of dysphagia [36,37]. Although most studies did not quantify the direct impact of training on

patient outcomes, reported team-level outcomes indicated substantial benefits. The findings included heightened awareness and enhanced involvement in delivering nutritional treatment. For instance, Eglsær et al. [38]'s research revealed that more exposure to malnutrition information necessitated further training for nursing personnel.

While the advantages of education and training are well-documented, sustaining effective nutritional care necessitates ongoing training updates and modified structural processes to enhance nutrition knowledge and facilitate implementation [39,40]. Identifying problems and valuing the experiential insights of various disciplines, including patients, relatives, and volunteers, exemplified approaches that acknowledged and valued the expertise of diverse stakeholders in tackling malnutrition issues [20,21]. Moreover, as a method of integrating patient care to guarantee consistency and continuity, communication via multidisciplinary team meetings and discussions was documented in various studies [41-43]. Although there was notable value for team members, evidence connecting the advantages of multidisciplinary meetings to enhanced care implementation was lacking. Furthermore, while multidisciplinary meetings are integral to current hospital protocols, further study is necessary to determine whether nutritional treatment is prioritized in these meetings in the context of conflicting clinical demands.

Clinical Leadership and Management Assistance

Leadership and management engagement were noted in various studies involving ward or unit managers, as well as nursing, dietetic, facilities, catering, and food services managers [44-46]. Although the specifics of their roles and contributions were frequently underreported, the indirect outcomes of their involvement correlated with successful implementation. For example, in Carson and Close, [44], hospital administrators participated in examining existing dietary practices due to expressed concerns and allocated funding for additional inquiry. The engagement of hospital executives is essential. Their function has clinical and budgetary ramifications for malnutrition, necessitating proper measures to address issues and enhance care [8].

Conversely, the advantages of leadership were not limited to top management positions. The implementation of reform in the clinical environment was propelled by prominent nutrition advocates. Prior research on nutritional care practices acknowledges the crucial function of advocates, commonly termed "nutrition champions," in driving change [47]. The hospital food service supervisors and assistants significantly contributed, as noted in Collins et al [48], by assuming responsibility to lead by example and offer support in the wards. They also took the role of opinion leaders and catalysts for change among their peers. The notion of shared leadership, characterized by mutual influence among staff members or various disciplines, seems to foster a favorable interdisciplinary partnership that may enable more successful collective development.

A shared leadership approach to implementation, grounded in the principle of distributing leadership responsibilities across various levels, holds promise as a significant concept for further research and may enhance the sustainability and continuity of collaborative nutritional care practices in hospitals. Addressing in-practice difficulties is also crucial in interdisciplinary methods. In the example of Collins et al. [48], it was observed that food service managers impacted collaboration amid clear staffing and schedule restrictions. Multidisciplinary cooperation shown advantages at the patient, team, and system levels. An observed increase in calorie and protein intake at the patient level indicates a substantial favorable correlation between collaborative activities and enhanced therapeutic results. Increased food and fluid consumption, staff confidence in their roles, job satisfaction, a sense of empowerment, and feelings of being valued and supported have been similarly reported. Systemic changes that implemented improvements in nursing practice further underscore the impact of collaborative care. Furthermore, several studies identified facilitators and critical success factors, which included the passion and enthusiasm of clinical personnel towards patient nutritional treatment; [37,44], although this was noted incidentally rather than being a measurable attribute.

Methodological approaches that effectively facilitated systemic practice changes employed action research or implementation research, which impacted the change processes. These methodologies aim to instigate

change through action, enhancing practice by actively involving staff in diagnosing, planning, executing, and evaluating actions within their clinical domain. Future research is required to investigate the continuity and coordination of multidisciplinary nutritional care strategies, in light of the growing necessity for guidelines and policies that promote collaborative multidisciplinary nutritional care initiatives to improve care quality. This study focuses on the effect of organizational culture in healthcare facilities on health professionals' actions and behaviors regarding appropriate nutritional treatment.

Constraints

The scoping review has several constraints regarding the breadth of material addressed. Most research did not specifically concentrate on collaborative transdisciplinary procedures. Consequently, pertinent research may have been overlooked throughout the search and selection procedure. In several research reviewed; such mechanisms were included in the conclusions. Some activities and interactions that influenced implementations may not have been completely acknowledged, and the nature of reporting may have been understated in the study. Nevertheless, the review delineated the attributes of the several disciplines engaged and the procedures derived from the analyzed research to enhance the comprehension of collaborative nutritional care.

The IPO framework was used to present the results of the investigations included in this evaluation. Due to the intricacy and diversified character of the investigations, we did not ascertain the causal link among the input, process, and result inside our framework application. Notwithstanding this constraint, the framework may be used to assess the extent of cooperation and the interconnections among the IPO components in any multidisciplinary nutritional care intervention, as well as to pinpoint additional areas for future study and improvement.

Additional study is advised to elucidate the essential components of multidisciplinary collaboration in nutritional treatment involving various healthcare providers. These insights will enhance our comprehension of the effects on care outcomes. Participatory research methodologies are advocated to enhance involvement and cooperation in proposing and implementing change.

Summary

The study illustrates that multidisciplinary treatment techniques are enhanced by the involvement of several disciplines, including volunteers, patients, and family. Certain aspects are essential to collaborative work, namely: role clarity, successful interdisciplinary partnerships fostered by efficient communication, and the exchange of knowledge and information. The methods of implementation may either enhance or hinder the successful delivery of food and nutritional care in hospitals.

This study constitutes the first assessment of the literature about collaborative elements in the implementation of multidisciplinary care strategies for food and nutritional care. It suggests that to improve collaborative methods in nutritional care, activities such as team meetings, discussions, shared learning, role clarification, and processes facilitating nutritional interchangeability, along with support from clinical leadership and management, should be incorporated into policy guidance to influence practice. Attaining optimal nutritional care results is a commendable objective for healthcare practitioners, requiring careful assessment of the processes involved.

Literature gaps suggest a need for concentrated study on interdisciplinary nutritional care procedures and the variables that facilitate enhanced collaboration. This study establishes a foundation for future research, specifically with the examination of interdisciplinary group contributions to the quality of nutritional therapy. Since obtaining "buy-in" from key stakeholders is crucial for altering practices, using participatory action research methodologies may facilitate the joint development and more effective implementation of intended modifications to food and nutritional care in hospital environments.

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دور فرق الرعاية الصحية متعددة التخصصات في التخفيف من سوء التغذية بين الفئات الضعيفة: مراجعة للاستراتيجيات التعاونية بين اختصاصيي التغذية والصيدلة وأطباء الأسنان والأخصائيين الاجتماعيين

الملخص

الخلفية: يشكل سوء التغذية، لا سيما نقص التغذية، تحديات كبيرة في بيئات الرعاية الصحية، حيث يؤثر سلبًا على نتائج المرضى، بما في ذلك زيادة معدلات المراضة والوفيات. يتطلب الإدارة الفعالة لسوء التغذية نهجًا تعاونيًا بين المتخصصين في الرعاية الصحية، بما في ذلك اختصاصيي التغذية والصيدلة وأطباء الأسنان والأخصائيين الاجتماعيين.

الطرق: اعتمدت هذه المراجعة المنهجية استراتيجية بحث شاملة عبر قواعد بيانات متعددة، بما في ذلك MEDLINE، لتحديد الدراسات الأولية التي بحثت في التعاون متعدد التخصصات في الرعاية التغذوية للفئات الضعيفة. ركزت المراجعة على أدوار ومساهمات مختلف التخصصات الصحية في معالجة سوء التغذية وتحسين نتائج المرضى.

النتائج: تشير النتائج إلى أن فرق الرعاية الصحية متعددة التخصصات تُحسن بشكل كبير إدارة التغذية من خلال تعزيز الاتصال الفعال والتعاون بين مختلف المتخصصين. يلعب أصحاب المصلحة الرئيسيون، بما في ذلك المرضى وعائلاتهم، أدوارًا حيوية في هذه الجهود التعاونية. كشفت التحليلات أنه على الرغم من التأييد لتنفيذ نماذج رعاية متعددة التخصصات، لا يزال هناك نقص في الفهم الشامل للعمليات التي تسهل التعاون الفعال والأدوار المحددة لكل تخصص.

الخلاصة: خلصت الدراسة إلى أن تعزيز التعاون متعدد التخصصات أمر ضروري لتحسين الرعاية التغذوية للفئات الضعيفة. ينبغي على صانعي السياسات والمنظمات الصحية إعطاء الأولوية لتطوير أطر عمل تعزز الاتصال، ووضوح الأدوار، والمسؤوليات المشتركة بين مقدمي الرعاية الصحية لمعالجة سوء التغذية بفعالية. هناك حاجة لمزيد من الأبحاث لاستكشاف ديناميكيات العمل الجماعي متعدد التخصصات في الرعاية التغذوية وتأثيره على نتائج المرضى.

الكلمات المفتاحية: سوء التغذية، التعاون متعدد التخصصات، الرعاية التغذوية، الفئات الضعيفة، فرق الرعاية الصحية