Nutrition and Hydration Current Awareness Bulletin
June 2020

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Title: How frequently are patients weighed in hospital? Results from a five-year cross-sectional audit of clinical practice in nine hospitals.

Citation: Clinical nutrition ESPEN; Apr 2020; vol. 36; p. 157-161

Author(s): Lambert, Kelly; Ferguson, Allison; Meletis, Marissa; Charlton, Karen

Background and Aims: Knowledge of a person's weight is important for identifying malnutrition; occupational safety reasons; medication dosing and evaluating effectiveness of medical nutrition therapy. However, weighing of patients in hospitals is known to be problematic and suboptimal.

Methods: Five annual cross-sectional audits of patients admitted to nine hospitals were conducted to determine the frequency that patients were weighed (i) on admission and (ii) during admission. Characteristics such as age, length of stay, the presence of cognitive impairment, culturally and linguistically diverse (CALD) background, mobility status and single room isolation were also recorded.

Results: The frequency of weighing patients on admission was only 20.3%. Approximately 62.4% of patients had been weighed at least once during their admission. Individuals who were admitted to rehabilitation wards or those with independent mobility had significantly higher odds of being weighed during the admission, in addition to those with a longer length of stay (Odds Ratios 5.98 (95% CI: 2.51-10.3); 2.34 (95% CI: 1.60-3.4); and 1.05 (95% CI: 1.03-1.07) respectively, all p < 0.001). Differences between ward types were also evident with rehabilitation, paediatric, renal and mental health wards exhibiting a higher incidence of weighing patients during their admission.

Conclusions: The practice of weighing patients in this health district was suboptimal and places patients at high risk of a deterioration in their clinical condition. Strategies to ensure all patients are weighed including those who have a short hospital stay and those with poor mobility is required.

Title: Effects of lunch club attendance on the dietary intake of older adults in the UK: A pilot cross-sectional study

Citation: Nutrition and health; May 2020

Author(s): Tsouliou F.; Lumley R.; Clark C.; Grammatikopoulou M.G.; Gkiouras K.; Lara J.

Background: Lunch clubs are community-based projects where meals are offered with opportunities for social interaction, and a unique dining experience of dual commercial and communal nature. AIM: The aim of the present cross-sectional study was to assess differences in the dietary intake between lunch club and non-lunch club days among community-dwelling elderly, living in Dorset, UK.

Method(s): A total of 39 elderly individuals attending local lunch clubs were recruited. Socioeconomic factors were recorded, anthropometric measurements were taken and the dietary intake was assessed in lunch club and non-lunch club days via 24 hour dietary recalls.

Result(s): For the majority of participants, having a hot meal (74.4%), meeting with friends (92.3%), dining outside home (76.9%), having a home-styled cooked meal (71.8%) and skipping cooking (43.6%) were considered as important factors for lunch club dining. Absolute energy intake, protein, fat, carbohydrate, saturated fatty acids, fibre, potassium, calcium, iron, vitamins A, C and folate and water from drinks were significantly greater on lunch club days. When intake was expressed as a percentage of the dietary reference
values, all examined nutrients were consumed in greater adequacy during lunch club days, except potassium and vitamin D.

Conclusion(s): Lunch clubs appear to be an effective means for ameliorating nutrient intake among older adults, while in parallel, offer the opportunity for socializing and sharing a hot meal with peers.

Title: Dehydration predicts longitudinal decline in cognitive functioning and well-being among older adults.

Citation: Psychology and aging; Jun 2020; vol. 35 (no. 4); p. 517-528

Author(s): Mantantzis, Konstantinos; Drewelies, Johanna; Duezel, Sandra; Steinhagen-Thiessen, Elisabeth; Demuth, Ilja; Wagner, Gert G; Lindenberger, Ulman; Gerstorf, Denis

Abstract: Adequate hydration is essential for health, with even mild forms of dehydration often having negative effects on cognition and well-being. Despite evidence of higher risk for dehydration among older adults, links between dehydration and cognitive or well-being outcomes have not been established in old age. In this study, we used longitudinal data from the Berlin Aging Study II (age range 60-89) to investigate whether trajectories of cognitive functioning (digit symbol, N = 1,111) and well-being (Diener satisfaction with life, N = 1,066; Socio-Economic Panel Study life satisfaction, N = 1,067; and Lawton morale, N = 1,067) are associated with objective dehydration (osmolarity; 33% dehydrated). Our results revealed that higher dehydration was associated with steeper decline in cognitive functioning and well-being over time, and lower well-being among those with higher body mass index. These associations were independent of sociodemographic and physical health characteristics. Our findings highlight the importance of adequate hydration for preserved cognition and well-being across old age. We discuss potential mechanisms and consider practical implications arising from our results. (PsycInfo Database Record (c) 2020 APA, all rights reserved).

Title: Approaches to Eating and Drinking with Acknowledged Risk: A Systematic Review.

Citation: Dysphagia; Apr 2020

Author(s): Soar, Naomi; Birns, Jonathan; Sommerville, Peter; Lang, Alex; Archer, Sally

Background: Patients with dysphagia may consider eating and drinking with acknowledged risk (EDAR) instead of artificial hydration/nutrition. Timely consideration of complex issues is required including dysphagia reversibility, risk/benefit discussions, patient wishes, their capacity and best interests.

Objective: This study aimed to establish if EDAR protocols improve care through a systematic literature review with a secondary aim to explore important factors for the development and success of a protocol.

Methods: PUBMED, MEDLINE, CINAHL and EMBASE were searched for English language articles to May 2019 with terms related to EDAR, dysphagia and end of life. Articles were agreed for inclusion by three independent reviewers. Levels of evidence were assessed using the modified Sackett scale. Study themes were identified and discussed.

Results: 8 articles met the inclusion criteria with varied methodology. The highest level of evidence was III (cohort study). Most were limited to patients with dementia, stroke, in older person’s wards or residential homes. Three articles described a systematic approach to EDAR for in-patients, reporting reductions in days nil-by-mouth until feeding plans are made.
and improvements in documentation of decision making, nutrition plans and capacity assessment. Five papers explored the views and knowledge of staff, patients and families/carers relating to EDAR and complex feeding decisions. Formal meta-analysis was not possible due to the level and mix of methodology.

**Conclusion:** There is a paucity of evidence to determine if EDAR protocols improve care. However, support is emerging for a coordinated approach to managing EDAR. Findings suggest having a protocol is not enough; training and communication within teams is essential, together with incorporating feedback from patients and carers, and this justifies further work.

**Title:** Nutrition Risk Screening in Intensive Care Units: Agreement Between NUTRIC and NRS 2002 Tools.

**Citation:** Nutrition in Clinical Practice; Jun 2020; vol. 35 (no. 3); p. 567-571

**Author(s):** Coruja ; Cobalchini, Yasmini; Wentzel, Cristiane; Fink, Jaqueline da Silva

**Background:** The American Society for Parenteral and Enteral Nutrition recommends nutrition screening in patients admitted to the intensive care unit (ICU) and indicates the use of 2 tools: Nutritional Risk Screening 2002 (NRS 2002) or Nutrition Risk in the Critically Ill (NUTRIC). This study aims to compare nutrition risk detected by NRS 2002 and NUTRIC to identify whether both tools are equivalent for clinical practice in the ICU.

**Methods:** A retrospective cohort study was conducted in 2 hospital centers in the south of Brazil. Adult patients (≥18 years old) who stayed in the ICU for >24 hours were included. NUTRIC and NRS 2002 were compared with each other for their agreement in screening for nutrition risk.

**Results:** The study included 208 patients, most of them male (63.5%). The comparison between both nutrition screening tools showed fair agreement (κ = 0.39). Nearly half of the patients were classified at high nutrition risk by NUTRIC (47.6%), whereas only approximately one-third of the sample was classified similarly by NRS 2002 (35.6%).

**Conclusion:** Despite the ability to identify patients with high nutrition risk, NUTRIC and NRS 2002 performed differently and were not concordant, suggesting that are not equivalent for clinical practice in the ICU.

**Title:** Nutritional care of the older orthopaedic patient – A nursing priority and a collaborative effort.

**Citation:** International Journal of Orthopaedic & Trauma Nursing; May 2020; vol. 37

**Author(s):** Santy-Tomlinson

**Title:** Interventions to prevent and treat malnutrition in older adults to be carried out by nurses: A systematic review.

**Citation** Journal of Clinical Nursing (John Wiley & Sons, Inc.); Jun 2020; vol. 29 (no. 11/12); p. 1883-1902

**Author(s):** Cate ; Ettema, Roelof G. A.; Huisman-de Waal, Getty; Bell, Jack J.; Verbrugge, Remco; Schoonhoven, Lisette; Schuurmans, Marieke J.; Zwakhalen, Sandra; Vermeulen, Hester; Man-van Ginkel, Janneke; Heinen, Maud; Metzelthin, Silke; Verstraten, Carolien; Belle, Elise; Noort, Harm; Berg, Gerda; Manen, Annick
**Aims and objectives:** To identify interventions to prevent and treat malnutrition in older adults, which can be integrated in nursing care, and to evaluate the effects of these interventions on outcomes related to malnutrition.

**Background:** Older adults are at great risk for malnutrition, which can lead to a number of serious health problems. Nurses have an essential role in nutritional care for older adults. Due to a lack of evidence for nursing interventions, adequate nursing nutritional care still lags behind. Design: Systematic review.

**Method:** We searched for and included randomised controlled trials on interventions, which can be integrated in nursing care for older adults, to prevent and treat malnutrition. We assessed the risk of bias with the Cochrane tool and evidence for outcomes with the GRADE. The PRISMA statement was followed for reporting.

**Results:** We included 21 studies of which 14 studies had a high risk of bias. Identified interventions were oral nutritional supplements, food/fluid fortification or enrichment, dietary counselling and educational interventions. In evaluating the effects of these interventions on 11 outcomes related to malnutrition, significant and nonsignificant effects were found. We graded the certainty of evidence as very low to moderate.

**Conclusion:** Although slight effects were found in protein intake and body mass index, there is no convincing evidence about the effectiveness of the four identified interventions. There seems no harm in using these interventions, although it should be kept in mind that the evidence is sparse. Therefore, there is a need for high-quality research in building evidence for interventions in nursing nutritional care. Relevance to clinical practice: Nurses can safely provide oral nutritional supplements and food/fluid fortification or enrichment, and give dietary counselling and education to older adults, as they are well placed to lead the essential processes of nutritional care to older adults.

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**Citation:** Psychology and Aging; Apr 2020

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**Abstract:** Adequate hydration is essential for health, with even mild forms of dehydration often having negative effects on cognition and well-being. Despite evidence of higher risk for dehydration among older adults, links between dehydration and cognitive or well-being outcomes have not been established in old age. In this study, we used longitudinal data from the Berlin Aging Study II (age range 60-89) to investigate whether trajectories of cognitive functioning (digit symbol, N = 1,111) and well-being (Diener satisfaction with life, N = 1,066; Socio-Economic Panel Study life satisfaction, N = 1,067; and Lawton morale, N = 1,067) are associated with objective dehydration (osmolarity; 33% dehydrated). Our results revealed that higher dehydration was associated with steeper decline in cognitive functioning and well-being over time, and lower well-being among those with higher body mass index. These associations were independent of sociodemographic and physical health characteristics. Our findings highlight the importance of adequate hydration for preserved cognition and well-being across old age. We discuss potential mechanisms and consider practical implications arising from our results. (PsycInfo Database Record (c) 2020 APA, all rights reserved).
Title: Environmental Sustainability of Hospital Foodservices across the Food Supply Chain: A Systematic Review.

Citation: Journal of the Academy of Nutrition and Dietetics; May 2020; vol. 120 (no. 5); p. 825-873

Author(s): Carino, Stefanie; Porter, Judi; Malekpour, Shirin; Collins, Jorja

Background: Hospitals have a responsibility to support human health, and given the link between human and environmental health, hospitals should consider their environmental impacts. Hospital foodservices can negatively affect the environment at every stage of the food supply chain (production/procurement, distribution, preparation, consumption, and waste management/disposal).

Objective: To systematically identify and synthesize the following across the hospital patient food/nutrition supply chain: environmental and associated economic impacts of foodservice; outcomes of strategies that aim to improve the environmental sustainability of foodservice; and perspectives of patients, staff, and stakeholders on environmental impacts of foodservice and strategies that aim to improve the environmental sustainability of foodservice.

Methods: Eight electronic databases (ie, Cumulative Index to Nursing and Allied Health Literature Plus, Embase via Ovid, Global Health, National Health Service Economic Evaluation Database, Ovid Medline, ProQuest Environmental Science Collection, Scopus, and Web of Science) were searched from database inception to November 2018 for original research conducted across any stage of the hospital food supply chain (from production/procurement to waste management/disposal) that provides food/nutrition to patients, with no restrictions on language or study design. Titles/abstracts then full texts were screened independently by two authors. The Mixed Methods Appraisal Tool was used for quality appraisal for included studies. Data were synthesized narratively.

Results: From 29,655 records identified, 80 studies met eligibility criteria. Results were categorized into production/procurement (n=12), distribution (n=0), preparation (n=6), consumption (n=49), waste management/disposal (n=8), and multiple food supply chain aspects (n=5). The environmental impact most widely explored was food waste, with many studies reporting on food waste quantities, and associated economic losses. Strategies focused on reducing food waste by increasing patients' intake through various foodservice models. Perspectives identified a shared vision for sustainable foodservices, although there are many practical barriers to achieving this.

Conclusion: The literature provides examples across the hospital food supply chain that demonstrate how environmental sustainability can be prioritized and evaluated and the opportunities for credentialed nutrition and dietetics practitioners to contribute. Future studies are warranted, particularly those measuring environmental impacts and testing the effects of sustainable strategies in the distribution, preparation, and waste management stages.

Title: Hospital food environments: a human and planetary health opportunity.

Citation: The Medical journal of Australia; May 2020; vol. 212 (no. 8); p. 384

Author(s): Moseley, Genevieve; Spajic, Luke; Behrens, Georgia
Title: Older patients' perspectives on mealtimes in hospitals: a scoping review of qualitative studies.

Citation: Scandinavian journal of caring sciences; May 2020
Author(s): Jonsson, Ann-Sofie; Nyberg, Maria; Jonsson, Inger M; Öström, Åsa

Abstract: The increasing age of populations throughout the world means that healthcare services are faced with new challenges, not least regarding the provision of food during hospital stay. There is a lack of knowledge of how hospital mealtimes are experienced by older patients, and so the aim of this article was to review current knowledge regarding mealtimes in hospitals from the perspectives of older patients. A literature search was performed using seven databases: PubMed, Web of Science, Scopus, Sociological Abstracts, SweMed+, ASSIA and CINAHL with no limits regarding publication date. The inclusion criteria were peer-reviewed articles in English or Swedish that used qualitative methods to examine older patients' (>65 years) mealtime experiences. The Five Aspect Meal Model (FAMM) served as a framework for understanding the complexity behind a mealtime experience. Qualitative content analysis was used as a guide when analysing the material. The search produced 415 studies, 14 of which were included in the review. The findings generated three main themes for understanding how older patients experience mealtimes while in hospital: (1) the food and the food service, (2) mealtime assistance and commensality during mealtimes and (3) the importance of retaining one's independence. The review also clearly indicated a shortage of studies that solely focus on older patients' experiences of their mealtime. More research is therefore needed to be fully able to understand the complex task of providing meals in hospitals.

Title: Food service: An overlooked potential vector for hospital infection.

Citation: Infection control and hospital epidemiology; May 2020; vol. 41 (no. 5); p. 630-631
Author(s): Carter, John D

Title: Enteral tube feeding and mortality in hospitalized older patients: A multicenter longitudinal study.

Citation Clinical nutrition (Edinburgh, Scotland); May 2020; vol. 39 (no. 5); p. 1608-1612
Author(s): Veronese, Nicola; Celli, Alberto; Cruz-Jentoft, Alfonso J; Polidori, Maria Cristina; Mattace-Raso, Francesco; Paccalin, Marc; Topinkova, Eva; Greco, Antonio; Mangoni, Arduino A; Daragjati, Julia; Siri, Giacomo; Pilotto, Alberto; MPI_AGE Investigators

Background & Aims: The literature regarding enteral nutrition and mortality in older frail people is limited and still conflicting. Moreover, the potential role of comprehensive geriatric assessment is poorly explored. We therefore aimed to investigate whether the Multidimensional Prognostic Index (MPI), an established tool that assesses measures of frailty and predicts mortality, may help physicians in identifying patients in whom ETF (enteral tube feeding) is effective in terms of reduced mortality.

Methods: Observational, longitudinal, multicenter study with one year of follow-up. Data regarding ETF were recorded through medical records. A standardized comprehensive geriatric assessment was used to calculate the MPI. Participants were divided in low (MPI-1), moderate (MPI-2) or severe (MPI-3) risk of mortality. Data regarding mortality were recorded through administrative information.
Results: 1064 patients were included, with 79 (13 in MPI 1-2 and 66 in MPI-3 class) receiving ETF. In multivariable analysis, patients receiving ETF experienced a higher risk of death (odds ratio, OR = 2.00; 95% confidence intervals, CI: 1.19-3.38). However, after stratifying for their MPI at admission, mortality was higher in MPI-3 class patients (OR = 2.03; 95%CI: 1.09-3.76), but not in MPI 1-2 class patients (OR = 1.51; 95%CI: 0.44-5.25). The use of propensity score confirmed these findings.

Conclusions: ETF is associated with a higher risk of death. However, this is limited to more frail patients, suggesting the importance of the MPI in the prognostic evaluation of ETF.

Title: Food intake and oral health status of inpatients with dysphagia in acute care settings.

Citation: Journal of oral rehabilitation; Jun 2020; vol. 47 (no. 6); p. 736-742

Author(s): Furuya, Junichi; Suzuki, Hiroyuki; Tamada, Yasushi; Onodera, Shohei; Nomura, Taro; Hidaka, Rena; Minakuchi, Shunsuke; Kondo, Hisatomo

Abstract: Adequate oral status and functional assessments are important for dysphagia rehabilitation in acute care inpatient settings, especially to establish individualised oral intake. However, the association between food intake levels and oral function has not been elucidated in acute care inpatients. This cross-sectional study clarified the association between oral intake levels and the oral status/function of patients with dysphagia admitted to acute care settings. Admitted patients aged ≥40 years (n = 459; men: 288; mean age: 70.8 ± 12.0) examined at the Department of Dysphagia Rehabilitation at the Iwate Medical University Hospital from April 2007 to March 2014 were included. The oral health status was evaluated by the tongue coating, oral dryness severity, plaque control, posterior occlusal support and a repetitive saliva swallowing test (RSST). Dysphagia severity was determined from the Dysphagia Severity Scale. Oral intake levels were evaluated using the Functional Oral Intake Scale (FOIS) at the time of the initial dental examination (FOIS-I), and they were re-evaluated after the revision of levels according to the participants' general condition and oral health status (FOIS-R). Divergence between FOIS-I and FOIS-R was noted in >40% patients. Multiple regression analysis showed significant associations between FOIS-R and consciousness level, activities of daily living, tongue coating, RSST and posterior occlusal support. Patients with dysphagia in acute care settings require detailed assessments of their oral status and function, to determine the most suitable feeding methods and dental interventions to improve oral intake levels.

Sources Used:

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

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