

# Nutrition and Hydration Current Awareness Bulletin

March 2021

A number of other bulletins are also available – please contact the Academy Library for further details

If you would like to receive these bulletins on a regular basis please contact the library.

If you would like any of the full references we will source them for you.

Contact us: **Academy Library 824897/98**

Email: **[ruh-tr.library@nhs.net](mailto:ruh-tr.library@nhs.net)**

**Title: Nutrition and hydration management among stroke patients in inpatient rehabilitation: a best practice implementation project.**

**Citation:** JBI evidence implementation; Mar 2021; vol. 19 (no. 1); p. 56-67

**Author(s):** Mullins, Natalie

**Introduction:** In 2012 in Australia, stroke was the cause of 11791 deaths and affected the lives of over 420000 survivors. Survivors experience significant physical and cognitive deficits; and accumulate a 43% risk of subsequent stroke. Effective evidence-based management of stroke is essential. The Stroke Foundation released Clinical Guidelines for Stroke Management in 2017. Within these guidelines, nutrition and hydration are recognized as important aspects of poststroke management. Audit criteria drawn from the guidelines focussed on the role of multidisciplinary screening, assessment, monitoring and treatment of dehydration and malnutrition; as well as provision of nutrition education and counselling relating to secondary prevention of stroke. The implementation team included dietetics, medical and nursing staff. The project was completed in the stroke unit at Hampstead Rehabilitation Centre (Adelaide, South Australia).

**Objectives:** To determine current compliance with Australian Clinical Guidelines of Stroke Management 2017, specifically those relating to nutrition, hydration and secondary prevention. To engage a multidisciplinary team to develop and implement strategies promoting best practice care for stroke survivors.

**Methods:** The project utilized the Joanna Briggs Institute Practical Application of Clinical Evidence System audit tool for baseline and follow-up audit, and the Getting Research into Practice feedback tool to facilitate practice change.

**Results:** Postimplementation audit results demonstrated improvement in four criteria: Criterion 3 - Nondysphagic stroke patients with confirmed malnutrition or at risk for malnutrition are offered oral nutrition supplements, Criterion 4 - Stroke patients who are malnourished or at risk of malnutrition are referred to a Dietitian for individualized medical nutrition therapy, Criterion 5 - The hydration status of stroke patients is assessed, monitored and managed throughout their hospital admission, Criterion 6 - Stroke survivors are referred to a Dietitian for the provision of individualized dietary advice which incorporates secondary prevention strategies. Criterion 7 (A collaborative goal setting approach which includes the stroke survivor, their families and carers and the rehabilitation care team is implemented) remained consistent at 100% compliance. Although Criteria 5 and 6 improved during the project, they remained below 75% compliance therefore, offer ongoing opportunity for development. Criterion 1 (Stroke patients are screened for malnutrition upon admission using a validated malnutrition screening tool) and Criterion 2 (Stroke patients are rescreened for malnutrition weekly using a validated malnutrition screening tool) were affected by a change from written to electronic medical records therefore, the results did not accurately reflect the intervention.

**Conclusion:** The current project successfully increased knowledge of nutrition and hydration management for stroke survivors and more closely aligned inpatient management with best practice guidelines to improve health outcomes. It highlighted areas of focus moving forward and has prompted ongoing work for sustaining evidence-based practice change.

---

**Title: Nutritional status of micronutrients as a possible and modifiable risk factor for COVID-19: a UK perspective.**

**Citation:** British Journal of Nutrition; Mar 2021; vol. 125 (no. 6); p. 678-684

**Author(s):** Richardson ; Lovegrove, Julie A.

**Abstract:** Recent scientific evidence has indicated that the elderly have increased risk of COVID-19 infections, with over 70s and 80s being hardest hit – especially residents of care homes and in clinical settings, ethnic minorities, people who work indoors and those who are overweight and obese. Other potential risk factors include lack of exposure to sunlight, darker skin pigmentation, co-morbidities, poor diet, certain medications, disadvantaged social and economic status, and lifestyle factors such as smoking and excessive consumption of alcohol. A key question is to understand how and why certain groups of people are more susceptible to COVID-19, whether they have weakened immune systems and what the roles of good nutrition and specific micronutrients are in supporting immune functions. A varied and balanced diet with an abundance of fruits and vegetables and the essential nutrients like vitamin D, vitamin A, B vitamins (folate, vitamin B6 and vitamin B12), vitamin C and the minerals, Fe, Cu, Se and Zn are all known to contribute to the normal functions of the immune system. Avoidance of deficiencies and identification of suboptimal intakes of these micronutrients in targeted groups of patients and in distinct and highly sensitive populations could help to strengthen the resilience of people to the COVID-19 pandemic. It is important to highlight evidence-based public health messages, to prevent false and misleading claims about the benefits of foods and food supplements and to communicate clearly that the extent of knowledge between micronutrients and COVID-19 infection is still being explored and that no diet will prevent or cure COVID-19 infection. Frequent handwashing and social distancing will be critical to reduce transmission.

---

**Title: Mealtime care and dietary intake in older psychiatric hospital inpatient: A multiple case study.**

**Citation:** Journal of Advanced Nursing (John Wiley & Sons, Inc.); Mar 2021; vol. 77 (no. 3); p. 1490-1500

**Author(s):** Flint ; Matthews-Rensch, Kylie; Flaws, Dylan; Mudge, Alison; Young, Adrienne

**Aims:** To investigate the energy and protein adequacy of meals and dietary intake of older psychiatric inpatients and describe patient and mealtime factors potentially influencing intake.

**Design:** Multiple case studies.

**Methods:** Psychiatric inpatients aged 65 years and older, admitted to a single mental health ward during the 6-week study period (April–May 2019) were eligible for inclusion. Dietary intake was observed for two consecutive days each week (minimum four observation days). Visual plate waste methods were used to estimate patients' dietary intake at mealtimes, with energy and protein intake calculated using known food composition data and compared with estimated requirements. Medical records were reviewed weekly to collect information on potential factors related to intake and mealtime care. Data from all sources were first summarized in a case record for within-case analysis using descriptive statistics, followed by cross-case analysis.

**Results:** Eight participants (five men, age 67–90 years, two underweight and one overweight, and four requiring some mealtime assistance) had 5–12 days of observation data recorded. Three met their estimated daily energy and protein requirements throughout the study period, while the remaining five participants did not. The main barriers identified as contributing to insufficient energy and protein intake were as follows: missing meals (asleep and treatment); inadequate food provided (insufficiency of the standard hospital menu); and need for increased mealtime assistance.

**Conclusion:** Poor dietary intake may be common among older psychiatric patients, suggesting that they may also need nursing and multidisciplinary nutrition care interventions shown to effectively prevent and treat malnutrition in other older inpatient groups. Impact:

Older psychiatric patients experience similar nutrition and mealtime issues to other older inpatients. This study highlights the need for nurses and the multidisciplinary team to ensure patients order and receive adequate food, especially when they miss meals and that they receive proactive mealtime assistance.

---

**Title: Factors influencing the efficacy of nutritional interventions on muscle mass in older adults: a systematic review and meta-analysis.**

**Citation:** Nutrition Reviews; Mar 2021; vol. 79 (no. 3); p. 315-330

**Author(s):** Martin-Cantero ; Reijnierse, Esmee M; Gill, Benjamin M T; Maier, Andrea B

**Context:** Nutritional interventions stimulate muscle protein synthesis in older adults. To optimize muscle mass preservation and gains, several factors, including type, dose, frequency, timing, duration, and adherence have to be considered.

**Objective:** This systematic review and meta-analysis aimed to summarize these factors influencing the efficacy of nutritional interventions on muscle mass in older adults.

**Data Sources:** A systematic search was performed using the electronic databases MEDLINE, Embase, CINAHL, Cochrane Central Register of Controlled Trials, and SPORTDiscus from inception date to November 22, 2017, in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Inclusion criteria included randomized controlled trials, mean or median age  $\geq 65$  years, and reporting muscle mass at baseline and postintervention. Exclusion criteria included genetically inherited diseases, anabolic drugs or hormone therapies, neuromuscular electrical stimulation, chronic kidney disease, kidney failure, neuromuscular disorders, and cancer.

**Data Extraction:** Extracted data included study characteristics (ie, population, sample size, age, sex), muscle mass measurements (ie, method, measure, unit), effect of the intervention vs the control group, and nutritional intervention factors (ie, type, composition, dose, duration, frequency, timing, and adherence).

**Data Analysis:** Standardized mean differences and 95% CIs were calculated from baseline to postintervention. A meta-analysis was performed using a random-effects model and grouped by the type of intervention.

**Conclusions:** Twenty-nine studies were included, encompassing 2255 participants (mean age, 78.1 years; SD, 2.22). Amino acids, creatine,  $\beta$ -hydroxy- $\beta$ -methylbutyrate, and protein with amino acids supplementation significantly improved muscle mass. No effect was found for protein supplementation alone, protein and other components, and polyunsaturated fatty acids. High interstudy variability was observed regarding the dose, duration, and frequency, coupled with inconsistency in reporting timing and adherence. Overall, several nutritional interventions could be effective to improve muscle mass measures in older adults. Because of the substantial variability of the intervention factors among studies, the optimum profile is yet to be established.

**Systematic Review Registration:** PROSPERO registration no. CRD42018111306.

---

**Title: The modified NUTRIC score can be used for nutritional risk assessment as well as prognosis prediction in critically ill COVID-19 patients.**

**Citation:** Clinical Nutrition; Feb 2021; vol. 40 (no. 2); p. 534-541

**Author(s):** Zhang ; He, Zhigang; Yu, Gang; Peng, Dan; Feng, Yikuan; Ling, Jianmin; Wang, Ye; Li, Shusheng; Bian, Yi

**Abstract:** In the newly emerged Coronavirus Disease 2019 (COVID-19) disaster, little is known about the nutritional risks for critically ill patients. It is also unknown whether the modified Nutrition Risk in the Critically ill (mNUTRIC) score is applicable for nutritional risk assessment in intensive care unit (ICU) COVID-19 patients. We set out to investigate the applicability of the mNUTRIC score for assessing nutritional risks and predicting outcomes for these critically ill COVID-19 patients. This retrospective observational study was conducted in three ICUs which had been specially established and equipped for COVID-19 in Wuhan, China. The study population was critically ill COVID-19 patients who had been admitted to these ICUs between January 28 and February 21, 2020. Exclusion criteria were as follows: 1) patients of <18 years; 2) patients who were pregnant; 3) length of ICU stay of <24 h; 4) insufficient medical information available. Patients' characteristics and clinical information were obtained from electronic medical and nursing records. The nutritional risk for each patient was assessed at their ICU admission using the mNUTRIC score. A score of  $\geq 5$  indicated high nutritional risk. Mortality was calculated according to patients' outcomes following 28 days of hospitalization in ICU. A total of 136 critically ill COVID-19 patients with a median age of 69 years (IQR: 57–77), 86 (63%) males and 50 (37%) females, were included in the study. Based on the mNUTRIC score at ICU admission, a high nutritional risk ( $\geq 5$  points) was observed in 61% of the critically ill COVID-19 patients, while a low nutritional risk (<5 points) was observed in 39%. The mortality of ICU 28-day was significantly higher in the high nutritional risk group than in the low nutritional risk group (87% vs 49%,  $P < 0.001$ ). Patients in the high nutritional risk group exhibited significantly higher incidences of acute respiratory distress syndrome, acute myocardial injury, secondary infection, shock and use of vasopressors. Additionally, use of a multivariate Cox analysis showed that patients with high nutritional risk had a higher probability of death at ICU 28-day than those with low nutritional risk (adjusted HR = 2.01, 95% CI: 1.22–3.32,  $P = 0.006$ ). A large proportion of critically ill COVID-19 patients had a high nutritional risk, as revealed by their mNUTRIC score. Patients with high nutritional risk at ICU admission exhibited significantly higher mortality of ICU 28-day, as well as twice the probability of death at ICU 28-day than those with low nutritional risk. Therefore, the mNUTRIC score may be an appropriate tool for nutritional risk assessment and prognosis prediction for critically ill COVID-19 patients.

---

**Title: Staff Perceptions of a Mealtime Management Educational Video for Training in Long-Term Care Homes.**

**Citation:** Canadian Journal of Dietetic Practice & Research; Mar 2021; vol. 82 (no. 1); p. 32-37

**Author(s):** Nasser ; Cammer, Allison; Bandara, Thilina; Bovee, Sabrina

**Abstract:** The purpose of this study was to determine if staff perceive a mealtime management video to be a beneficial and useful training tool in long-term care (LTC) homes. An email invitation was sent to the Dietitians of Canada Gerontology Network inviting dietitians working in LTC homes to participate. A previously used and reliable 25-item questionnaire was used to assess sustained attention/mental effort, learner satisfaction, clinical experience/relevance, and information processing of the video. Dietitians were asked to show the video to LTC staff and distribute the questionnaire to staff after viewing the video. A total of 769 surveys were completed at 28 LTC homes across Canada. Eighty-seven percent ( $n = 637/736$ ) of participants felt more knowledgeable after viewing the video and 91% ( $n = 669/738$ ) found the video format easy for learning. Managers had a higher Likert scores (mean = 6.2 out of 7) than continuing care assistant (mean = 5.7,  $P = 0.02$ ) and food service workers (mean = 5.5,  $P = 0.001$ ) for the clinical relevance scales. No differences were found for age ( $\chi^2 = 5.52$ ,  $P = 0.60$ ), gender ( $\chi^2 = 2.65$ ,  $P = 0.10$ ), and size of home ( $\chi^2 = 3.34$ ,  $P = 0.34$ ). Staff perceived the video to be useful for their work with

residents living in LTC homes and it raised awareness of the importance of their roles at mealtimes.

---

**Title: Managing malnutrition in the community during the COVID-19 pandemic.**

**Citation:** Nursing standard (Royal College of Nursing (Great Britain) : 1987); Feb 2021

**Author(s):** Baic, Sue

**Abstract:** The prevalence of risk factors for malnutrition has increased during the coronavirus disease 2019 (COVID-19) pandemic. These risk factors include various symptoms and effects of COVID-19, such as breathlessness, coughing, inflammation, sarcopenia, anorexia and loss of taste or smell, as well as the side effects of treatment. In addition, public health infection prevention and control measures can inadvertently reduce access to food and increase social isolation, thus adversely affecting people's nutritional status. This article outlines practical interventions for preventing and managing malnutrition in the community, particularly where it is exacerbated by the social restrictions in place to contain the COVID-19 pandemic.

---

**Title: Implementation of Malnutrition Quality Improvement Reveals Opportunities for Better Nutrition Care Delivery for Hospitalized Patients.**

**Citation:** JPEN. Journal of parenteral and enteral nutrition; Feb 2021

**Author(s):** Wills-Gallagher, Jennifer; Kerr, Kirk W; Macintosh, Beth; Valladares, Angel F; Kilgore, Karl M; Sulo, Suela

**Background:** Gaps in hospital-based nutrition care practices and opportunities to improve care of patients at-risk or malnourished have been demonstrated by several US hospitals implementing quality improvement (QI) projects. This study examined the impact of nutrition care process improvements focused on better documentation of identification and diagnosis of malnutrition in 5 hospital services and differences between nutritionally targeted versus non-targeted services.

**Methods:** Data on malnutrition risk screening, nutrition assessment, malnutrition diagnosis and nutrition care plan delivery were collected from 32,723 hospital encounters for patients admitted to the intensive care unit, pulmonology, oncology, urology, and general medicine services (targeted) as well as the rest of the non-targeted hospital services between 2017 and 2019.

**Results:** Higher rates of morbidity in targeted service patients compared to the patient population admitted in the non-targeted services were observed, including higher rates of malnutrition risk (37.43% vs 19.16%,  $p < 0.001$ ), higher rates of moderate and severe malnutrition first identified by a registered dietitian nutritionist (RDN) (20.27% vs 9.67%,  $p < 0.001$ ), and malnutrition diagnosis confirmed by an admitting physician (16.72% vs 6.74%,  $p < 0.001$ ).

**Conclusions:** The findings suggest sustained improvements in confirmed rates of malnutrition identification and diagnosis is achievable. Targeting malnutrition QI efforts to hospital services with higher patient morbidity is an effective method for improving malnutrition diagnosis, in particular in hospitals with limited resources, which in turn can result in improved nutrition care delivery. This article is protected by copyright. All rights reserved.

**Title: Malnutrition screening on hospital admission: impact of overweight and obesity on comparative performance of MUST and PG-SGA SF.**

**Citation:** European journal of clinical nutrition; Feb 2021

**Author(s):** van Vliet, Iris M Y; Gomes-Neto, Antonio W; de Jong, Margriet F C; Bakker, Stephan J L; Jager-Wittenaar, Harriët; Navis, Gerjan J

**Background/Objectives:** Traditional malnutrition screening instruments, including the Malnutrition Universal Screening Tool (MUST), strongly rely on low body mass index (BMI) and weight loss. In overweight/obese patients, this may result in underdetection of malnutrition risk. Alternative instruments, like the Patient-Generated Subjective Global Assessment Short Form (PG-SGA SF), include characteristics and risk factors irrespective of BMI. Therefore, we aimed to compare performance of MUST and PG-SGA SF in malnutrition risk evaluation in overweight/obese hospitalized patients.

**Subjects/Methods:** We assessed malnutrition risk using MUST ( $\geq 1$  = increased risk) and PG-SGA SF ( $\geq 4$  = increased risk) in adult patients at hospital admission in a university hospital. We compared results for patients with BMI  $< 25$  kg/m<sup>2</sup> vs. BMI  $\geq 25$  kg/m<sup>2</sup>.

**Results:** Of 430 patients analyzed ( $58 \pm 16$  years, 53% male, BMI  $26.9 \pm 5.5$  kg/m<sup>2</sup>), 35% were overweight and 25% obese. Malnutrition risk was present in 16% according to MUST and 42% according to PG-SGA SF. In patients with BMI  $< 25$  kg/m<sup>2</sup>, MUST identified 31% as at risk vs. 52% by PG-SGA SF. In patients with BMI  $\geq 25$  kg/m<sup>2</sup>, MUST identified 5% as at risk vs. 36% by PG-SGA SF. Agreement between MUST and PG-SGA SF was low ( $\kappa = 0.143$ ). Of the overweight/obese patients at risk according to PG-SGA SF, 83/92 (90%) were categorized as low risk by MUST.

**Conclusions:** More than one-third of overweight/obese patients is at risk for malnutrition at hospital admission according to PG-SGA SF. Most of them are not identified by MUST. Awareness of BMI-dependency of malnutrition screening instruments and potential underestimation of malnutrition risk in overweight/obese patients by using these instruments is warranted.

---

**Title: Association between early postoperative nutritional supplement utilisation and length of stay in malnourished hip fracture patients.**

**Citation:** BJA: The British Journal of Anaesthesia; Mar 2021; vol. 126 (no. 3); p. 730-737

**Author(s):** Williams ; Ohnuma, Tetsu; Haines, Krista L.; Krishnamoorthy, Vijay; Raghunathan, Karthik; Sulo, Suela; Cassady, Bridget A.; Hegazi, Refaat; Wischmeyer, Paul E.

**Background:** Malnutrition in older hip fracture patients is associated with increased complication rates and mortality. As postoperative nutrition delivery is essential to surgical recovery, postoperative nutritional supplements including oral nutritional supplements or tube feeding formulas can improve postoperative outcomes in malnourished hip/femur fracture patients. The association between early postoperative nutritional supplements utilisation and hospital length of stay was assessed in malnourished hip/femur fracture patients.

**Methods:** This is a retrospective cohort study of malnourished hip/femur fracture patients undergoing surgery from 2008 to 2018. Patients were identified through International Classification of Diseases, Ninth Revision (ICD-9) and Tenth Revision (ICD-10) codes and nutritional supplement utilisation via hospital charge codes. The primary outcome was

hospital length of stay. Secondary outcomes included infectious complications, hospital mortality, ICU admission, and costs. Propensity matching (1:1) and univariable analysis were performed.

**Results:** Overall, 160 151 hip/femur fracture surgeries were identified with a coded-malnutrition prevalence of 8.7%. Early postoperative nutritional supplementation (by hospital day 1) occurred in 1.9% of all patients and only 4.9% of malnourished patients. Propensity score matching demonstrated early nutritional supplements were associated with significantly shorter length of stay (5.8 [6.6] days vs 7.6 [5.8] days;  $P < 0.001$ ) without increasing hospital costs. No association was observed between early nutritional supplementation and secondary outcomes.

**Conclusion:** Malnutrition is underdiagnosed in hip/femur fracture patients, and nutritional supplementation is underutilised. Early nutritional supplementation was associated with a significantly shorter hospital stay without an increase in costs. Nutritional supplementation in malnourished hip/femur fracture patients could serve as a key target for perioperative quality improvement.

---

**Title: Revisiting the Evidence for the Reuse of Enteral Feeding Equipment in Ambulatory Patients: A Systematic Review.**

**Source:** Nutrition in Clinical Practice; Feb 2021; vol. 36 (no. 1); p. 169-186

**Author(s):** Osland ; Andersen, Sarah; Coleman, Emma; Marshall, Belinda

**Background:** The reuse of enteral tube feeding (ETF) equipment is not recommended due to the risk of microbial contamination and subsequent risk of infection; however, this practice continues in many ambulatory settings. A systematic review of the literature was undertaken to review the evidence underpinning the cleaning and reuse of ETF equipment.

**Methods:** Studies that investigated the reuse, decontamination, and/or cleaning of ETF equipment were considered for inclusion. Electronic databases were searched (no limits were placed on date of publication, age, or duration of reuse). Extracted data were assessed using Grading of Recommendations, Assessment, Development and Evaluation (GRADE) and reported in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses recommendations.

**Results:** Ten studies met inclusion criteria: 3 investigated changes to clinical outcomes with extending reuse from 24 to  $\leq 72$  hours using water rinses; 5 considered the efficacy of various cleaning methods assessed in laboratory conditions; 2 used a combination of both approaches. Sufficient data to allow GRADE assessment was found only for bottle-type containers.

**Conclusions:** A very low level of evidence supports the cleaning and reuse of rigid and "unspecified" bottle containers; no studies were found to inform the reuse of syringes used for bolus feeding or any equipment used for water infusion or flushes. There is an absence of literature evaluating the safety and clinical outcomes of cleaning and reusing ETF equipment, and research is required to support equipment reuse.

---

**Title: A Novel Food Record App for Dietary Assessments Among Older Adults With Type 2 Diabetes: Development and Usability Study.**

**Citation:** JMIR formative research; Feb 2021; vol. 5 (no. 2); p. e14760

**Author(s):** Jung, Hyunggu; Demiris, George; Tarczy-Hornoch, Peter; Zachry, Mark

**Background:** More than 1 in 4 people in the United States aged 65 years and older have type 2 diabetes. For diabetes care, medical nutrition therapy is recommended as a clinically effective intervention. Previous researchers have developed and validated dietary assessment methods using images of food items to improve the accuracy of self-reporting over traditional methods. Nevertheless, little is known about the usability of image-assisted dietary assessment methods for older adults with diabetes.

**Objective:** The aims of this study were (1) to create a food record app for dietary assessments (FRADA) that would support image-assisted dietary assessments, and (2) to evaluate the usability of FRADA for older adults with diabetes.

**Methods:** For the development of FRADA, we identified design principles that address the needs of older adults and implemented three fundamental tasks required for image-assisted dietary assessments: capturing, viewing, and transmitting images of food based on the design principles. For the usability assessment of FRADA, older adults aged 65 to 80 years (11 females and 3 males) were assigned to interact with FRADA in a lab-based setting. Participants' opinions of FRADA and its usability were determined by a follow-up survey and interview. As an evaluation indicator of usability, the responses to the survey, including an after-scenario questionnaire, were analyzed. Qualitative data from the interviews confirmed the responses to the survey.

**Results:** We developed a smartphone app that enables older adults with diabetes to capture, view, and transmit images of food items they consumed. The findings of this study showed that FRADA and its instructions for capturing, viewing, and transmitting images of food items were usable for older adults with diabetes. The survey showed that participants found FRADA easy to use and would consider using FRADA daily. The analysis of the qualitative data from interviews revealed multiple categories, such as the usability of FRADA, potential benefits of using FRADA, potential features to be added to FRADA, and concerns of older adults with diabetes regarding interactions with FRADA.

**Conclusions:** This study demonstrates in a lab-based setting not only the usability of FRADA by older adults with diabetes but also potential opportunities using FRADA in real-world settings. The findings suggest implications for creating a smartphone app for an image-assisted dietary assessment. Future work still remains to evaluate the feasibility and validity of FRADA with multiple stakeholders, including older adults with diabetes and dietitians.

---

**Title: Food anaphylaxis in the United Kingdom: analysis of national data, 1998-2018.**

**Citation:** BMJ (Clinical research ed.); Feb 2021; vol. 372 ; p. n251

**Author(s):** Baseggio Conrado, Alessia; Ierodiakonou, Despo; Gowland, M Hazel; Boyle, Robert J; Turner, Paul J

**Objective:** To describe time trends for hospital admissions due to food anaphylaxis in the United Kingdom over the past 20 years.

**Design:** Analysis of national data, 1998-2018. SETTING Data relating to hospital admissions for anaphylaxis and deaths, and prescription data for adrenaline autoinjector devices.

**Participants:** UK population as a whole and devolved nations (England, Scotland, Wales, and Northern Ireland).

**Main Outcome Measures:** Time trends, age, and sex distributions for hospital admissions for anaphylaxis due to food and non-food triggers, and how these admission rates compare with the case fatality rate (number of fatalities as a proportion of hospital admissions).

**Results:** Between 1998 and 2018, 101 891 people were admitted to hospital for anaphylaxis. Of these admissions, 30 700 (30.1%) were coded as due to a food trigger.

Food anaphylaxis admissions increased from 1.23 to 4.04 per 100 000 population per year (from 1998 to 2018), an annual increase of 5.7% (95% confidence interval 5.5% to 5.9%,  $P < 0.001$ ). The largest increase in hospital admissions was observed in children younger than 15 years, with an increase from 2.1 to 9.2 admissions per 100 000 population per year (an annual increase of 6.6%, 95% confidence interval 6.3% to 7.0%). For comparison, the annual increase was 5.9% (5.6% to 6.2%) in people aged 15-59 years and 2.1% (1.8% to 3.1%) in those aged 60 years and older. 152 deaths were identified where the fatal event was probably caused by food induced anaphylaxis. The case fatality rate decreased from 0.7% to 0.19% for confirmed fatal food anaphylaxis (rate ratio 0.931, 95% confidence interval 0.904 to 0.959,  $P < 0.001$ ) and to 0.30% for suspected fatal food anaphylaxis (0.970, 0.945 to 0.996,  $P = 0.024$ ). At least 46% (86 of 187, which also includes 35 deaths in 1992-98) of deaths were triggered by peanut or tree nut. Cow's milk was responsible for 17 of 66 (26%) deaths in school aged children. Over the same time period, prescriptions for adrenaline autoinjectors increased by 336% (estimated rate ratio 1.113, 95% confidence interval 1.112 to 1.113; an increase of 11% per year).

**Conclusions:** Hospital admissions for food induced anaphylaxis have increased from 1998 to 2018, however the case fatality rate has decreased. In school aged children, cow's milk is now the most common single cause of fatal anaphylaxis.

---

**Title: Association of nutrition status and hospital-acquired infections in elderly orthopedic trauma patients.**

**Citation:** JPEN. Journal of parenteral and enteral nutrition; Mar 2021

**Author(s):** Rong, Anni; Garcia, Esteban F; Zhou, Carmen; Heng, Marilyn; Johnson-Akeju, Seun; Azocar, Ruben J; Quraishi, Sadeq A

**Background:** Poor nutritional status is linked to suboptimal outcomes following elective surgery. Trauma patients do not typically have an opportunity for preoperative nutritional optimization and may be at risk for malnutrition with its related complications. Our goal was to investigate whether nutritional status is associated with development of hospital-acquired infections (HAIs) in elderly, orthopedic trauma patients.

**Methods:** We performed a retrospective analysis of data between 01/01/2017 to 08/30/2018 from the Massachusetts General Hospital Geriatric Inpatient Fracture Trauma Service (GIFTS). Admission nutritional status was assessed using the Mini Nutritional Assessment (MNA) and HAIs were validated through the American College of Surgeons National Surgical Quality Improvement Project database. To investigate whether nutritional status is associated with HAIs, we performed a multiple variable logistic regression analysis, controlling for age, sex, Charlson Comorbidity Index, glomerular filtration rate, and type of anesthesia.

**Results:** 461 patients comprised the analytic cohort. Multiple variable regression analysis demonstrated that each unit increment in MNA score was associated with a 13% reduction in risk of HAI (OR 0.87; 95%CI 0.79-0.97). Furthermore, adjusting for timing of perioperative antibiotics, perioperative transfusions, or development of pressure injury during hospitalization results did not materially change these results.

**Conclusion:** Our results demonstrate that malnutrition is highly prevalent in elderly orthopedic trauma patients and that nutritional status may influence the risk of developing HAIs in this cohort of patients. Further studies are needed to determine whether optimizing perioperative nutritional status in elderly orthopedic trauma patients can reduce infectious complications and improve overall health outcomes. This article is protected by copyright. All rights reserved.

**Title: Frequent and personalized nutritional support leads to improved nutritional status, activities of daily living, and dysphagia after stroke**

**Citation:** Nutrition; Mar 2021; vol. 83

**Author(s):** Shimazu, Sayuri; Yoshimura, Yoshihiro; Kudo, Mai; Nagano, Fumihiko; Bise, Takahiro; Shiraishi, Ai; Sunahara, Takako

**Objectives:** Evidence for appropriate nutritional assessment, energy prediction, and adaptation and their effect on outcomes after stroke is scarce. We sought to determine the frequency of individualized dietary prescriptions issued for individuals undergoing rehabilitation after stroke and to analyze the effect of diet-prescription frequency on outcomes after stroke.

**Methods:** This single-center prospective cohort study included poststroke patients newly admitted to convalescent rehabilitation wards. The frequency and content of dietary prescriptions issued as part of nutritional assessments were examined. Study outcomes were nutritional status assessed using changes in skeletal muscle mass, physical function assessed using the Functional Independence Measure motor score, dysphagia status assessed using the Food Intake LEVEL Scale (score < 7), and length of hospital stay. Multivariate analyses were performed to determine whether the frequency of dietary prescriptions issued during hospitalization was independently associated with outcomes of interest, after adjusting for potential confounders.

**Results:** A total of 454 participants (mean age = 71.8 y; 53.1% men, 46.9% women) were included in the final analysis data set. A median of five (range, 2–11) dietary prescriptions were issued per participant during the median 96 d of hospitalization, with the most common items being diet-texture modification for dysphagia and oral energy/protein enhancement. In multivariate analyses, the frequency of dietary prescriptions was independently associated with the change in skeletal muscle mass ( $\beta = 0.165$ ,  $P = 0.028$ ), Functional Independence Measure motor scores at discharge ( $\beta = 0.104$ ,  $P = 0.045$ ), length of stay ( $\beta = -0.056$ ,  $P = 0.019$ ), and presence of dysphagia at discharge (odds ratio = 0.949,  $P = 0.032$ ).

**Conclusions:** Frequent and individualized nutritional support is associated with improved nutritional status, physical function, and dysphagia after stroke. Intensive nutritional support through multidisciplinary discussion plays a central role in the prevention and management of malnutrition to maximize the improvement of patient outcomes. This study is the first to report this association.

---

**Title: The effectiveness of trained volunteer delivered interventions in adults at risk of malnutrition: A systematic review and meta-analysis.**

**Citation:** Clinical Nutrition; Mar 2021; vol. 40 (no. 3); p. 710-727

**Author(s):** Latif ; Dabbous, Massar; Weekes, C. Elizabeth; Baldwin, Christine

**Abstract:** Malnutrition burden is high. Trained volunteers present a growing workforce in the NHS and are increasingly engaged in schemes that may be useful in tackling malnutrition in different settings. A recent systematic review of trained volunteers in a hospital setting reported improved patient satisfaction and some improvement in dietary intake of patients. This review explored the effectiveness of trained volunteers in delivering nutritional interventions in adults at risk of malnutrition in different care settings on patient-centred outcomes and aimed to identify and build an evidence base for a more defined role for trained volunteers in malnutrition prevention in the UK. Six electronic databases were searched to 30th October 2018. Abstracts and full texts of relevant studies of all study

designs were screened by two authors independently. Studies were examined for risk of bias and overall quality of evidence of main outcomes was assessed using the GRADE approach. Narrative synthesis and meta-analyses (nutritional intake) were used to combine outcome data. Seventeen eligible studies were included. Three were conducted in the home setting and fourteen were hospital based. Low quality evidence from one small RCT showed significant improvements in physical performance and fear of falling resulting from a volunteer intervention in the home setting. Very low quality evidence from meta-analysis findings indicated that trained volunteer mealtime assistance significantly improved lunchtime energy intake but did not significantly improve daily total energy intake in hospitals. Very low quality evidence also suggested that volunteers improve patient experience and satisfaction and are safe. This paper identified some evidence to suggest trained volunteer interventions may be effective in improving some outcomes in nutritionally at-risk older adults in home and hospital settings. Considering the high prevalence and costs of malnutrition, adequately-powered research is needed in this area to identify the most effective use of resources.

---

**Title: Six-month outcomes after individualized nutritional support during the hospital stay in medical patients at nutritional risk: Secondary analysis of a prospective randomized trial.**

**Citation:** Clinical Nutrition; Mar 2021; vol. 40 (no. 3); p. 812-819

**Author(s):** Kaegi-Braun ; Tribolet, Pascal; Gomes, Filomena; Fehr, Rebecca; Baechli, Valerie; Geiser, Martina; Deiss, Manuela; Kutz, Alexander; Bregenzer, Thomas; Hoess, Claus; Pavlicek, Vojtech; Schmid, Sarah; Bilz, Stefan; Sigrist, Sarah; Brändle, Michael; Benz, Carmen; Henzen, Christoph; Mattmann, Silvia; Thomann, Robert; Rutishauser, Jonas

**Abstract:** Among medical inpatients at risk of malnutrition, the use of individualized nutritional support during the hospital stay was found to reduce complications and improve mortality at short-term. We evaluated clinical outcomes at 6-months follow-up. We randomly assigned 2028 patients to receive protocol-guided individualized nutritional support to reach protein and energy goals (intervention group) or hospital food as usual (control group) during the hospital stay. The intervention was discontinued at hospital discharge and further nutritional support was based on the discretion of the treating team. We had complete follow-up information of 1995 patients (98%), which were included in the final analysis. The primary endpoint was all-cause mortality at 6-months. Prespecified secondary end points included non-elective hospital readmissions, functional outcome and quality of life. At 6-month, 231 of 994 (23.2%) intervention group patients had died compared to 246 of 999 (24.6%) control group patients, resulting in a hazard ratio for death of 0.90 (95%CI 0.76 to 1.08,  $p = 0.277$ ). Compared to control patients, intervention group patients had similar rates of hospital readmission (27.3% vs. 27.6%, HR 1.00 (95%CI 0.84 to 1.18),  $p = 0.974$ ), falls (11.2% vs. 10.9%, HR 0.96 (95%CI 0.72 to 1.27),  $p = 0.773$ ) and similar quality of life and activities of daily living scores. While individualized nutritional support during the hospital stay significantly reduced short-term mortality, there was no legacy effect on longer term outcomes. Future trials should investigate whether continuation of nutritional support after hospital discharge reduces the high malnutrition-associated mortality rates in this vulnerable patient population. ClinicalTrials.gov number, NCT02517476.

---

**Title: Effect of long-lasting nutritional prehabilitation on postoperative outcome in elective surgery for IBD.**

**Citation:** Clinical Nutrition; Mar 2021; vol. 40 (no. 3); p. 928-935

**Author(s):** Fiorindi ; Cuffaro, Francesca; Piemonte, Guya; Cricchio, Marta; Addasi, Rami; Dragoni, Gabriele; Scaringi, Stefano; Nannoni, Anita; Ficari, Ferdinando; Giudici, Francesco

**Abstract:** Preoperative patient care optimisation appears to be crucial for obtaining good surgical outcomes. Enhanced Recovery After Surgery (ERAS) underlines the necessity to recognize and treat malnutrition perioperatively and to prehabilitate with interventions that can modulate the lean body mass before and after surgery. This procedure has been extensively reported in colorectal cancer patients but in Inflammatory Bowel Disease (IBD) it has not yet been clearly evaluated. The aim of this study was to implement the perioperative nutritional items in surgical Crohn's disease (CD) and ulcerative colitis (UC) patients electively operated in an ERAS setting, thus to clarify the impact of a long-lasting prehabilitation program in IBD. Consecutive adult patients (age  $\geq 18$ ) were included as soon as scheduled for elective surgery for CD or UC. The nutritional intervention included personalized dietary counseling and oral nutritional supplements when necessary. Data prospectively recorded in each phase were: FFM, FM, FFMI and phase angle detected with BIVA, weight, BMI, unintended weight loss, DASI, energy and nutritional intake, gastrointestinal symptoms and bowel functions. Nutritional risk was detected according to the NRS 2002 screening tool. The impact of early oral nutrition on postoperative recovery was analysed. A total of 61 IBD patients (45 CD and 16 UC) were included. Muscle wasting was present at baseline assessment in 28% of cases, significantly associated with the presence of ileostomy ( $p < 0.011$ ) and of a previous IBD surgery ( $p < 0.011$ ). During the preoperative phase, there was a significant improvement in weight, BMI, FFM (CD  $p = 0.035$ ; UC  $p = 0.017$ ), FFMI (CD ns; UC  $p = 0.011$ ) and phase angle (CD  $p = 0.014$ ; UC  $p = 0.027$ ). During the intra-hospital phase, weight and FFM decreased due to the catabolic effect of surgery, but in the whole perioperative period, both CD and UC patients did not change significantly in terms of body composition. Patients with earlier resumption of oral feeding had a significantly shorter hospital stay and a faster recovery of bowel function with no significant relationship with early postoperative complications. Nutritional prehabilitation positively modulated the body composition of IBD patients scheduled for elective surgery and therefore could represent a beneficial strategy to attenuate the impact of the surgical stress response on lean tissue in an ERAS setting. This effect is even more evident in high nutritional risk patients. Early postoperative oral feeding seems feasible and well tolerated in IBD. This approach positively influences the restoration of bowel function and the duration of hospital stay.

---

**Title: Reducing the knowledge to action gap in hospital nutrition care – Developing and implementing nutritionDay 2.0.**

**Citation:** Clinical Nutrition; Mar 2021; vol. 40 (no. 3); p. 936-945

**Author(s):** Moick ; Hiesmayr, M.; Mouhieddine, M.; Kiss, N.; Bauer, P.; Sulz, I.; Singer, P.; Simon, J.

**Abstract:** In hospital nutrition care the difficulty of translating knowledge to action often leads to inadequate management of patients with malnutrition. nutritionDay, an annual cross-sectional survey has been assessing nutrition care in healthcare institutions in 66 countries since 2006. While initial efforts led to increased awareness of malnutrition, specific local remedial actions rarely followed. Thus, reducing the Knowledge-to-action (KTA) gap in nutrition care requires more robust and focused strategies. This study describes the strategy, methods, instruments and experience of developing and implementing nutritionDay 2.0, an audit and feedback intervention that uses quality and economic indicators, feedback, benchmarking and self-defined action strategies to reduce the KTA gap in hospital nutrition care. We used an evidence based multi-professional mixed-methods approach to develop

and implement nutritionDay 2.0 This audit and feedback intervention is driven by a Knowledge-to-Action framework complemented with robust stakeholder analysis. Further evidence was synthesized from the literature, online surveys, a pilot study, World Cafés and individual expert feedback involving international health care professionals, nutrition care scientists and patients. The process of developing and implementing nutritionDay 2.0 over three years resulted in a new audit questionnaire based on 36 nutrition care quality and economic indicators at hospital, unit and patient levels, a new action-oriented feedback and benchmarking report and a unit-level personalizable action plan template. The evaluation of nutritionDay 2.0 is ongoing and will include satisfaction and utility of nutritionDay 2.0 tools and short-, mid- and long-term effects on the KTA gap. In clinical practice, nutritionDay 2.0 has the potential to promote behavioural and practice changes and improve hospital nutrition care outcomes. In research, the data generated advances knowledge about institutional malnutrition and quality of hospital nutrition care. The ongoing evaluation of the initiative will reveal how far the KTA gap in hospital nutrition care was addressed and facilitate the understanding of the mechanisms needed for successful audit and feedback. Registration in clinicaltrials.gov: Identifier: NCT02820246.

---

**Title: Malnutrition and nutritional therapy in patients with SARS-CoV-2 disease.**

**Citation:** Clinical Nutrition; Mar 2021; vol. 40 (no. 3); p. 1330-1337

**Author(s):** Pironi ; Sasdelli, Anna Simona; Ravaioli, Federico; Baracco, Bianca; Battaiola, Claudia; Bocedi, Giulia; Brodosi, Lucia; Leoni, Laura; Mari, Giulia Aurora; Musio, Alessandra

**Abstract:** The prevalence of malnutrition and the provided nutritional therapy were evaluated in all the patients with SARS-CoV-2 infection (COVID-19) hospitalized in a 3rd level hospital in Italy. A one-day audit was carried out recording: age, measured or estimated body weight (BW) and height, body mass index (BMI, kg/m<sup>2</sup>), 30-day weight loss (WL), comorbidities, serum albumin and C-reactive protein (CRP: nv < 0.5 mg/dL), hospital diet (HD) intake, oral nutritional supplements (ONS), enteral (EN) and parenteral nutrition (PN). Modified NRS-2002 tool and GLIM criteria were used for nutritional risk screening and for the diagnosis of malnutrition, respectively. A total of 268 patients was evaluated; intermediate care units (IMCUs, 61%), sub-intensive care units (SICUs, 8%), intensive care units (ICUs, 17%) and rehabilitation units (RUs, 14%); BMI: 0.5: 78% (higher in ICUs and lower in RUs, p < 0.001); Nutritional risk and malnutrition were present in 77% (higher in ICUs and RUs, p < 0.001) and 50% (higher in ICUs, p = 0.0792) of the patients, respectively. HD intake ≤50%, 39% (higher in IMCUs and ICUs, p < 0.001); ONS, EN and PN were prescribed to 6%, 13% and 5%, respectively. Median energy and protein intake/kg BW were 25 kcal and 1.1 g (both lower in ICUs, p < 0.05) respectively. Most of the patients were at nutritional risk, and one-half of them was malnourished. The frequency of nutritional risk, malnutrition, disease/inflammation burden and decrease intake of HD differed among the intensity of care settings, where the patients were managed according to the severity of the disease. The patient energy and protein intake were at the lowest limit or below the recommended amounts, indicating the need for actions to improve the nutritional care practice.

---

**Title: Effects of oral nutrition supplements in persons with dementia: A systematic review.**

**Citation:** Geriatric Nursing; Jan 2021; vol. 42 (no. 1); p. 117-123

**Author(s):** Tangvik ; Bruvik, Frøydis K.; Drageset, Jorunn; Kyte, Kristin; Hunskår, Irene

**Abstract:**

- Nutritional needs are not met for a high number of patients with dementia and the prevalence of malnutrition is high in this patient group.
- Intervention with ONS increased the nutritional intake and nutritional status improved, although no effects on functional or cognitive outcomes were observed.
- High-quality RCTs to investigate the impact on functional and clinical outcomes are needed.

Persons with dementia are at risk of malnutrition, evidenced by low dietary intake, which has consequences for nutritional status, activity of daily living and disease progression. The effects of oral nutrition supplements (ONS) on nutritional intake, nutritional status, and cognitive and physical outcomes in older persons with dementia were evaluated. PubMed, Medline, Embase, CINAHL and the Cochrane Central Register of Controlled Trials were searched in December 2017, and this was repeated in May 2019. The Preferred Reporting Items for Systematic Reviews and Analysis (PRISMA) checklist was used. Papers were considered if they presented experimental clinical trials using oral nutritional supplements to persons diagnosed with dementia, including Alzheimer's disease and mild cognitive impairment, and conducted in hospitals, nursing homes or homes. We included ten articles reporting nine clinical trials. A total of 407 persons with dementia were included, of whom 228 used ONS for 7 to 180 days. Nutritional intake improved by 201 to 600 kcal/day. Energy intake from ordinary foods was not affected, thus ONS improved the persons daily intake of energy and protein. Body weight, muscle mass, and nutritional biomarkers in blood improved in the intervention groups compared with the control groups. No effects on cognition or physical outcomes were observed. ONS increases the intake of energy and protein and improves nutritional status in persons with dementia; however, RCTs with longer intervention periods are needed to investigate the impact on cognitive and functional outcomes.

---

**Title: Nutritional Considerations in the Hospital Setting**

**Citation:** Gastroenterology Clinics of North America; Mar 2021; vol. 50 (no. 1); p. 15-28

**Author(s):** Fain C.; Bull-Henry K.; Abdi M.

**Abstract:** Malnutrition and issues of nutrition are common in hospitalized patients. Identifying patients at nutritional risk can help to improve hospital-related outcomes. Specialized nutritional support in the form of oral nutritional supplementation, enteral nutrition, and parenteral nutrition is essential to meeting the nutritional needs of many patients. Disease-specific nutritional considerations are fundamental to the quality care of hospitalized patients. Many vitamin, macronutrient, and micronutrient deficiencies are relevant in hospital setting. Copyright © 2020

---

**Title: Comparison of malnutrition and malnutrition screening tools in pediatric oncology patients: A cross-sectional study**

**Citation:** Nutrition; Jun 2021; vol. 86

**Author(s):** Bicakli D.H.; Kantar M.

**Objectives:** The aim of this study was to determine the prevalence of malnutrition, to compare nutritional evaluation tools, and to highlight the importance of nutritional status in pediatric oncology patients.

**Method(s):** This study evaluated the nutritional status, based on height, weight, and midupper arm circumference, of 170 patients ages 5 months to 18 years who were hospitalized at the Ege University Hospital Pediatric Oncology Clinic. The prevalence of malnutrition was determined using the malnutrition screening tools, STRONGkids (SK) and Pediatric Yorkhill Malnutrition Score (PYMS). Correlations, sensitivity, specificity, and the positive and negative predictive values between the screening tools were calculated.

**Result(s):** In all, 68.2% of the patients were diagnosed with a solid tumor. According to SK, 59.4% had a moderate risk of malnutrition, and 40.6% had a high risk. According to PYMS, 30.6% of patients had a low to moderate risk of malnutrition, and 69.4% had a high risk of malnutrition. Minimal agreement was noted between SK and PYMS (Kappa value: 0.40 and 0.18, respectively). The sensitivity of PYMS was higher than that of SK (92.68 and 78.05, respectively). In total, 22.9% of the patients had a body mass index of <5%, and 21.2% had a midupper arm circumference of <5.

**Conclusion(s):** The present findings show that, in general, pediatric oncology patients have a high risk of malnutrition. Although SK and PYMS do not differ significantly, PYMS has higher sensitivity for detecting malnutrition. The nutritional status of pediatric oncology patients should be monitored using appropriate screening techniques throughout their treatment.

Copyright © 2021 Elsevier Inc.

---

### **Title: Are traditional screening tools adequate for monitoring the nutrition risk of in-hospital patients? An analysis of the nutritionDay database**

**Citation:** JPEN. Journal of parenteral and enteral nutrition; Feb 2021

**Author(s):** Cardenas D.; Bermudez C.; Perez A.; Diaz G.; Cortes L.Y.; Contreras C.P.; Pinzon-Espitia O.L.; Gomez G.; Gonzalez M.C.; Fantin R.; Gutierrez J.; Sulz I.; Hiesmayr M.; Tarantino S.

**Background:** Monitoring of adequate food intake is not a priority in hospital patients' care. The present study aimed to examine selective data from the nutritionDay survey to determine the impact of food intake during hospitalization on outcomes according to the nutrition risk status.

**Method(s):** We conducted a descriptive analysis of selected worldwide data from 7 consecutive, annual, and cross-sectional nutritionDay samples from 2009-2015. The impact of food intake on outcomes was assessed by univariate and multivariate Cox models controlling for PANDORA Scores.

**Result(s):** A total of 7,994 adult patients from Colombia, 7,243 patients from nine Latin American countries, and 155,524 patients worldwide were included. Less than half of the patients worldwide consumed their entire meal on nutritionDay (41%). The number of reduced-eaters is larger in the "no nutrition risk group" (Malnutrition Screening Tool - MST 0-1) than in the "nutrition risk group" (MST  $\geq 2$ ) (30% vs. 25%). Reduced eating is associated with higher mortality and delayed discharge in patients, regardless of the nutrition risk status. Patients without nutrition risk at the screening who ate "nothing, but were allowed to eat" had six times more risk of mortality (HR: 6.48; 95%CI 3.53; 11.87).

**Conclusion(s):** This is the first large-scale study evaluating the relationship of food intake on clinical outcomes showing an increase of in-hospital mortality rates and a reduction in the probability of being discharged home regardless of the nutrition risk status. Traditional

screening tools may not identify a group of patients who will become at risk due to reduced intake while in the hospital. This article is protected by copyright. All rights reserved.

---

**Title: Nutritional evaluation and management of critically ill patients with COVID-19 during post-intensive care rehabilitation.**

**Citation:** JPEN. Journal of parenteral and enteral nutrition; Mar 2021

**Author(s):** Hoyois, Alice; Ballarin, Asuncion; Thomas, Justine; Lheureux, Olivier; Preiser, Jean-Charles; Coppens, Emmanuel; Bogerd, Silvia Perez; Taton, Olivier; Farine, Sylvie; Van Ouytsel, Pauline; Arvanitakis, Marianna

**Background and Aims:** Among hospitalized patients with COVID-19, up to 12% may require intensive care management (ICU). The aim of this prospective cohort study is to assess nutritional status and outcome in patients with COVID-19 following ICU discharge.

**Methods:** All patients with COVID-19 requiring a minimum of 14 days stay in the ICU with mechanical ventilation were included. Nutritional status was assessed at inclusion (ICU discharge) and follow-up (after 15, 30 and 60 days). All patients had standardized medical nutrition therapy with defined targets regarding energy (30 kcal/kg/d) and protein intake (1,5g/kg/d).

**Results:** Fifteen patients were included (67% Males); median age was 60 (33 -75) years old. Body Mass index at ICU admission was 25,7 (IQR, 24 - 31) kg/m<sup>2</sup>. After a median ICU stays of 33 (IQR, 26 - 39) days, malnutrition was present in all patients (11,3% median weight loss and/or low muscle mass based on hand grip strength measurement). Because of post-intubation dysphagia in 60% of patients, enteral nutrition was administered (57% naso-gastric tube; 43% percutaneous endoscopic gastrostomy). After 2-month, a significant improvement in muscle strength was observed (median handgrip strength: 64,7%(IQR, 51 - 73) of the predicted values for age vs 19% (IQR, 4,8 - 28,4) at ICU discharge (p < 0,0005)), as well as weight gain of 4,3 kg (IQR, 2,7 - 6,7) (p< 0,0002).

**Conclusions:** Critically ill patients with COVID-19 requiring ICU admission and mechanical ventilation have malnutrition and low muscle mass at ICU discharge. Nutritional parameters improve during rehabilitation with standardized medical nutrition therapy. This article is protected by copyright. All rights reserved.

---

**Title: Prevalence of malnutrition comparing NRS2002, MUST, and PG-SGA with the GLIM criteria in adults with cancer: A multi-center study.**

**Citation:** Nutrition (Burbank, Los Angeles County, Calif.); Mar 2021; vol. 83 ; p. 111072

**Author(s):** Zhang, Zhihong; Wan, Zhong; Zhu, Yu; Zhang, Lijuan; Zhang, Lili; Wan, Hongwei

**Objectives:** This study aimed to evaluate the diagnostic capacity of the Nutritional Risk Screening 2002 (NRS2002), Malnutrition Universal Screening Tool (MUST), and Patient-generated Subjective Global Assessment (PG-SGA) in light of the Global Leader Initiative on Malnutrition (GLIM) criteria in adult patients with cancer.

**Methods:** A multicenter observational study was conducted. Nutritional screening and assessment were performed at the time of admission to hospitals with the NRS2002, MUST, PG-SGA, and GLIM criteria. Sensitivity, specificity, positive and negative predictive values, positive and negative likelihood ratio, and Kappa (K) values were used to evaluate the performance of these tools.

**Results:** Of the 637 included patients, 24.8% and 15.4% of patients were at moderate and high risk of malnutrition, respectively, using the NRS2002 and MUST. The NRS2002 was better correlated to the GLIM criteria with a higher value of Kappa ( $K = 0.823$  vs.  $0.596$ ) and area under the receiver operating characteristic curve ( $K = 0.896$  vs.  $0.757$ ) than the MUST. Meanwhile, 28.3% of patients were diagnosed as malnourished at the time of admission per the GLIM criteria, and 43.3% were malnourished per the PG-SGA. The PG-SGA had a fair agreement with the GLIM criteria ( $K = 0.453$ ), revealing a positive predictive value of 52.9% and negative predictive value of 90.6%.

**Conclusions:** The NRS2002 was better correlated with the GLIM diagnostic criteria of malnutrition than the MUST. The PG-SGA was too sensitive to detect nutrition-related deteriorations, leading to a low positive predictive value in the malnutrition diagnosis. Thus, the GLIM criteria could be used to confirm the presence of malnutrition identified by the PG-SGA in adults with cancer.

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

**Disclaimer:** The results of your literature search are based on the request that you made, and consist of a list of references, some with abstracts. Royal United Hospital Bath Healthcare Library will endeavour to use the best, most appropriate and most recent sources available to it, but accepts no liability for the information retrieved, which is subject to the content and accuracy of databases, and the limitations of the search process. The library assumes no liability for the interpretation or application of these results, which are not intended to provide advice or recommendations on patient care.