

November 2022 Nutrition Research Review

Obesity and Critical Care Nutrition: Current Practice Gaps and Directions for Future Research

Publication: Critical Care

Authors: Roland N Dickerson, Laura Andromalos, J Christian Brown, Maria Isabel T D Correia, Wanda Pritts, Emma J Ridley, Katie N Robinson, Martin D Rosenthal, Arthur R H van Zanten

Publish Date: September 2022

Abstract: This review was developed following a panel discussion with an international group of experts in the care of patients with obesity in the critical care setting and focuses on current best practices in malnutrition screening and assessment, estimation of energy needs for patients with obesity, the risks and management of sarcopenic obesity, the value of tailored nutrition recommendations, and the emerging role of immunonutrition. Current nutritional strategies for these patients should be undertaken with a focus on individualized care that considers the whole person, including the possibility of preexisting comorbidities, altered metabolism, and chronic stigma, which may impact the provision of nutritional care.

<https://pubmed.ncbi.nlm.nih.gov/36127715/>

Nutritional Support After Hospital Discharge Improves Long-Term Mortality in Malnourished Adult Medical Patients: Systematic Review and Meta-Analysis

Publication: Clinical Nutrition

Authors: Nina Kaegi-Braun, Fiona Kilchoer, Saranda Dragusha, Zeno Stanga, Beat Mueller, Philipp Schuetz

Publish Date: September 2022

Abstract: This systematic review and meta-analysis investigated the effects of post-discharge nutritional support in the outpatient setting on all-cause mortality in malnourished medical patients. Fourteen (n=14) randomized-controlled trials with a total of 2438 participants were included. Compared to the control group, patients receiving outpatient nutritional support had lower mortality (13 trials, odds ratio [OR] 0.63, 95% confidence interval [CI] 0.48 to 0.84, $p = 0.001$, $I^2 = 1\%$). Nutritional support was also associated with a significant increase in the mean daily intake of energy (568 kcal, 95% CI 24 to 1,113, $p = 0.04$), proteins (24 g, 95% CI 7 to 41), $p = 0.005$) and body weight (1.1 kg, 95% CI 0.6 to 1.7), $p < 0.001$). No differences were found on hospital readmissions and handgrip strength.

[https://www.clinicalnutritionjournal.com/article/S0261-5614\(22\)00343-0/fulltext](https://www.clinicalnutritionjournal.com/article/S0261-5614(22)00343-0/fulltext)

Absence of Oral Nutritional Support in Low Food Intake Inpatients is Associated with an Increased Risk of Hospital-Acquired Pressure Injury

Publication: Clinical Nutrition ESPEN

Authors: Irena Papier, Lena Sagi-Dain, Irit Chermesh, Tanya Mashiach, Tomasz Banasiewicz

Publish Date: September 2022

Abstract: This observational study examined clinical practices for food intake monitoring and its association with predicting hospital-acquired pressure injury (HAPI) risk. The study results showed that of the 5155 admissions during the study period, 895 patients fulfilled the inclusion criteria with 11% with MUST score ≥ 2 , nutritional intake was reported in 76% of patients, of them, 22% had low food intake, and 9% of the study group developed HAPI grade ≥ 2 . Regarding HAPI incidence, no differences were found between groups divided by MUST scores. Independent risk factors significantly associated with HAPI were Norton < 14 , albumin levels < 3 g/dl, and low food intake. Not providing ONS in low food intake patients had an adjusted 3.49-fold (95%CI 1.57-7.75) increase in HAPI risk (6-fold for non-adjusted relative risk).

<https://pubmed.ncbi.nlm.nih.gov/36184204/>

Neonatal Docosahexaenoic Acid in Preterm Infants and Intelligence at 5 Years

Publication: New England Journal of Medicine

Authors: Jacqueline F. Gould, Maria Makrides, Robert A. Gibson, Thomas R. Sullivan, Andrew J. McPhee, Peter J. Anderson, Karen P. Best, Mary Sharp, Jeanie L.Y. Cheong, Gillian F. Opie, Javeed Travadi, Jana M. Bednarz, et al.

Publish Date: October 2022

Abstract: Docosahexaenoic acid (DHA) is a component of neural tissue. Because its accretion into the brain is greatest during the final trimester of pregnancy, infants born before 29 weeks' gestation do not receive the normal supply of DHA. The effect of this deficiency on subsequent cognitive development is not well understood. This study assessed general intelligence at 5 years in children who had been enrolled in a trial of neonatal DHA supplementation to prevent bronchopulmonary dysplasia. In the previous trial, infants born before 29 weeks' gestation had been randomly assigned in a 1:1 ratio to receive an enteral emulsion that provided 60 mg of DHA per kilogram of body weight per day or a control emulsion from the first 3 days of enteral feeds until 36 weeks of postmenstrual age or discharge home, whichever occurred first. Children from 5 of the 13 centers in the original trial were invited to undergo assessment with the Wechsler Preschool and Primary Scale of Intelligence (WPPSI) at 5 years of corrected age. The primary outcome was the full-scale intelligence quotient (FSIQ) score. Secondary outcomes included the components of WPPSI. A total of 1273 infants underwent randomization in the original trial; of the 656 surviving children who had undergone

randomization at the centers included in this follow-up study, 480 (73%) had an FSIQ score available - 241 in the DHA group and 239 in the control group. After imputation of missing data, the mean (\pm SD) FSIQ scores were 95.4 ± 17.3 in the DHA group and 91.9 ± 19.1 in the control group (adjusted difference, 3.45; 95% confidence interval, 0.38 to 6.53; $P = 0.03$). The results for secondary outcomes generally did not support that obtained for the primary outcome. Adverse events were similar in the two groups. The authors concluded, in infants born before 29 weeks' gestation who had been enrolled in a trial to assess the effect of DHA supplementation on bronchopulmonary dysplasia, the use of an enteral DHA emulsion until 36 weeks of postmenstrual age was associated with modestly higher FSIQ scores at 5 years of age than control feeding.

<https://pubmed.ncbi.nlm.nih.gov/36300974/>

Improving Nutrition in Cystic Fibrosis: A Systematic Literature Review

Publication: Nutrition

Authors: Monika Mielus, Dorota Sands, Marek Woynarowski

Publish Date: October 2022

Abstract: With increasing life expectancy of patients with cystic fibrosis (CF), gastrointestinal manifestations of the disease have been increasingly brought into focus. This was a systematic review of the PubMed database and ongoing phase III clinical trials that aimed to summarize recent (published after June 1, 2016) studies reporting the effects of nutritional interventions on anthropometric measures (weight, height, and body mass index) in patients with CF. Two ongoing trials and 40 published studies (18 interventional and 22 observational) were identified. Key results supported the benefits of comprehensive, individualized nutritional plans, high-fat, high-calorie diet including high-quality carbohydrates, and enteric tube feeding (albeit the latter was derived from observational studies only). In contrast, the supplementation of probiotics, lipids, docosahexaenoic, glutathione, or antioxidant-enriched multivitamin appeared to have little effect on anthropometric measures.

<https://pubmed.ncbi.nlm.nih.gov/35816813/>