Royal United Hospitals Bath
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Nutrition and Hydration

Current Awareness Bulletin

July 2025

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  Next sessions: 12th August @ 9am, 10th September @ 10am & 2nd October @ 11am

Book a session today at https://forms.office.com/e/HyiSXfDaYV (these sessions will be held on a monthly basis)

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1. **Water intake, hydration status and cognitive functions in older adults - a pilot study.**

Authors: BialeckaDebek A.;Madej D. and Lojek, E.

Publication Date: 2025

Journal: European Journal of Nutrition

Abstract: Purpose: This study aimed to assess the relationship between the hydration status and cognitive functioning of older adults. The novelty of the study was the simultaneous use of several indicators of hydration status, including plasma and urine osmolality, specific gravity and urine color, as well as the assessment of total body water content from body composition measurements, together with comprehensive cognitive assessment.
Method(s): A cross-sectional pilot study included 35 participants aged >= 60 years. Water intake was assessed using the 3-day food record method. Hydration status was assessed by plasma osmolality (Posm), urine osmolality (Uosm), specific gravity (USG) and color (UC), extracellular water (ECW) and percentage of total body water (%TBW). Cognitive functions were assessed using a set of standardized neuropsychological tests including: two verbal tests (Digit Span, DS and Vocabulary, VT) from the Wechsler Adult Intelligence Scale, California Verbal Learning Test (CVLT), Verbal Fluency Test (VFT), Grooved Pegboard Test (GPT) and Global Cognitive Function (GCF).
Result(s): The %TBW was the most strongly related to cognitive processes of all the measures of hydration status. %TBW was significantly related to the performance on memory/learning based on CVLT (r = -0.55, p = 0.002), after a short delay (r = -0.59, p = 0.001) and long delay (r = -0.57, p = 0.001) and GCF (r = -0.43, p = 0.019). Marked correlations were also present

between %TBW and psychomotor speed using the GPT (r = 0.41, p = 0.028). Moreover, significant relationships were obtained in cluster analyses. Cluster 2 (lower hydration status) was characterized by lower water intake and AI% (% of Adequate Intake), higher Uosm, USG, UC, ECW and %TBC than cluster 1. At the same time, it had significantly higher scores for language ability: VT (p = 0.041) and VFT (p = 0.041).
Conclusion(s): Significant relationships between some indicators of hydration status and selected cognitive domains were observed. This pilot study complements previous research on the relationship between hydration status and cognitive function in older adults, emphasizing that even small changes in hydration status assessment parameters can affect cognitive outcomes. In healthy, free-living older adults without dehydration assessed by plasma osmolality, other parameters of hydration status, such as water intake and urine parameters, influence language functions, suggesting the need to assess multiple markers simultaneously. The long-term effect of low water intake should be evaluated in a larger study group.

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2. **Clinically assisted nutrition and hydration at the end of life.**

Authors: Davies, A.

Publication Date: 2025

Journal: Clinical Medicine, Journal of the Royal College of Physicians of London

Abstract: The initiation, continuance or discontinuance of clinically assisted hydration and nutrition are some of the most challenging decisions in patients near the end of life. This article reviews the limited evidence to support or otherwise these medical treatments, and provides an overview of relevant clinical practice guidance. Essentially, decisions need to be individualised, and importantly regularly reviewed to ensure that the objectives of treatment are being achieved.

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3. **Significant Published Articles in 2024 for Pharmacy Nutrition Support Practice.**

Authors: Dickerson R.N.;Afolabi T.M.;Bingham A.L.;Canada T.W.;Chan L.N.;Cogle S.V.;Tucker A.M. and Kumpf, V. J.

Publication Date: 2025

Journal: Hospital Pharmacy

Abstract: Purpose: The purpose of this article is to assist the pharmacist engaged in nutrition support therapy in staying current with pertinent literature.
Method(s): Several board-certified nutrition support pharmacists aggregated a list of articles relevant to pharmacy nutrition support that was published in 2024. The list was compiled into a spreadsheet whereby the authors were asked to assess whether the article was considered important. A culled list of publications was then identified whereby at least 5 out of the 8 author

participants considered the article to be important for pharmacists practicing in nutrition support. Guideline and consensus papers, important to practice but not ranked, were also included.
Result(s): A total of 160 articles were identified; 7 from the primary literature were voted by the group as being of high importance. Twelve guidelines, position, recommendation, or consensus papers were also identified. The top-ranked articles from the primary literature were summarized and a narrative regarding its implications to pharmacy nutrition support practice were provided.
Conclusion(s): We recommend that pharmacists engaged in nutrition support therapy be familiar with these articles as they pertain to their practice.

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4. **Role of dietitians in optimizing medical nutrition therapy in cardiac surgery patients: A secondary analysis of an international multicenter observational study.**

Authors: Dresen E.;Bear D.E.;DePriest A.;Modir R.;Naidoo O.;Compher C.;Ho A.;Foong P.H.;Velasquez M.E.G.;Lee Z.Y.;Lew C.C.H.;Elke G.;Patel J.J.;McKeever L.;Berschauer K.;Domingues C.R.;LopezDelgado J.C.;Meybohm P.;Heyland D.K. and Stoppe, C.

Publication Date: 2025

Journal: Journal of Parenteral and Enteral Nutrition

Abstract: Background: Better understanding the impact of dietetic services on nutrition practices seems required as it may represent an opportunity for optimization in post-cardiac surgery patients. The present study aims to evaluate and compare nutrition practices and clinical outcomes in post-cardiac surgery intensive care unit (ICU) patients with and without dietetic services.
Method(s): This is a secondary analysis of a multinational prospective observational study in patients (n = 237) with >72 h of post-cardiac surgical ICU stay with and without dietetic services describing nutrition practices and outcomes up to 12 days after ICU admission.
Result(s): Dietetic services were available in 61.5% (8 of 13) ICUs (1.0 +/- 0.5 full-time equivalents/10 beds). Enteral nutrition was initiated <48 h from ICU admission in 49.6% and 59.1% of patients at sites with vs without dietetic services, respectively. Parenteral nutrition was started within 118.3 +/- 56.5 and 131.5 +/- 69.2 h at sites with vs without dietetic services, respectively. Energy target (23.7 +/- 4.8 vs 24.6 +/- 4.8 kcal/kg body weight/day) and actual supply (10.5 +/- 6.7 vs 10.3 +/- 6.2 kcal/kg body weight/day) did not differ between the groups. Protein targets (1.4 +/- 0.4 vs 1.1 +/- 1.3 g/kg body weight/day) and actual protein provision (0.6 +/- 0.4 vs 0.4 +/- 0.3 g/kg body weight/day) were higher in patients at sites with vs without dietetic services.
Conclusion(s): Improvements in medical nutrition therapy practices in patients after cardiac surgery are needed in ICUs with and without dietetic services. Appropriately staffed dietetic services as essential members of the medical care team may be crucial to transfer knowledge on adequate medical nutrition therapy strategies into practice.

5. **Leveraging AI to Enhance Nutrition Education for Cancer Survivors.**

Authors: Dvorak C.;Smith J. and Rickerds, J.

Publication Date: 2025

Journal: Current Developments in Nutrition Conference

Abstract: Objectives: To assess the role that generative AI models could play in developing educational quizzes to assess patients' understanding of nutrition and healthy lifestyles during their cancer survivorship journey.
Method(s): Four AI models (GPTo1, Claude3.5 Sonnet, Grok2, Gemini1.5) were first provided nutrition information based on NCCN "Healthy Lifestyles" Survivorship Guidelines. (1) Using that info, each model was asked to design a 20-question quiz across 7 domains at a patient comprehension level. Quiz quality was evaluated on four criteria (style, topics, content adherence, clarity) by each model using a 10-point scale. (2) Each model's answer key was verified for accuracy against the original info. (3) We then compiled a 20-question "clinic-ready" quiz for cancer patients from the highest-rated questions and tested fresh AI model instances (without prior nutrition info) on nutrition knowledge, accuracy, and consistency across 30 attempts per model (600 questions each).
Result(s): (1) Quiz quality scores were highest for GPTo1 (9.0), followed by Claude3.5 (8.0), Grok2 (7.2), and Gemini1.5 (7.0), with some variations across style, topics, content, and clarity. (2) All four models produced correct (100%) answer keys to their quizzes, with no "hallucinations" (made-up answers). (3) On the "clinic-ready" quiz, Claude3.5 achieved 100% accuracy on all attempts (30/30), followed by Grok2 (15/30), Gemini1.5 (10/30), and GPTo1 (4/30). Lowest single-attempt accuracy was 100%, 95%, 85%, and 85%, respectively. The "Specific Populations" guideline domain had the worst performance, at 100%, 50%, 50%, and 70%, respectively.
Conclusion(s): AI models were able to develop high-quality assessment quizzes to evaluate patient knowledge based on cancer nutrition information provided to them, with some variations between models. The accuracy of their independent clinical nutrition knowledge on a "clinic-ready" patient quiz was reasonable, but the consistency in answers varied significantly. These findings suggest the potential of AI models as "tools" for helping to develop clinical patient education materials, though further validating their reliability, accuracy, and sourcing before deploying them as "patient educators" in the future will be crucial. Funding Sources: None.

6. **Hallmarks of Appetite: A Comprehensive Review of Hunger, Appetite, Satiation, and Satiety.**

Authors: Garutti M.;Sirico M.;Noto C.;Foffano L.;Hopkins M. and Puglisi, F.

Publication Date: 2025

Journal: Current Obesity Reports

Abstract: Purpose of Review: The present review describes the available literature on the physiologic mechanisms that modulate hunger, appetite, satiation, and satiety with a particular focus on well-established and emerging factors involved in the classic satiety cascade model. Recent Finding: Obesity is a significant risk factor for numerous chronic conditions like cancer, cardiovascular diseases, and diabetes. As excess energy intake is considered by some to be the primary driver of weight gain, tremendous collective effort should be directed toward reducing excessive feeding at the individual and population levels. From this perspective, detailed understanding of physiologic mechanisms that control appetite, and in turn, the design of effective interventions to manage appetite, may represent key strategies in controlling the obesity epidemic.
Summary: With the obesity's prevalence on the rise worldwide, research on hunger, appetite, satiation and satiety is more relevant than ever. This research aims to provide practical insights for medical practitioners, nutrition professionals, and the broader scientific community in the fight against this global health challenge.

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7. **Prophylactic effects of nutrition, dietary strategies, exercise, lifestyle and environment on nonalcoholic fatty liver disease**

Authors: Hao, Xiangyong;Song, Hao;Su, Xin;Li, Jian;Ye, Youbao;Wang, Cailiu;Xu, Xiao;Pang, Guanglong;Liu, Wenxiu;Li, Zihan and Luo, Tian

Publication Date: 2025

Journal: Annals of Medicine

Abstract: Background: Nonalcoholic fatty liver disease (NAFLD) is a chronic liver disease and its prevalence has risen sharply. However, whether nutrition, dietary strategies, exercise, lifestyle and environment have preventive value for NAFLD remains unclear.; Methods: Through searching 4 databases (PubMed, Web of Science, Embase and the Cochrane Library) from inception to January 2025, we selected studies about nutrition, dietary strategies, exercise, lifestyle and environment in the prevention of NAFLD and conducted a narrative review on this topic.; Results: Reasonable nutrient intake encompassing macronutrients and micronutrients have an independent protective relationship with NAFLD. Besides, proper dietary strategies including mediterranean diet, intermittent fasting diet, ketogenic diet, and dietary approaches to stop hypertension diet have their inhibitory effects on the developmental process of NAFLD. Moreover, right exercises including walking, jogging, bicycling, and

swimming are recommended for the prevention of NAFLD because they could effectively reduce weight, which is an important risk factor for NAFLD, and improve liver function. In addition, embracing a healthy lifestyle including reducing sedentary behavior, not smoking, sleeping well and brushing teeth regularly is integral since it not only could reduce the risk of NAFLD but also significantly contribute to overall prevention and control. Finally, the environment, including the social and natural environments, plays a potential role in NAFLD prevention.; Conclusion: Nutrition, dietary strategies, exercise, lifestyle and environment play an important role in the prevention of NAFLD. Moreover, this review offers comprehensive prevention recommendations for people at high risk of NAFLD.

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8. **Nutrition of ICU Patients as Affected by Staffing with a Registered Dietitian: A Single-Center Retrospective Cohort Study.**

Authors: Hatakeyama J. and Aso, S.

Publication Date: 2025

Journal: Topics in Clinical Nutrition

Abstract: It is unclear whether registered dietitians (RDs) who work in the intensive care unit (ICU) improve nutritional therapy in critically ill patients. This single-center, retrospective cohort study examined the initiation of enteral nutrition (EN) before and after appointment of an RD in patients who stayed in the ICU for more than 1 week and required mechanical ventilation. Of the 144 patients included in the study, 74 were in the study before and 70 were in the study after placement of an RD. Regression discontinuity analysis showed that early initiation of EN was associated with the assignment of an RD.

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9. **Relationships Between Hydration, Nutritional Status and Non-motor Symptoms in Parkinson's Disease: A Cross-Sectional Study Protocol.**

Authors: Koons K.E. and Dahl, W. J.

Publication Date: 2025

Journal: Current Developments in Nutrition Conference

Abstract: Objectives: The aim of this study is to explore the relationships between hydration, nutritional status, and non-motor symptoms in people with PD.
Method(s): A cross-sectional study will be conducted to evaluate hydration, nutritional status, and non-motor symptoms in 50 people with PD (50-90 years). Body composition, hydration, and phase angle will be assessed by bioelectrical impedance spectroscopy (BIS), handgrip strength by dynamometer, and resting metabolic rate by indirect calorimetry. Participants will complete the 12-question Gastrointestinal Dysfunction Scale in Parkinson's Disease (GIDS-PD), the 9-question Gastroparesis Cardinal Symptom Index (GDSI), and a 24-hour recall of food and beverage intake, including a brief choline screener. Inclusion criteria include a self-disclosed diagnosis of Parkinson's disease and consumption of an oral diet. Exclusion criteria

include a pacemaker implant and joint replacement surgery. Descriptive statistics will summarize and describe the demographic and clinical characteristics of the study population. Correlations will assess relationships between continuous variables. Specifically, associations between hydration, nutritional status, and non-motor symptoms will be explored.
Result(s): In people with PD, we hypothesize that the severity of non-motor symptoms will be negatively correlated with muscle mass, and handgrip strength. The severity of non-motor symptoms will be associated with hydration status and dietary intake adequacy.
Conclusion(s): Gaining a clearer understanding of the interrelationships between non-motor symptoms, hydration, and nutritional status of people with PD may help refine management strategies, ultimately improving their nutritional status and quality of life. Funding Sources: Norman Fixel Institute for Neurological Diseases; UF Health.

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10. **Exploring Variation in Nutrition Assessment Tools Amongst Practicing Registered Dietitians.**

Authors: Peters H.A.;Patel J.;Bakare J. and Raj, M.

Publication Date: 2025

Journal: Current Developments in Nutrition Conference

Abstract: Objectives: Registered Dietitian Nutritionists (RDNs) lack access to a standardized tool for conducting comprehensive nutrition assessments. In healthcare settings, lack of a standardized nutrition assessment can lead to oversight of important components of their patients' nutritional requirements (e.g., traditional culinary preferences). To better understand the scope and nature of tools currently used by RDNs to conduct nutrition assessments, the objectives of our study were to (1) examine the types of nutrition assessment tools currently being used by RDNs and (2) explore similarities and differences in the information captured by these nutrition assessment tools.
Method(s): We conducted semi-structured qualitative interviews with practicing Registered Dietitians working in U.S. healthcare settings. The interview questions were developed internally by the study team and were piloted by three participants prior to conducting the formal interviews. The interviews were recorded and transcribed via Zoom. The study team conducted a qualitative analysis highlighting themes in the tools currently used by clinicians for nutrition assessments.
Result(s): Of 20 RDNs, 12 participants noted that they use a template that they personally created when conducting nutritional assessments. Most participants (n=14) noted that they use a combination of tools, while fewer (n=6) use a template through their facility's Electronic Health Record system. Just 5 participants utilize a note template provided by the facility in which they work.
Conclusion(s): Several tools support RDNs in conducting a comprehensive nutrition assessment that align with the Nutrition Care Process. However, variation in assessment tools-and the prevalence of additional customization-suggests that a standardized web-based tool may benefit RDNs in their practice. Funding Sources: The authors are grateful for the support from the Personalized Nutrition Initiative and the Chancellor's Call to Action Program

at the University of Illinois Urbana Champaign.

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11. **The Role of Plant-Based Beverages in Nutrition: An Expert Opinion.**

Authors: RachtanJanicka J.;Gajewska D.;Szajewska H.;Wlodarek D.;Weker H.;Wolnicka K.;Wisniewska K.;Socha P. and Hamulka, J.

Publication Date: 2025

Journal: Nutrients

Abstract: The market of plant-based food, including plant-based beverages, is one of the fastest-growing food sectors within the food industry and a subject of major research in the area of new product development. Plant-based beverages are a diverse group of non-dairy beverages with varying nutritional value, depending on the raw material sources and additional substances used in their production. A wide range of plant beverages makes it possible to choose products tailored to individual consumer preferences and needs as a part of sustainable dietary patterns. Increased consumer awareness of the environmental and health implications of proper nutrition, interest in plant-based diets, climate, and natural resource protection, as well as ethical concerns about animal welfare and the negative environmental impact of animal production, have led some consumers to seek a more balanced diet based on varied plant-based products, including beverages. Considering the highly diversified nutritional value of plant-based beverages, their availability, convenience, accessibility to consumers, ethical and environmental concerns, increasing health concerns as well as growing popularity of plant-based beverages as potential cow-milk alternatives, the Group of Experts in medicine and nutritional sciences presents the opinion on the nutritional value, health benefits and concerns of the available plant-based beverages. The opinion was based on a critical review of the current scientific literature, as well as on the experts' experience. This knowledge can be used to make the right choices to improve the nutritional status and health of the consumers from different groups. Since the nutritional profiles of plant-based beverages vary across different plant-based drink varieties and they do not have standards of identity, in our opinion, there is a need for action to standardize nutrient fortification regarding the type and amount of added ingredients to ensure the safety of consumers and avoid potential over- or under-fortification of plant-based beverages.

12. **The effect of low-fat diets on appetite: a systematic review of randomized clinical trials**

Authors: Razmpoosh, Elham;Abdollahi, Shima;Sikaroudi, Masoumeh Khalighi;Sangsefidi, Zohreh Sadat;Zeraattalab-Motlagh, Sheida;Torabinasab, Kimia;Hejazi, Mahdi;Meshkini, Fatemeh;Motallaei, Maryam and Soltani, Sepideh

Publication Date: 2025

Journal: BMC Public Health

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13. **Assessing nutrition risk and malnutrition rates in patients with chronic obstructive pulmonary disease: A cross-sectional study**

Authors: Sarıkaya, Buse;Aktaç, Şule and Çetinkaya, Erdoğan

Publication Date: 2025

Journal: Nutrition in Clinical Practice

Abstract: Background: Nutrition screening is crucial in chronic obstructive pulmonary disease (COPD) management. This study aimed to assess the nutritional status of patients with COPD at different severity levels. Methods: This cross-sectional study included 52 patients with COPD aged 50–80 years. COPD severity was classified according to forced expiratory volume in 1 s (FEV1) using the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria. Nutritional status was assessed using a two-step approach: initial screening with the Mini Nutritional Assessment-Short Form (MNA-SF), followed by malnutrition diagnosis in at-risk individuals according to the Global Leadership Initiative on Malnutrition (GLIM) criteria. Body composition was assessed using the bioelectrical impedance analysis (BIA) method. Results: The MNA-SF identified 23.1% of patients as at risk, whereas GLIM diagnosed malnutrition in 13.5%. Compared to the well-nourished group, malnourished patients had significantly lower body mass index (BMI) (21.4 ± 3.7 vs 26.8 ± 3.2 kg/m2; $P < 0.05$) and skeletal muscle mass (22.3 ± 3.3 vs 27.7 ± 3.2 kg; $P < 0.05$). Patients with severe COPD had lower BMI and fat-free mass index (FFMI) than those with moderate COPD ($P < 0.05$). Malnutrition was associated with prolonged hospital stays (7.7 ± 5.7 vs 5.8 ± 3.2 days; $P < 0.05$) and lower FEV1 values ($P < 0.05$). Conclusions: The MNA-SF does not consider disease-specific factors, whereas GLIM, despite incorporating muscle mass evaluation, is influenced by COPD-related complications. A comprehensive approach that accounts for COPD-related physiological changes is needed for accurate malnutrition assessment.

14. **Medical nutrition therapy in chronic obstructive pulmonary disease: A narrative review**

Authors: Savino-Lloreda, Patricia;López-Daza, David and Casas-Herrera, Alejandro

Publication Date: 2025

Journal: Nutrition in Clinical Practice

Abstract: Chronic obstructive pulmonary disease (COPD) is a complex and heterogeneous lung condition characterized by persistent airflow obstruction, associated with cardiovascular, metabolic and musculoskeletal comorbidities. In 2022, approximately 480 million people were affected by this disease, making it the third leading cause of mortality worldwide. Projections indicate that by 2050, this number could rise to 600 million. Nutrition status is a fundamental component in managing COPD patients, as it is a critical prognostic factor for morbidity and mortality. Patients with COPD may display different body composition phenotypes, ranging from cachexia to obesity to sarcopenia. Assessing body composition is essential to determine muscle mass, the latter crucial for respiratory function, and also to identify potential health risks and complications. Likewise, involuntary weight loss and decreased fat-free mass are associated with increased mortality. COPD should be viewed as a syndrome, or as a multimorbidity coexisting with other conditions, requiring comprehensive clinical and nutrition assessment for effective management. Nutrition intervention, including oral supplements, is crucial to preserve muscle mass and weight. Supplementation with protein, ω-3 fatty acids, and antioxidants, along with pulmonary rehabilitation, improves muscle strength and exercise tolerance. This narrative review examines nutrition phenotypes and highlights the importance of nutrition interventions in patients with COPD. A multimodal approach combining nutrition support, physical exercise, and pharmacological treatments is essential for managing COPD and its associated comorbidities.

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15. **The Role of Plant-Based Nutrition and Exercise in Metabolic Syndrome: A Narrative Review.**

Authors: Stavitz J.;Porcelli R. and Gentile, J.

Publication Date: 2025

Journal: Nutrients

Abstract: Background/Objectives: Metabolic syndrome (MetS) is a prevalent health condition characterized by central obesity, insulin resistance, hypertension, and dyslipidemia, increasing the risk of cardiovascular disease and type 2 diabetes. Lifestyle interventions, particularly plant-based nutrition and exercise, are essential for managing MetS. While both strategies are well-documented independently, their synergistic effects remain less explored. This narrative review integrates findings from both domains to evaluate their combined impact on metabolic syndrome. The review examines the individual and combined impacts of plant-based nutrition and exercise on MetS-related metabolic dysfunction.
Method(s): A comprehensive review of 114 peer-reviewed studies was conducted to assess the role of plant-based diets and structured physical activity in improving insulin sensitivity,

lipid profiles, inflammation, and weight management. Studies investigating the mechanisms through which dietary components and exercise modalities influence metabolic health were analyzed, along with behavioral and psychological factors affecting long-term adherence.
Result(s): Plant-based diets, particularly those high in fiber, polyphenols, and healthy fats, improve glucose metabolism, reduce inflammation, and enhance cardiovascular health. Exercise complements these benefits by increasing insulin sensitivity, promoting fat oxidation, and improving lipid metabolism. When combined, plant-based nutrition and exercise provide superior metabolic outcomes, including greater reductions in visceral adiposity, improved endothelial function, and enhanced glycemic control.
Conclusion(s): Plant-based nutrition and structured exercise are effective strategies for managing MetS. Their synergistic effects highlight the importance of integrated lifestyle interventions for long-term metabolic health.

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16. **Clinical and Economic Impact of Inappropriate Use of Total Parenteral Nutrition in Adults**

Authors: Suner H.;Esteve Pitarch E.;Pascual Carbonell D.;Ciuciu David C.D.;Romero Denia M.;Martin Marques M.;Sanjuan Belda A.;Roch Ventura M.A.;Vuelta Arce M.F.;Conde Giner S. and Canadell Vilarrasa, L.

Publication Date: 2025

Journal: European Journal of Hospital Pharmacy Conference: 29th EAHP Congress Copenhagen Denmark

Abstract: Background and Importance According to the latest clinical nutrition guidelines, total parenteral nutrition(TPN) is recommended for hospitalised patients at high-risk of malnutrition when nutrient intake via the digestive tract is expected to be impossible or insufficient for more than 5-7days. Aim and Objectives To evaluate the appropriateness of TPN use in a tertiary care hospital and the economic impact resulting from its improper indication. Material and Methods We conducted a retrospective review of medical records from adult patients who received TPN at a tertiary hospital in 2023. Using two software applications for electronic health record access,SAP and Pharmasuite, we extracted data on TPN duration, the number of TPN bags prepared, and the reasons for initiating and discontinuing TPN. For patients on TPN<=5 days, we also recorded type of TPN prescribed and calculated preparation costs. Data were collected in Excel database. To obtain the results, data were analysed by using SPSS-Statistics software.Qualitative variables were reported as percentages, and quantitatives as means+/-standard deviation. Results A total of 401 patients were included. Of these,16.9% received TPN for 5 days or fewer:36.8% for 5 days, 27.9% for 4 days, 17.6% for 3 days, 7.4% for 2 days, 4.4% for 1 day and 5.9% didn't start TPN. A total of 5653 TPN bags were prepared,5.2% of which were for patients with TPN<=5 days. The main reasons for starting TPN were:23.5% digestive surgery, 23.5% paralytic ileus, 10.3% intolerance to enteral nutrition(EN), 10.3% persistent vomiting/diarrhoea, 7.4% peritonitis, 5.9% inadequate oral tolerance, 5.9% diverticulitis, 5.9% intestinal obstruction,4.4% pancreatitis and 2.9% mucositis. Reasons for discontinuation were:61.8% oral diet tolerance, 17.6% patient death, 7.4% EN tolerance, 4.4% patient decision,4.4% lack of central venous catheter,2.8% discharge and

1.5% TPN associated complications. The direct cost associated with TPN for <= 5 days was 12,102.14 , with an average cost of 177.97+/-61.18 per patient. Conclusion and Relevance * One-sixth of TPN prescriptions did not align with clinical guidelines, causing a significant economic impact. * Early initiation of oral diet was a key factor in TPN<=5 days. * Proper planning of fasting duration and transition to oral intake is crucial to reduce costs, complications, and logistical burdens.

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17. **Evolving nutrition therapy in cystic fibrosis: Adapting to the CFTR modulator era**

Authors: Vavrina, Kay;Griffin, Tara B.;Jones, Angel M.;Schindler, Terri;Bui, Trang N. and Sankararaman, Senthilkumar

Publication Date: 2025

Journal: Nutrition in Clinical Practice

Abstract: Cystic fibrosis transmembrane regulator (CFTR)–directed therapies, such as modulators, have transformed the medical management of people with CF, resulting in better lung function, weight, and body mass index in recent years. With improved nutrition status in people on CFTR modulators, the emphasis on a high-energy, high-fat diet (the legacy CF diet) is declining, with an increased focus on a healthy diet. The increased survival and median predicted age of people with CF have created a need for more attention to metabolic diseases, including hypertension, dyslipidemia, and cardiovascular diseases. The effects of modulators on extrapulmonary manifestations associated with CF, such as CF-related diabetes, CF hepatobiliary involvement, gastrointestinal tract disorders, and pancreatic manifestations, are currently unknown. Approximately 95% of people with CF qualify for treatment with a CFTR modulator. This review discusses the basics of CFTR gene mutations and changes in nutrition status related to treatment with CFTR modulators.

18**. Intermittent fasting strategies and their effects on body weight and other cardiometabolic risk factors: systematic review and network meta-analysis of randomised clinical trials**

Authors: Semnani-Azad, Zhila; Khan, Tauseef A; Chiavaro; et al

Publication Date: 2025

Journal: BMJ

Abstract:

Objective

To assess the effect of intermittent fasting diets, with continuous energy restriction or unrestricted (ad-libitum) diets on intermediate cardiometabolic outcomes from randomised clinical trials.

Design

Systematic review and network meta-analysis.

Data sources

Medline, Embase, and central databases from inception to 14 November 2024.

Eligibility criteria for selecting studies

Randomised clinical trials comparing the association of intermittent fasting diets (alternate day fasting, time restricted eating, and whole day fasting), continuous energy restriction, and ad-libitum diets were included.

Main outcomes

Outcomes included body weight (primary) and measures of anthropometry, glucose metabolism, lipid profiles, blood pressure, C-reactive protein, and markers of liver disease.

Data synthesis

A network meta-analysis based on a frequentist framework was performed with data expressed as mean difference with 95% confidence intervals (CIs). The certainty of the evidence was assessed using grading of recommendations assessment, development, and evaluation (GRADE).

Results

99 randomised clinical trials involving 6582 adults of varying health conditions (720 healthy, 5862 existing health conditions) were identified. All intermittent fasting and continuous energy restriction diet strategies reduced body weight when compared with ad-libitum diet. Compared with continuous energy restriction, alternate day fasting was the only form of intermittent fasting diet strategy to show benefit in body weight reduction (mean difference −1.29 kg (95% CI −1.99 to −0.59), moderate certainty of evidence). Additionally, alternate day fasting showed a trivial reduction in body weight compared with both time restricted eating and whole day fasting (mean difference −1.69 kg (−2.49 to −0.88) and −1.05 kg (−1.90 to −0.19), respectively, both with moderate certainty of evidence). Estimates were similar among trials with less than 24 weeks follow-up (n=76); however, moderate-to-long-term trials (≥24 weeks, n=17) only showed benefits in weight reduction in diet strategies compared with ad-libitum. Furthermore, in comparisons between intermittent fasting strategies, alternate day fasting lowered total cholesterol, triglycerides, and non-high density lipoprotein compared with time restricted eating. Compared with whole day fasting, however, time restricted eating resulted in a small increase in total cholesterol, low density lipoprotein cholesterol, and non-high density lipoprotein cholesterol. No differences were noted between intermittent fasting, continuous

energy restriction, and ad-libitum diets for HbA_{1c} and high density lipoprotein.

Conclusions

Minor differences were noted between some intermittent fasting diets and continuous energy restriction, with some benefit of weight loss with alternate day fasting in shorter duration trials. The current evidence provides some indication that intermittent fasting diets have similar benefits to continuous energy restriction for weight loss and cardiometabolic risk factors. Longer duration trials are needed to further substantiate these findings.

Sources Used:

The following databases are used in the creation of this bulletin: Amed, British Nursing Index, Cinahl & Medline.

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