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Welcome to Fresenius Kabi’s Quarterly Abstract Bulletin. We have reviewed the following journals over the last three months, and selected any nutrition support related articles:

* Journal of Parenteral and Enteral Nutrition
* Clinical Nutrition
* British Journal of Nursing
* Intensive Care Medicine
* British Journal of Community Nursing
* Nursing Standard
* Nursing Times
* Community Nurse
* Lancet
* BMJ
* Paediatric Nursing
* Nursing Older People
* Nutrition in Clinical Practice
* Journal of Human Nutrition and Dietetics
* Nursing and Residential Care
* American Journal of Clinical Nutrition
* Journal of Tissue Viability
* Complete Nutrition
* Archives of Diseases in Childhood
* Professional Nurse.
* Age and Ageing
* Gut
* Journal of Advanced Nursing

We hope this will be an efficient way to identify any articles of particular interest to Health Care Professionals involved with Nutrition Support. We do however recommend that the original article is used for the full details and results.

Please note that due to copyright law our ability to copy and distribute clinical papers is restricted.

If you would like to be added to the mailing list, please contact your local Fresenius Kabi representative or Nutrition Services Department:

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Yours sincerely

[Signature]

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Tackling undernutrition through appropriate supplement prescribing

J Jones

British Journal of Community Nursing 2003; 8(8) : 343 - 352

Abstract:

Undernutrition has significant implications for patients' clinical condition and economical consequences for the NHS. However, due to continually increasing prescribing costs for sip feeds, treating undernutrition is often seen as very costly. An audit project in Lothian was undertaken to look at the appropriateness of sip feeds being prescribed. The project found there was a significant level of inappropriate prescribing with 30% of patients having their prescriptions for supplements stopped as they were deemed unnecessary. In view of this, the community dietitians involved developed and introduced a nutritional care pathway to allow a systematic and evidence-based approach to the identification and treatment of undernutrition.
The effect of a liquid nutrition supplement on body composition and physical functioning in elderly people


Clinical Nutrition 2003; 22(4) : 371 - 377

Abstract:

Background & Aims - The elderly are at an increased risk of poor nutritional status which is mutually interacting with functional status. We evaluated the effects of a liquid nutrition supplement on anthropometric and functional indices in elderly people.

Methods - Subjects (n=68; mean age=82±7 years) with body mass index =25 kg/m² received either a supplement or a placebo for 6 months. Anthropometric (body weight, bioelectrical impedance, calf circumference), biochemical (albumin, prealbumin), functional parameters (handgrip strength, timed 'up and go' test) and dietary intake were measured. Activities of daily living and Nottingham Health Profile (NHP) were assessed.

Results - No compensation of energy intake occurred. After 6 months, the supplement group had gained more weight (+1.6kg) than the placebo group (+0.3kg) P=0.03). No other significant changes in anthropometric, functional or blood parameters were seen. There was a significant improvement on the section 'sleep' of the NHP (mean change ± SE= -0.38±0.19 for supplement vs 0.24±0.19 for placebo, P=0.03).

Conclusion - Dietary supplementation led to an increase in body weight and had a positive influence on sleep in elderly persons. Supplementation did not affect energy intake from regular meals and thus resulted in additional energy intake.
Are we wasting our money on food supplements in elder care wards?

M Gosney

Journal of Advanced Nursing 2003; 43(3) : 257-280

Abstract

Background - It is reported that undernutrition in older hospitalized patients is commonly found, but estimates of its prevalence vary. It is also not clear which treatment approaches are best because poor methodology prevents comparison of outcomes between different studies.

Rationale - The rationale of this observational study was to look at typical elder care wards in order to determine what food supplements were being prescribed. We wished to determine whether serum albumin and/or body mass index (BMI) were appropriately related to the prescription of sip feeds and also to determine the palatability of supplements provided.

Method - We monitored the wastage of sip feeds over a 24-hour period and extrapolated an estimated cost. Ninety-six patients were studied, included 23 patients with a BMI of less than 20, of whom 30% were on supplementary feeds.

Results - Seventy percentage of prescribed sip feeds were being given to people with a BMI of 20 or more. The mean wastage in this 24-hour period was 63% (£79.56) in four wards containing 96 older patients.

Conclusion - We concluded that there was no relationship between the numbers of patients with a low albumin and BMI and the prescription of sip feeds. We found compliance to be low (37%) because of poor palatability, with a large number of patients who appeared to require sip feeds not being prescribed them and those who received them wasting more than they drank.
A randomised, double-blind assessment of the effect of nutritional supplementation on the prevention of pressure ulcers in hip-fracture patients

R H Houwing, M Rozendaal, W Wouters-Wesseling, J W J Beulens, E Buskens, J R Haalboom

Clinical Nutrition 2003; 22(4) : 401 - 405

Abstract

Background & aims - Malnutrition is a risk factor for development of pressure ulcers (PU). Nutritional supplementation may thus reduce the incidence of PU. We investigated the effect of nutritional supplementation on incidence of PU in hip-fracture patients at risk of developing PU.

Methods - Hip-fracture patients (n=103) were included in this double-blind, randomised, placebo-controlled trial. They received 400 ml daily of a supplement enriched with protein, arginine, zinc and antioxidants (n=51) or a non-caloric, water-based placebo supplement (n=52). Presence and stage of PU were assessed daily for 28 days or until discharge (median: 10 days during supplementation).

Results - Incidence of PU was not different between supplement (55%) and placebo (59%), but incidence of PU stage II showed a 9% difference (difference: 0.091; 95% CI: 0.07-0.25) between supplement (18%) and placebo (28%). Of patients developing PU 57% developed it by the second day. Time of onset (days) showed a trend (P=0.090) towards later onset of PU with supplement (3.6±0.9) than placebo (1.6±0.9).

Conclusions - Hip-fracture patients develop PU at an early stage. Nutritional supplementation may not prevent PU at this stage, but contributes possibly to a delayed onset and progression of PU. Nutritional supplementation may be more effective if initiated earlier.
Five-year prospective analysis of dietary intake and clinical status in malnourished cystic fibrosis patients

J Walkowiak, J Przyslawski

Journal of Human Nutrition and Dietetics 2003; 16(4) : 225-231

Abstract

Background - Poor growth and malnutrition still pose a problem in cystic fibrosis (CF). The aim of the present study was to assess nutrition, as well as clinical status, of malnourished CF patients during a nutritional care programme.

Material and methods - The study comprised 38 CF patients, aged 1-18 years old. The prospective annual assessment of dietary intake and clinical status was carried out during 1994 - 1998.

Results - The energy intake increased, in comparison with recommended daily allowances, from 83.6 ± 4.8% in 1994 to 107.9 ± 4.9% in 1998. A similar tendency was observed for the percentage of energy derived from fat (30.3 ± 0.8% versus 35.1 ± 0.8%) and protein (11.4 ± 0.4% versus 13.8 ± 0.4%). In subsequent years of the study, an improvement in the fat profile of the diet (with a higher consumption of polyunsaturated fatty acids) was observed. The observed increase of vitamin A and E consumption was related chiefly to changes in the doses of supplementation. During these 5 years, an improvement in nutritional status (Z-score: height -1.34 ± 0.13 versus -1.08 ± 0.14 and weight -1.40 ± 0.09 versus -1.12 ± 0.08) and lung function (forced expiratory volume in 1 s: 75.5 ± 2.0% versus 77.8 ± 2.2%) was observed.

Conclusion - The nutritional care programme resulted in stable quantitative and qualitative changes in dietary intake. Although the diet does not reach the recommended level of high-energy intake, the positive impact of increasing nutrient intake on the nutritional and clinical status of malnourished CF patients was documented.
Ward nutrition co-ordinators to improve patient nutrition in hospital

J Hayward

British Journal of Nursing 2003; 12 (18) : 1081-1089

Abstract

It is important that patients receive adequate nutrition while in hospital. Reports and research over the last 10 years have highlighted the problems in the NHS of managing the nutritional needs of patients (Kings Fund, 1992; McWhirter and Pennington 1994; Edington et al 2000). This article describes a successful pilot study addressing nutrition at the ward level. It resulted from a multidisciplinary team forming to share their specific nutritional concerns; through creative thinking they devised a new role of nutrition coordinator. In the study a healthcare assistant was used from the existing ward establishment and given one week intensive multidisciplinary induction before commencing the role in the wards. The main focus of the role was to facilitate, rather than undertake, the nutritional care of patients throughout their stay. Following a 6 month trial, the role demonstrated a significant impact on nutritional screening, nutritional service, patient’s perceptions of their nutritional care and staff satisfaction.
ESPEN Guidelines for Nutrition Screening 2002

J Kondrup, S P Allison, M Elia, B Vellas, M Plauth

Clinical Nutrition 2003; 22(4) : 415 - 421

Abstract

Aim - To provide guidelines for nutrition risk screening applicable to different settings (community, hospital, elderly) based on published and validated evidence available until June 2002.
Nutritional risk in institutionalized older women determined by the mini nutritional assessment test: What are the main factors?

M D Ruiz-López, R Artacho, P Oliva, R Moreno-Torres, J Bolanos, C de Teresa, M Carmen Lopez

Nutrition 2003; 19: 767 - 771

Abstract

Objective - We assessed which factors contribute to the high level of nutritional risk detected by the Mini Nutritional Assessment (MNA) test in institutionalized older women. To this end, we undertook a complete nutritional assessment.

Methods - A cross-sectional study in 89 older women (age range, 72-98 y) living in two private nursing homes in Granada (Spain) was carried out. The MNA test was used as an assessment tool to detect nutritional risk. The nutritional assessment included anthropometric measurements (body mass index, triceps and subscapular skinfold thicknesses, and mid-arm and calf circumferences, quantification of dietary intake (7-d weighed-food records), clinical and functional evaluations (number of drugs, Katz index, and Red Cross cognitive scale), and biological markers (albumin, prealbumin, transferrin, and lymphocyte counts).

Results - We found that 7.9% (n = 5) of the older women were malnourished (MNA score, 14.5 ± 1.4), 61.8% (n = 56) were at risk of malnutrition (MNA score, 20.6 ± 2.1), and 30.3% (n = 28) were well nourished (MNA score, 25.0 ± 1.1) according to the MNA test.

Conclusion - This high prevalence of risk of malnutrition detected by the MNA test in healthy institutionalized older women was due mainly to risk situations and self-perception of health and did not depend on age. Inadequate micronutrients intake may contribute to the development of malnutrition in this population.
Clinical evidence for enteral nutrition support with glutamine: A systematic review

A Garcia-de-Lorenzo, A Zarazaga, P P Garcia-Lura, F Gonzalez-Huix, J Lopez-Martinez, A Mijan, L Quecedo, C Casimiro, L Usan, J del Llano

Nutrition 2003; 19 : 805 - 811

Abstract

Objective - The purpose of this systematic review was to locate and assess the quality of scientific evidence to establish a graded recommendation based on the effectiveness of glutamine-enriched enteral nutrition in different medical and surgical conditions. We were concerned with the following topics: 1) benefits of enteral administration of glutamine in different pathologic conditions, and 2) dose, duration, and time of initiation of glutamine-enriched diets.

Methods - The sources consulted for the search were MEDLINE, EMBASE, Cochrane Database of Systematic Reviews, Healthstar and HSTAT. Ninety-one studies were assessed; after a methodologic review (primary review), only 16 studies met the inclusion criteria for analysis by a group of experts (secondary review). The coordinators supervised all data, and a final consensus was reached among the coordinators, experts, and methodologists.

Results and Conclusions - Glutamine-enriched diets showed good overall tolerance, improvement of immunologic aspects in multiple trauma patients, cost reduction in critically ill patients and improvement of mucositis in post-chemotherapy patients (grade B recommendations). The doses given and the duration of therapy varied widely depending on the pathologic condition. Intake of 20 to 30 g/d, early initiation of diet, and maintenance for 5 d or longer are recommended (grade C recommendations).
Energy requirements of non-ambulatory, tube-fed adult patients with cerebral palsy and chronic hypothermia

R N Dickerson, R O Brown, D L Hanna, J E Williams

Nutrition 2003; 19 : 741 - 746

Abstract

Objectives - We investigated the energy requirements of non-ambulatory patients with severe neurodevelopmental disabilities and chronic hypothermia.

Methods - Six adult patients with a permanent ostomy for tube feeding were studied. Otic temperature was taken before the indirect calorimetry measurements. Prescribed tube-feeding intake and nutrient prescription changes were evaluated for 4 y for each patient. Monthly body weights and periodic anthropometric body fat assessments were measured for assessment of the need for weight gain, loss, or maintenance. The prescribed caloric intake was compared with the measured energy expenditure when normothermic, the Harris-Benedict equations and the Arlington Developmental Center equation for non-ambulatory adult patients with severe neurodevelopmental disabilities (estimated resting energy expenditure \([\text{kcal/d}] = [22.3 \times \text{fat-free mass [kg]}] - [9.4 \times \text{age [y]}] + 557\)).

Results - Mean energy expenditure was 783 ± 81 kcal/d or 29.0 ± 10.9 kcal . kg\(^{-1}\) . d\(^{-1}\) when normothermic versus 606 ± 11 kcal/d or 19.5 ± 8.5 kcal . kg\(^{-1}\) . d\(^{-1}\) (P<0.05) when hypothermic (36.9°C ± 0.4 versus 35.5°C ± 0.4; P<0.02), respectively. Prescribed caloric intakes to achieve weight gain, maintenance and loss were 138 ± 13%, 105 ± 15% and 74 ± 11% of the measured energy expenditure when normothermic (P < 0.001); 107 ± 19%, 86 ± 18% and 56 ± 3% of the Harris-Benedict equations (P < 0.02); or 130 ± 23%, 100 ± 19% and 75 ± 11% of the Arlington Developmental Center equation (P < 0.02).

Conclusions - Measured energy expenditure when the patient is normothermic significantly overestimated actual caloric needs. The energy intake necessary to achieve desired weight changes are restrictive when compared with the basal energy expenditure. Arlington Developmental Center equation, or measured energy expenditure when normothermic.
Nutritional support in critically ill children


Clinical Nutrition 2003 22(4) : 365 - 369

Abstract

Background and aims - Enteral nutrition is the feeding method of choice during critical illness, but in some cases as few as 25% are fed appropriately. The aim was to retrospectively review the administration of nutrition to critically ill children.

Methods - The notes of 95 children over the age of 1 year who were in PICU ≥3 days were reviewed and information related to the delivery of nutrition was obtained.

Results - Fifty-nine per cent were fed within 24 h of admission. Enteral nutrition was administered 54% of the time, 10% required parenteral nutrition and 9.5% received no nutritional support. Children only received a median 58.8 (range 0-277) % of their energy requirements, which could not be optimised until the 10th intensive care day. Energy intake was greater when supplemented with parenteral nutrition. Parenteral nutrition administration was interrupted 3 times while enteral nutrition was stopped 264 times, mainly to allow other clinical procedures to take place. For 75% of the study time, children had abnormal bowel patterns. Seventy-nine per cent were constipated for 3-21 days and 43% had diarrhoea of unknown aetiology.

Conclusion - This was a retrospective study to describe the efficiency of nutritional support in critically ill children. We have shown that it is possible to administer enteral nutrition safely. However, the difference between desirable intake and actual intake achieved suggests that a more pro-active approach should be adopted.
Quality of life and nutritional state in patients on home enteral tube feeding

C Loeser, U Van Herz, T Kuchler, P Rzehak, M K Müller

Nutrition 2003; 19 : 605 - 611

Abstract

Objectives - We assessed quality of life (QOL) in patients on home enteral tube feeding (HETF). The data should contribute to ethically justified decision making.

Methods - We used a prospective cross-sectional study (study 1) in 155 consecutive patients and a prospective longitudinal study (study 2) with a follow-up of 4 mo in 56 patients. QOL was assessed by proxy rating (Karnofsky and Spitzer indices) and self-rating (European Organization for Research and Treatment of Cancer [EORTC] QLQ C30) extended by a specific module.

Results - In study 1, weight losses 3 mo before HETF were 10.5 ± 8.4% and 7.9 ± 6.3% in competent (P < 0.05) and non-competent (P < 0.05) patients, respectively. The prevalences of severe malnutrition and weight loss were 50% and 73% respectively. When compared with EORTC reference data for a general population, QOL was lower in HETF patients. The lowest QOL was seen in non-competent patients. Nutrition status explained up to 13% of the variance in QOL. In study 2, nutrition status stabilized or increased slightly in response to HETF. This was true for competent and non-competent patients and for patients with malignant and benign diseases. Concomitantly, physical functioning improved, whereas fatigue decreased. QOL increased in response to HETF in competent and non-competent patients, and 50% of the non-competent patients became competent.

Conclusions - Measures of QOL research can be used in HETF patients. QOL is reduced in patients on HETF. Part of this effect is explained by malnutrition. HETF can prevent further weight loss and improve some aspects of QOL, thus allowing physicians to focus on patients.
A comparison of two feeding methods in the alleviation of diarrhoea in older tube-fed patients: a randomised controlled trial

J Shun Wah Lee, T Wai Auyeung

Age and Ageing 2003; 32 : 388 - 393

Abstract

Objective - To compare the effect of two feeding methods on older tube-fed patients suffering from diarrhoea.

Design - Randomised controlled study.

Settings - Geriatric wards in a regional hospital.

Subjects - 105 patients over the who developed diarrhoea while on intermittent bolus tube feeding.

Methods - Subjects were randomised either to switch to continuous tube feeding or to continue with intermittent bolus tube feeding for 3 days, with some extended to 5 days. Incontinence pads were inspected 6 times per day by independent observers. Each motion was evaluated using a validated score according to its volume and consistency. Stools were sent for pathogen culture and Clostridium difficile cytotoxin assay. Those with positive assays were excluded from analysis. Gastric aspirations were performed at regular intervals and significant residual volumes recorded.

Results - 86 patients completed the study. Twelve patients (14%) were excluded due to positive CD stool assays. Seventy-four patients were entered into analysis. The median diarrhoea scores of the continuous infusion group and the intermittent bolus group were: day 0 (12 versus 10, P=0.18), day 3 (4 versus 6, P=0.23) and day 5 (5 versus 4, P=0.83) respectively. There was no statistical difference between the two groups. Two patients in the continuous infusion group (n=37) and 4 patients in the intermittent bolus group (n=37) had significant gastric residual volumes. The incidence did not differ significantly.

Conclusion - Contrary to common belief and recommendation, we could not find a significant difference between the continuous feeding method and the intermittent feeding method in the alleviation of diarrhoea in tube-fed patients. We do not recommend routine switch to continuous pump feeding in the management of tube-fed patients suffering from diarrhoea.
Reference List

Additional useful references on Enteral Nutrition Support

  This article discusses the development of a best practice statement in nasogastric and gastrostomy feeding in children.

- Hartley J (2003) Nurses say refusing fluids can lead to a more peaceful death. Nursing Times 99 (31) : 6
  Review of an article from the New England Journal of Medicine which looks at patients refusing food and fluids.

  This article reports on how nurses are taking the lead in improving patients' diets based on the government's Essence of Care programme.

- C (2003) Improving the nutritional status of elderly people in residential care. Journal of Community Nursing 17 (9) : 40 - 44
  This article describes a staff training package designed to increase knowledge and understanding of the nutritional status of older people in residential homes.

  This article looks at the introduction of a screening tool across all settings.

  This article discusses the nutritional requirements at different stages of the disease.

  This article covers some of the current thinking surrounding enteral feeding and the diabetic patient.