World Journal of Biology Pharmacy and Health Sciences
eISSN: 2582-5542
Cross Ref DOI: 10.30574/wjbphs
Journal homepage: https://wjbphs.com/

(REVIEW ARTICLE)

Determinants Influencing Dietary Intake Among Hospitalized Patients: A Multidimensional Scoping Review

Anupreet Kaur Sobti [1,*], Ishita Singh [2] and Shradha Duggal [3]

[1] *Department of Foods and Nutrition, Government Home Science College, Chandigarh (Affiliated to Panjab University, Chandigarh), India.*
[2] *Department of Applied Medical Sciences, Quantum University, Roorkee, India.*
[3] *Project Technical support-III (Dietician), Neonatology, Department of Pediatrics, PGIMER, Chandigarh, India.*

World Journal of Biology Pharmacy and Health Sciences, 2025, 22(03), 606-614

Publication history: Received on 07 April 2025; revised on 28 June 2025; accepted on 30 June 2025

Article DOI: https://doi.org/10.30574/wjbphs.2025.22.3.0645

Abstract

Hospitalized patients are at increased risk of malnutrition due to a variety of factors that influence their dietary intake. Understanding these determinants is essential for improving nutritional outcomes and recovery. This scoping review aims to map the breadth of literature on determinants affecting dietary intake among hospitalized patients from a multidimensional perspective, encompassing clinical, environmental, psychological, and institutional factors. A scoping review was conducted following the PRISMA-ScR guidelines. Four electronic databases (PubMed, Scopus, Web of Science, and Google Scholar) were searched for peer-reviewed articles published between January 2010 and March 2025. Eligible studies included those that examined factors influencing oral dietary intake among adult inpatients. Studies focusing exclusively on parenteral or enteral nutrition were excluded. A thematic synthesis was conducted to categorize determinants into key domains. The identified determinants were grouped into five major domains: Physiological, Psychosocial, Environmental, Systemic and Organizational and Clinical Treatment Factors. The majority of studies highlighted the complex interaction between physical health, institutional practices, and patient perceptions as key influences on intake. Dietary intake in hospitalized patients is influenced by a complex interplay of multidimensional factors. Interventions aiming to optimize nutritional intake must address not only clinical needs but also institutional practices and patient-centred factors. Future research should prioritize integrated, multidisciplinary approaches to nutritional care in hospital settings.

Keywords: Hospitalized Patients; Dietary Intake; Nutrition; Determinants; Scoping Review; Malnutrition; Hospital Environment

1. Introduction

Nutrition plays a pivotal role in the management and recovery of hospitalized patients (1). Adequate dietary intake during hospitalization is essential not only for meeting energy and protein requirements but also for accelerating wound healing, supporting immune responses, preserving lean body mass, and minimizing the risk of hospital-acquired complications such as infections, pressure ulcers, and muscle wasting (1,2,3). Despite increased awareness of hospital malnutrition, global estimates suggest that 20–50% of inpatients are malnourished or at risk of malnutrition, often due to insufficient oral intake (4).

Malnutrition in hospitalized patients is not merely a consequence of disease but a result of various interrelated factors that hinder adequate food consumption (4). These factors may be patient-centred, such as poor appetite, swallowing difficulties, or depression; clinical, such as side effects of medication or therapeutic fasting; environmental, such as

* Corresponding author: Anupreet Kaur Sobti.

unappealing food or disruptions during mealtimes; or organizational, including rigid meal schedules, inadequate staffing, and ineffective communication among healthcare providers. Moreover, psychosocial and cultural aspects, such as anxiety, loneliness, and mismatch between hospital food offerings and patient preferences, further complicate the picture.

While numerous individual studies have attempted to address specific determinants affecting hospital food intake, the evidence remains fragmented. Most reviews focus either on a single factor or a specific patient population, without integrating the diverse and multidimensional influences that simultaneously affect dietary behaviour in hospital settings. A comprehensive synthesis is lacking that captures the breadth of determinants from a systems-based and patient-centred perspective.

Given this gap, a scoping review is an appropriate methodological approach to map the existing literature, identify key thematic domains, and uncover potential gaps in knowledge and practice. This review aims to explore the multidimensional determinants influencing dietary intake among hospitalized patients by synthesizing evidence from various determinants. The findings will offer valuable insights for clinicians, hospital administrators, dietitians, and policymakers to design targeted interventions and implement best practices that promote optimal nutritional intake and patient recovery.

2. Materials and Methods

2.1. Study Design and Framework

This scoping review was conducted using the methodological framework originally proposed by Arksey and O'Malley in 2005 (5), further refined by Levac et al. (2010) (6), and aligned with the Joanna Briggs Institute (JBI) guidelines for scoping reviews (7). The reporting followed the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) checklist (8) to ensure methodological transparency and reproducibility.

Scoping reviews are particularly suited to explore complex and heterogeneous fields where the aim is to map existing evidence, identify key concepts, and highlight knowledge gaps rather than evaluate the quality of evidence or assess intervention effectiveness (9). This review sought to map the breadth of existing literature related to the multidimensional determinants influencing dietary intake among hospitalized adult patients.

2.2. Research Question and Objectives

The central research question guiding this review was:

- What are the determinants that influence dietary intake among adult hospitalized patients?

The objectives were:

- To identify and categorize the various factors influencing oral dietary intake during hospitalization
- To develop a thematic framework that synthesizes these factors across multiple domains

2.3. Eligibility Criteria

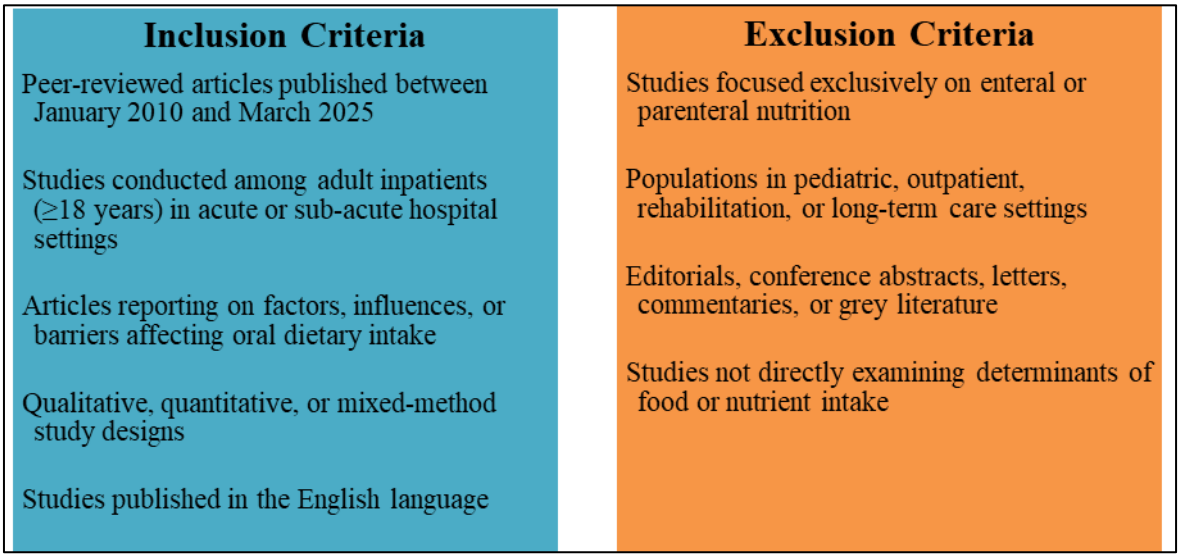

Figure 1 Inclusion and Exclusion Criteria of Articles for the Present Study

2.4. Information Sources and Search Strategy

A comprehensive search was conducted across four electronic databases: PubMed, Scopus, Web of Science and Google Scholar.

The search strategy combined controlled vocabulary MeSH terms and free-text keywords, using Boolean operators (AND, OR) and appropriate truncation. The primary search terms included combinations of: "hospitalized patients" OR "inpatients" AND "dietary intake" OR "food consumption" OR "nutrition" AND "determinants" OR "barriers" OR "factors" OR "influences" OR "predictors"

2.5. Study Selection Process

All identified records were imported into Mendeley Reference Manager for citation management and de-duplication. The selection process consisted of two levels:

- Title and abstract screening: Two reviewers independently screened all titles and abstracts using pre-defined eligibility criteria. Discrepancies were resolved by discussion.
- Full-text review: Articles that met the inclusion criteria or were deemed potentially relevant underwent full-text assessment. Reasons for exclusion at this stage were documented.

The selection process was documented using a PRISMA-ScR flow diagram (Figure 2).

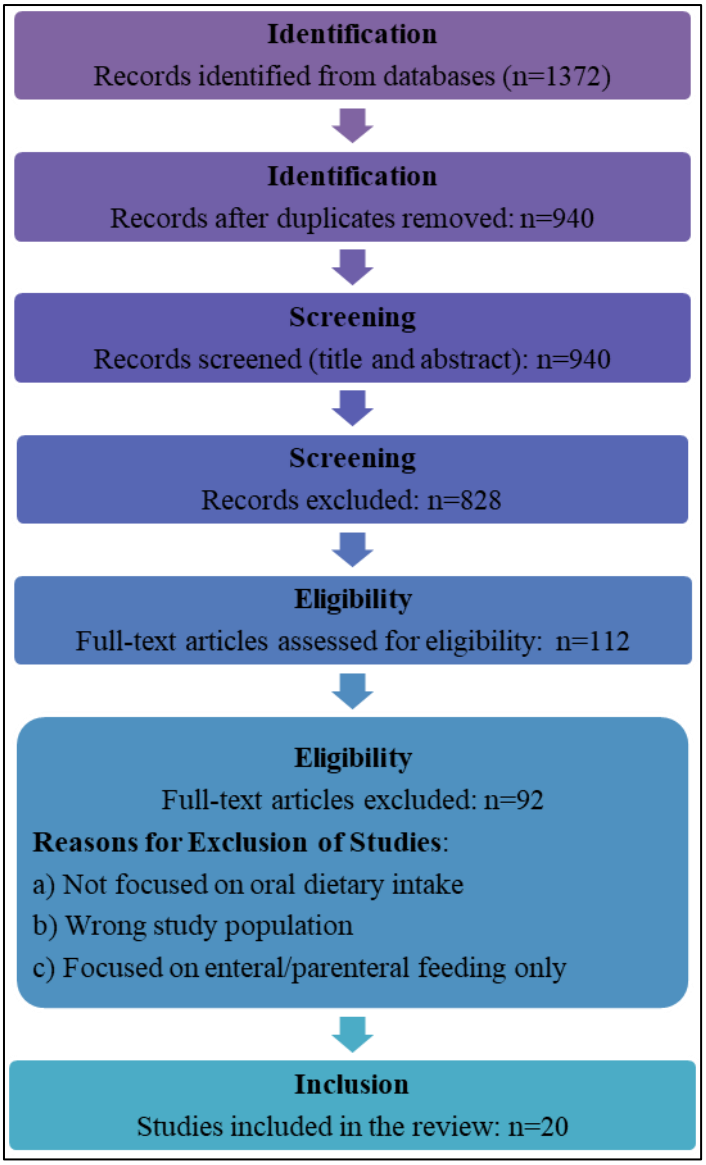

Figure 2 PRISMA-ScR flow diagram

2.6. Data Extraction (Charting the Data)

A standardized data extraction form was developed in Microsoft Excel, piloted on five studies, and then refined. The following data were extracted from each included article:

- Author(s), year of publication
- Country and healthcare setting
- Study design and methodology
- Participant demographics and sample size
- Identified determinants of dietary intake
- Thematic classification of determinants
- Key findings and conclusions

Data extraction was cross-checked for results for accuracy and completeness.

2.7. Data Synthesis and Analysis

The extracted data were analysed using a thematic synthesis approach, enabling the categorization of determinants into conceptually coherent domains. The process involved familiarization with extracted content, open coding of determinants from each study and grouping similar codes into overarching themes/domains based on meaning and

context. The final themes emerged inductively and were refined through iterative discussions. The determinants were organized into five major domains:

- **Physiological Factors** (key terms: appetite, pain, nausea, dysphagia, and fatigue)
- **Psychosocial Factors** (key terms: mood, loneliness, anxiety, cultural food preferences)
- **Environmental Factors** (key terms: meal ambience, noise, interruptions, food aesthetics)
- **Systemic and Organizational Factors** (key terms: meal timing, staffing, food ordering systems)
- **Clinical Treatment-Related Factors** (key terms: medications, diagnostic procedures, diet restrictions)

3. Result and Discussion

This scoping review highlights that dietary intake among hospitalized patients is shaped by a complex interplay of physiological, psychological, environmental, systemic, and clinical treatment-related factors. While physiological factors like appetite loss and GI discomfort remain dominant, psychosocial and institutional influences are increasingly recognized as modifiable determinants that warrant attention.

Table 1 Determinants and Impact on Dietary Intake amongst Hospitalized Patients

Domain	Specific Determinants	Impact on Dietary Intake	References
Physiological Factors	Anorexia, altered taste/smell Nausea, vomiting, constipation Pain, fatigue, Dysphagia, dental issues Medication side effects	Reduced appetite and food enjoyment Discomfort discourages eating Physical inability to chew/swallow Medication-induced aversions	(10,11,12,13)
Psychosocial Factors	Depression, anxiety Loneliness, lack of social interaction Loss of control/autonomy Cultural/religious food preferences	Emotional distress suppresses hunger Eating alone reduces intake Unfamiliar foods not consumed Negative hospital experience affects food acceptance	(14,15,16,17, 18,19,20)
Environmental Factors	Noise, lighting, room temperature Meal presentation and palatability Meal timing and delivery delays Cleanliness of dining space	Sensory discomfort affects meal experience Visually unappealing food not consumed Cold food or missed meals reduce intake	(12,21,22,23, 24, 25)
Systemic & Organizational Factors	Foodservice structure and inflexibility Staffing constraints Poor coordination between nutrition and nursing teams Inadequate monitoring of intake	Delays or absence of meals Staff not trained to support eating Missed opportunities to identify malnutrition	(26,27)
Clinical Treatment Factors	Restrictive diets (renal, diabetic, etc.) Interrupted meals due to medical procedures Post-surgical recovery issues Polypharmacy	Reduced food variety Loss of appetite post-treatment Inability to eat due to treatment side effects	(28,29,30)

3.1. Interconnections Among Determinants of Dietary Intake

While individual domains- physiological, psychosocial, environmental, systemic, and clinical, have distinct influences on dietary intake, the literature consistently emphasizes that these factors are deeply interrelated and often operate

synergistically rather than in isolation. Understanding this interconnection is critical for designing effective and holistic nutritional interventions in hospital settings.

For instance, physiological symptoms such as pain, fatigue, or nausea may significantly reduce appetite. However, this reduction in intake is often exacerbated by systemic barriers, such as delays in meal delivery, unpalatable or inappropriate food textures, or a rigid hospital meal schedule that does not align with patient hunger cues. In parallel, psychosocial stressors like anxiety, fear about prognosis, loneliness, or cultural dissonance with hospital meals can further compound the reluctance to eat, especially in unfamiliar environments.

Dietary intake in hospitals is shaped by a web of interconnected influences. Intervening in one area without addressing others may yield limited success. Therefore, there is a growing consensus in the literature advocating for a multidimensional, patient-centred framework that considers the totality of these interactions. Hospitals must move toward integrated models of nutritional care, involving multidisciplinary teams—including dietitians, nurses, physicians, and support staff—to proactively assess and address the complex needs of patients.

3.1.1. Comparison with Existing Literature

Our findings align with prior reviews which identified multifactorial contributors to hospital malnutrition, yet this review expands the scope by integrating studies from diverse settings and emphasizing the interconnection between domains. While previous work focused narrowly on foodservice delivery or appetite, this review advocates for a system-level and patient-centred lens.

3.1.2. Implications for Practice

The findings of this review underscore the necessity for a multidisciplinary approach to nutritional care in hospital settings. Ensuring optimal dietary intake cannot be the sole responsibility of dietitians; rather, it must involve coordinated efforts from a range of professionals including nurses, physicians, psychologists, foodservice staff, and caregivers. Each stakeholder plays a unique role—nurses and physicians help monitor medical and clinical factors, psychologists address mental health and emotional well-being, and kitchen staff contribute to meal quality and delivery. Effective communication and collaboration among these professionals are essential to identify and mitigate barriers that may otherwise go unnoticed.

Equally important is the need for patient-centred food services. Hospitals should aim to provide flexibility in terms of meal timing, portion size, and food choices, especially those aligned with the patient's cultural, religious, and personal preferences. Such adjustments not only improve patient satisfaction but can significantly increase actual food consumption. Allowing patients a degree of autonomy in selecting or customizing their meals can also enhance their engagement and adherence to nutritional plans.

Another critical area is the provision of psychosocial support. Many patients face anxiety, depression, loneliness, and feelings of helplessness during hospitalization—all of which have a direct or indirect impact on appetite and eating behaviour. Incorporating psychosocial care- through mental health counselling, social work involvement, or enabling family visits during mealtimes- can foster a supportive eating environment, encouraging patients to maintain regular food intake.

Also, the role of education and effective communication cannot be overstated. Many patients are unaware of the reasons behind specific dietary orders or the potential side effects of medications on appetite and digestion. Providing clear, accessible, and empathetic explanations can empower patients, reduce resistance to dietary restrictions, and enhance adherence. This also includes involving patients in discussions around their nutritional care plans to make them feel heard and respected.

Thus, implementing these evidence-based, multidimensional strategies in clinical practice can lead to significant improvements in nutritional intake, reduce the risk of hospital-acquired malnutrition, and ultimately contribute to better recovery outcomes.

4. Conclusion

This scoping review underscores the multifactorial nature of dietary intake among hospitalized patients, revealing that nutritional status is influenced by a dynamic interplay of physiological, psychosocial, environmental, organizational, and clinical treatment-related factors. While physiological challenges such as poor appetite and gastrointestinal discomfort are frequently documented, the contribution of systemic and environmental elements—including rigid

foodservice structures, lack of patient autonomy, and minimal psychosocial support—are equally significant yet often under-recognized in clinical practice.

To enhance dietary intake and prevent hospital-associated malnutrition, it is essential to adopt a multidimensional and patient-centred approach that addresses not only medical and nutritional needs but also institutional and emotional well-being. Interdisciplinary collaboration, flexible meal planning, improved communication, and personalized care strategies can collectively foster a more conducive eating environment in hospital settings.

Future research should focus on designing and evaluating integrated interventions that target multiple domains simultaneously, with active involvement of patients in co-creating care plans. By doing so, healthcare systems can better ensure optimal nutritional outcomes and support faster recovery and improved quality of life for hospitalized patients.

Compliance with ethical standards

Disclosure of conflict of interest

Authors declare no Conflict of Interest.

References

[1] Moisey LL, Merriweather JL, Drover JW. The role of nutrition rehabilitation in the recovery of survivors of critical illness: underrecognized and underappreciated. Critical Care [Internet]. 2022 Sep 8;26(1). Available from: https://doi.org/10.1186/s13054-022-04143-5

[2] National Academies Press (US). Nutrition support [Internet]. The Role of Nutrition in Maintaining Health in the Nation's Elderly - NCBI Bookshelf. 2000. Available from: https://www.ncbi.nlm.nih.gov/books/NBK225301/

[3] Wang Y, Li Y, Li Y, Li H, Zhang D. Enteral feeding strategies in patients with acute gastrointestinal injury: From limited to progressive to open feeding. Nutrition [Internet]. 2023 Oct 5;117:112255. Available from: https://doi.org/10.1016/j.nut.2023.112255

[4] Cass AR, Charlton KE. Prevalence of hospital-acquired malnutrition and modifiable determinants of nutritional deterioration during inpatient admissions: A systematic review of the evidence. Journal of Human Nutrition and Dietetics [Internet]. 2022 Apr 4;35(6):1043–58. Available from: https://doi.org/10.1111/jhn.13009

[5] Arksey H, O'Malley L. Scoping studies: towards a methodological framework. International Journal of Social Research Methodology [Internet]. 2005 Feb 1;8(1):19–32. Available from: https://doi.org/10.1080/1364557032000119616

[6] Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. Implementation Science [Internet]. 2010 Sep 20;5(1). Available from: https://doi.org/10.1186/1748-5908-5-69

[7] Hadie SNH. ABC of a Scoping Review: A simplified JBI Scoping review guideline. Education in Medicine Journal [Internet]. 2024 Jun 28;16(2):185–97. Available from: https://doi.org/10.21315/eimj2024.16.2.14

[8] Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-SCR): Checklist and explanation. Annals of Internal Medicine [Internet]. 2018 Sep 3;169(7):467–73. Available from: https://doi.org/10.7326/m18-0850

[9] Peters MDJ, Marnie C, Colquhoun H, Garritty CM, Hempel S, Horsley T, et al. Scoping reviews: reinforcing and advancing the methodology and application. Systematic Reviews [Internet]. 2021 Oct 8;10(1). Available from: https://doi.org/10.1186/s13643-021-01821-3

[10] Kesari A, Noel JY. Nutritional assessment [Internet]. StatPearls - NCBI Bookshelf. 2023. Available from: https://www.ncbi.nlm.nih.gov/books/NBK580496/

[11] Lennie TA, Moser DK, Heo S, Chung ML, Zambroski CH. Factors influencing food intake in patients with heart failure. The Journal of Cardiovascular Nursing [Internet]. 2006 Mar 1;21(2):123–9. Available from: https://doi.org/10.1097/00005082-200603000-00008

[12] Kontogianni MD, Poulia KA, Bersimis F, Sulz I, Schindler K, Hiesmayr M, et al. Exploring factors influencing dietary intake during hospitalization: Results from analyzing nutritionDay's database (2006–2013). Clinical Nutrition ESPEN [Internet]. 2020 Apr 25;38:263–70. Available from: https://doi.org/10.1016/j.clnesp.2020.04.001

[13] Su R, Zhang W, Huang J, Fan J, Peng P, Li H, et al. Dietary patterns related to attention and physiological function in high-altitude migrants. Scientific Reports [Internet]. 2024 Oct 7;14(1). Available from: https://doi.org/10.1038/s41598-024-75313-4

[14] Ferranti EP, Dunbar SB, Higgins M, Dai J, Ziegler TR, Frediani JK, et al. Psychosocial factors associated with diet quality in a working adult population. Research in Nursing & Health [Internet]. 2013 Feb 13;36(3):242–56. Available from: https://doi.org/10.1002/nur.21532

[15] Poggiogalle E, Kiesswetter E, Romano M, Saba A, Sinesio F, Polito A, et al. Psychosocial and cultural determinants of dietary intake in community-dwelling older adults: A Determinants of Diet and Physical Activity systematic literature review. Nutrition [Internet]. 2020 Dec 31;85:111131. Available from: https://doi.org/10.1016/j.nut.2020.111131

[16] Saito J, Kumano H. Psychosocial factors influencing dietary management in patients with type 2 diabetes and healthy adults: an ecological momentary assessment approach. Frontiers in Psychology [Internet]. 2025 Jan 7;15. Available from: https://doi.org/10.3389/fpsyg.2024.1464542

[17] Walker-Clarke A, Walasek L, Meyer C. Psychosocial factors influencing the eating behaviours of older adults: A systematic review. Ageing Research Reviews [Internet]. 2022 Feb 24;77:101597. Available from: https://doi.org/10.1016/j.arr.2022.101597

[18] Ismail LC, Osaili TM, Mohamad MN, Hashim M, Stojanovska L, Daour RA, et al. Psychosocial factors affecting dietary habits of university students: A cross-sectional study. Heliyon [Internet]. 2022 Jun 1;8(6):e09768. Available from: https://doi.org/10.1016/j.heliyon.2022.e09768

[19] Social, behavioural and other determinants of the choice of diet | Health Knowledge [Internet]. Available from: https://www.healthknowledge.org.uk/public-health-textbook/disease-causation-diagnostic/2e-health-social-behaviour/social-behavioural-determinants

[20] Główka AK, Kowalówka M, Burchardt P, Komosa A, Kruszyna Ł, Andrusiewicz M, et al. Selected Psychosocial Factors, Nutritional Behavior, and the Analysis of Concentrations of Selected Vitamins in Patients with Cardiovascular Diseases. Nutrients [Internet]. 2024 Jun 14;16(12):1866. Available from: https://doi.org/10.3390/nu16121866

[21] Buckinx F, Reginster JY, Morelle A, Paquot N, Labeye N, Locquet M, et al. Influence of environmental factors on food intake among nursing home residents: a survey combined with a video approach. Clinical Interventions in Aging [Internet]. 2017 Jul 1;Volume 12:1055–64. Available from: https://doi.org/10.2147/cia.s135937

[22] Marino LV, Meyer R, Veale S, Brown JVE. Scoping Review: Environmental factors Influencing Food Intake in Mental Health Inpatient Settings. Dietetics [Internet]. 2025 May 1;4(2):18. Available from: https://doi.org/10.3390/dietetics4020018

[23] Ruiz-Rosso R, Moreno-Cámara S, Gutiérrez-Sánchez B, Da-Silva-Domingues H, Del-Pino-Casado R, Palomino-Moral PÁ. Factors influencing nutritional status in hospitalized individuals aged 70 and above. Nutrients [Internet]. 2024 Feb 25;16(5):645. Available from: https://doi.org/10.3390/nu16050645

[24] Buckinx F, Reginster JY, Morelle A, Paquot N, Labeye N, Locquet M, et al. Influence of environmental factors on food intake among nursing home residents: a survey combined with a video approach. Clinical Interventions in Aging [Internet]. 2017 Jul 1;Volume 12:1055–64. Available from: https://doi.org/10.2147/cia.s135937

[25] Furuya J, Suzuki H, Hidaka R, Nakagawa K, Yoshimi K, Nakane A, et al. Factors Related to Oral Intake of Food by Hospitalized Patients with Malnutrition under the Care of a Nutrition Support Team. International Journal of Environmental Research and Public Health [Internet]. 2021 Nov 8;18(21):11725. Available from: https://doi.org/10.3390/ijerph182111725

[26] Kiesswetter E, Poggiogalle E, Migliaccio S, Donini LM, Sulmont-Rossé C, Feart C, et al. Functional determinants of dietary intake in community-dwelling older adults: a DEDIPAC (DEterminants of DIet and Physical ACtivity) systematic literature review. Public Health Nutrition [Internet]. 2018 Feb 12;21(10):1886–903. Available from: https://doi.org/10.1017/s1368980017004244

[27] Osman NS, Nor NM, Sharif MSM, Hamid SBA, Rahamat S. Hospital Food Service Strategies to Improve Food Intakes among Inpatients: A Systematic Review. Nutrients [Internet]. 2021 Oct 18;13(10):3649. Available from: https://doi.org/10.3390/nu13103649

[28] Van Der Werf A, Arthey K, Hiesmayr M, Sulz I, Schindler K, Laviano A, et al. The determinants of reduced dietary intake in hospitalised colorectal cancer patients. Supportive Care in Cancer [Internet]. 2018 Jan 19;26(6):2039–47. Available from: https://doi.org/10.1007/s00520-018-4044-1

[29] Gameiro J, Oliveira R, Baltazar AL, Rocha C, Pereira M, Martins D, et al. Prescribed hospital diet influence on dietary intake of hospitalised patients: a Cross-Sectional study. Nutrients [Internet]. 2025 Jan 12;17(2):261. Available from: https://doi.org/10.3390/nu17020261

[30] Böhne SEJ, Hiesmayr M, Sulz I, Tarantino S, Wirth R, Volkert D. Recent and current low food intake – prevalence and associated factors in hospital patients from different medical specialities. European Journal of Clinical Nutrition [Internet]. 2022 Apr 11;76(10):1440–8. Available from: https://doi.org/10.1038/s41430-022-01129-y.