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MAY NUTRITION RESEARCH REVIEW

Association of baseline inflammation with effectiveness of nutritional support among patients with disease-related malnutrition: a secondary analysis of a randomized clinical trial

PUBLICATION: JAMA Network Open

PUBLISH DATE: March 2, 2020

AUTHORS

Merker M, Felder M, Gueissaz L, Bolliger R, Tribolet P, Kägi-Braun N, Gomes F, Hoess C, Pavlicek V, Bilz S, Sigrist S, Brändle M, Henzen C, Thomann R, Rutishauser J, Aujesky D, Rodondi N, Donzé J, Stanga Z, Mueller B, Schuetz P

SUMMARY

This is a secondary analysis of the Effect of Early Nutritional Support on Frailty, Functional Outcomes, and Recovery of Malnourished Medical Inpatients Trial (EFFORT), a randomized clinical trial conducted in 8 Swiss hospitals from April 2014 to February 2018. A total of 1950 patients (median [interquartile range] age, 75 [65-83] years; 1025 [52.6%] men) were included; 533 (27.3%) had low levels of inflammation, 894 (45.9%) had moderate levels of inflammation, and 523 (26.8%) had high levels of inflammation. Compared with the control group, patients receiving nutritional support showed a significant reduction in 30-day mortality, regardless of C-reactive protein level (adjusted

odds ratio, 0.61; 95% CI, 0.43-0.86; P = .005). In the subgroup of patients with high inflammation, there was no beneficial effect of nutritional support (adjusted odds ratio, 1.32; 95% CI, 0.70-2.50; P = .39), providing evidence that inflammation has a significant modifying association (P for interaction = .005). Based on this secondary analysis of a multicenter randomized trial, a patient's admission inflammatory status was associated with their response to nutritional support.

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Enteral and parenteral nutrition in cancer patients, a comparison of complication rates: an updated systematic review and (cumulative) meta-analysis

PUBLICATION: Support Care Cancer

PUBLISH DATE: March 2020

AUTHORS:

Chow R, Bruera E, Arends J, Walsh D, Strasser F, Isenring E, Del Fabbro EG, Molassiotis A, Krishnan M, Chiu L, Chiu N, Chan S, Tang TY, Lam H, Lock M, DeAngelis C.

SUMMARY

The aim of this paper was to update the original systematic review and meta-analysis previously published by Chow et al., while also assessing publication quality and effect of randomized controlled trials (RCTs) on the meta-conclusion over time. A literature search was carried out; screening was conducted for RCTs published in January 2015 up until December 2018. The primary endpoints were the percentage of patients achieving no infection and no nutrition support complications. Secondary endpoints included proportion of patients achieving no major complications and no mortality. An additional seven studies were identified since our prior publication, leading to 43 papers included in our review. The results echo those previously published; EN and PN are equivalent in all endpoints except for infection. Subgroup analyses of studies only containing adults indicate identical risks across all endpoints. Cumulative meta-analysis suggests that meta-conclusions have remained the same since the beginning of publication time for all endpoints except for the endpoint of infection, which changed from not favoring to favoring EN after studies published in 1997. There was low risk of bias, as determined by assessment tool and visual inspection of funnel plots. The results support the current European Society of Clinical Nutrition and Metabolism guidelines recommending enteral over parenteral nutrition, when oral nutrition is inadequate, in adult patients.

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Economic evaluation of individualized nutritional support in medical inpatients: Secondary analysis of the EFFORT trial.

PUBLICATION: Clinical Nutrition

PUBLISH DATE: 25 Feb 2020

AUTHORS:

Schuetz P, Sulo S, Walzer S, Vollmer L, Stanga Z, Gomes F, Rueda R, Mueller B, Partridge J; EFFORT trial collaborators.

SUMMARY:

This publication results of the economic evaluation of EFFORT-a pragmatic, investigator-initiated, open-label, multicenter trial. To calculate the economic impact of nutritional support, a Markov model was developed with relevant health states. Costs were estimated for days in normal hospital ward and in the Intensive Care Unit (ICU), hospital-acquired complications, and nutritional support. We used a Euro conversion rate of 0.93216 Euro for 1 Swiss Franc (CHF). The estimated per-patient cost was CHF90 (83.78 €) for the in-hospital nutritional support and CHF283.85 (264.23 €) when also considering dietitian consultation time. Overall costs of care within 30 days of admission averaged CHF29,263 (27,240 €) per-patient in the intervention group versus CHF29,477 (27,439 €) in the control group resulting in per-patient cost savings of CHF214 (199 €). Per-patient cost savings was CHF19.56 (18.21 €) when also accounting for dietician costs (full cost analysis). These cost savings were mainly due to reduced ICU length of stay and fewer complications. We also calculated costs to prevent adverse outcomes, which were CHF276 (256 €) for one severe complication, CHF2,675 (2490 €) for one day in ICU, and CHF7,975 (7423 €) for one death. For the full cost analysis, these numbers were CHF872 (811 €), CHF8,459 (7874 €) and CHF25,219 (23,475 €). Sensitivity analyses confirmed the original findings. This evaluation demonstrates that in-hospital nutritional support for medical inpatients is a highly cost-effective intervention to reduce risks for ICU admissions and hospital-associated complications, while improving patient survival. The positive clinical and economic benefits of nutritional support in at-risk medical inpatients calls for comprehensive nutrition programs, including malnutrition screening, consultation, and nutritional support.

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Examining Mid-Upper Arm Circumference Malnutrition z-Score Thresholds

PUBLICATION: Nutrition in Clinical Practice

PUBLISH DATE: April 2020

AUTHORS:

Stephens K, Orlick M, Beattie S, Snell A, Munsterman K, Oladitan L, Abdel-Rahman S.

SUMMARY:

This 2-year, prospective single-center study of children in the United States was designed to critically examine the ability of the MUACz to classify nutrition status. Early diagnosis of malnutrition is the key to preventing wasting, stunting, and nutrient deficiencies during critical developmental periods. Identifying accurate thresholds or cutoffs for indicators of nutrition status are imperative for correctly classifying and documenting pediatric malnutrition. In our population, the recommended MUAC thresholds perform well for identifying children with no malnutrition (92% sensitivity, 77% specificity). However, the sensitivity drops systematically with increasing severity of malnutrition such that only 30% of children with severe malnutrition are correctly detected (though the specificity is 99%). This study affirms that there is room for optimization of the proposed MUACz thresholds to limit the number of children at risk of misclassification.

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Pediatric Sarcopenia: A Paradigm in the Overall Definition of Malnutrition in Children?

PUBLICATION: Journal of Parenteral and Enteral Nutrition (JPEN)

PUBLISH DATE: March 2020

AUTHORS:

Ooi PH, Thompson-Hodgetts S, Pritchard-Wiart L, Gilmour SM, Mager DR.

SUMMARY:

Sarcopenia is an emerging concept in pediatric. The review aims to explore the current evidence regarding definition, diagnostic criteria, prevalence, and clinical outcomes associated with sarcopenia with and without obesity in the pediatric populations and to evaluate knowledge gaps in the assessment of childhood sarcopenia. A total of 12 articles published between 2013 and 2018 met the inclusion criteria. There is a variety of body composition methods than can be used to assess muscle mass, however, muscle function is the primary piece of missing information in sarcopenia assessment and classification. The identified research gaps are inconsistencies in sarcopenia definition, body composition methodology, absence of recommended muscle function assessment, and lack of reference data in healthy children.

[READ ARTICLE](#)

Diabetes-specific formulas high in monounsaturated fatty acids and metabolic outcomes in patients with diabetes or hyperglycaemia. A systematic review and meta-analysis.

PUBLICATION: Clinical Nutrition

PUBLISH DATE: March 2020

AUTHORS:

Sanz-París A, Matía-Martín P, Martín-Palmero Á, Gómez-Candela C, Camprubi Robles M.

NOTE: If you prefer to learn by listening, [here's a podcast](#) summarizing this study.

SUMMARY:

The aim of this systematic review and meta-analysis was to compare the metabolic benefits of diabetes-specific formulas (DSF) high in monounsaturated fatty acids (MUFA) with standard formulas (STDF) in adult patients with type 1, type 2 diabetes or stress-induced hyperglycaemia. In total, 385 references were reviewed, and 18 studies involving 845 adults met our inclusion criteria and contributed to the meta-analysis. Use of a high MUFA DSF compared with a STDF was associated with a statistically significant decrease in peak of postprandial glucose, incremental glucose response, area under the curve of plasma insulin, mean blood glucose level, glycosylated haemoglobin (HbA1c) change, glucose variability, mean administered insulin dose, mean blood triglycerides, and increase of mean blood high-density lipoproteins. Non-significant differences were

found for tolerance. This meta-analysis shows that a DSF (oral supplements and tube feeds) high in MUFAs can improve glucose control and metabolic risk factors among patients with diabetes or stress-induced hyperglycaemia compared with a STDF.

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ESPEN expert statements and practical guidance for nutritional management of individuals with sars-cov-2 infection

PUBLICATION: Clinical Nutrition

PUBLISH DATE: March 2020

AUTHORS:

Barazzoni R, Bischoff SC, Krznaric Z, Pirlich M, Singer P

SUMMARY:

The COVID-19 pandemic is posing unprecedented challenges and threats to patients and healthcare systems worldwide. Acute respiratory complications that require intensive care unit (ICU) management are a major cause of morbidity and mortality in COVID-19 patients and prolonged ICU stays may be required, and longer ICU stay may worsen or cause malnutrition, with severe loss of skeletal muscle mass and function. Prevention, diagnosis and treatment of malnutrition should be routinely included in the management of COVID-19 patients. In the current document, the European Society for Clinical Nutrition and Metabolism (ESPEN) aims at providing concise guidance for nutritional management of COVID-19 patients by proposing 10 practical recommendations. The practical guidance is focused to those in the ICU setting or in the presence of older age and polymorbidity.

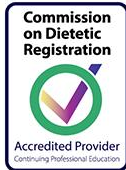
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