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Abstract Booklet

This information is intended for Healthcare Professionals only

ABSTRACTS AT ESPEN 2025

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EFFECT OF A TAILORED LOW VOLUME, HIGH PROTEIN, OMEGA-3 ENRICHED ORAL NUTRITIONAL SUPPLEMENT ON NUTRITIONAL OUTCOMES IN PATIENTS WITH CANCER UNDERGOING SYSTEMIC TREATMENT

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Rationale:

Low nutritional intake and metabolic changes such as inflammation drive cancer-related malnutrition. ESPEN and ESMO guidelines recommend high protein intake and the use of omega-3 fatty acids to stabilize or improve nutritional intake and status in patients with cancer receiving chemotherapy[1,2]. This study evaluated the effect of a low volume, high protein, omega-3 enriched oral nutritional supplement (ONS) on relevant nutritional outcomes, including eicosapentaenoic acid (EPA) incorporation and protein and vitamin D intake in patients with colorectal (CRC) or nonsmall cell lung cancer (NSCLC) undergoing systemic treatment.

Methods:

In a single-arm, open-label, multi-centre and country intervention study, patients with or at risk of malnutrition undergoing systemic treatment received 2 servings/day of Fortimel® Forticare (125ml, 18g protein, 1.1g EPA, 0.73gDHA, 10mcg vitamin D, 306kcal per serving) for at least 8 weeks. EPA incorporation (% of all fatty acids in erythrocyte membrane; primary outcome), protein intake (key secondary outcome), vitamin D intake and body weight (BW) were assessed at T0 (baseline), T1 (end of first in-study treatment cycle) and T2 (first visit after minimal 8 weeks of intervention). Nutritional status was assessed at screening and T2 using the Patient-Generated Subjective Global Assessment Short Form (PG-SGA-SF). Change in EPA and protein intake from T0 to T1 was tested by paired t-tests and mixed-effect models.

Results:

47 patients (66% male, mean age 61.6±11.9 years, 75% with stage IV cancer at screening) were included. AtT1, estimated mean EPA incorporation was significantly higher compared to T0 (2.50±0.26% at T1 vs 0.96±0.17% at T0,p<0.001). Estimated mean protein intake (g/day) significantly increased from 86.9±17.2 at T0 to 104.8±17.8 at T1(p=0.013). Significant positive mean change was observed from T0 to T2 in protein intake (+26.5 g/day, p=0.003) and vitamin D intake (+7.9 µg/day, p<0.001). Mean BW (kg) was 79.6±14.6 at T0 and 80.2±14.0 at T2. At screening, 53.2% of patients had malnutrition and 46.8% were at risk according to the PG-SGA-SF. At T2, 43.9% had malnutrition, 34.1% were at risk, and 22% had no malnutrition. Safety data did not indicate a health concern associated with the use of the study product.

Conclusion:

This study demonstrates that low volume, high protein, omega-3 enriched ONS is an effective and safe solution to support cancer patients undergoing systemic anti-cancer treatment in meeting their nutritional needs, demonstrated by increased EPA incorporation, positive changes in nutritional status, as well as increased protein and vitamin D intake.

References:

1. Arends et al. Clin Nutr. 2017;36(1):11-48. 2. Arends et al. ESMO OPEN. 2021;6(3):100092

Disclosure of Interest:

None Declared

IDENTIFYING AND ASSESSING SARCOPENIA BY COMPUTED TOMOGRAPHY IN MALNOURISHED PATIENTS WITH LOCALLY ADVANCED HEAD AND NECK CANCER: PRELIMINARY ANALYSIS

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Rationale:

Early identification of sarcopenia (SP) in head and neck cancer (HNC) is crucial to optimize treatment and prognosis. Computerized tomography (CT)-derived skeletal muscle index (SMI) has been proposed as a marker, though evidence remains limited. This study evaluates muscle status evolution in patients receiving muscle-targeted nutritional support, based on CT-derived SMI.

Methods:

A baseline analysis of this observational study was conducted in HNC patients malnourished or at risk (MUST>2 & ≥1 GLIM phenotypic/etiologic criterion), requiring radiotherapy (RT). Before RT (2-3 weeks): patients received dietary counselling and started high whey protein, high-calorie oral nutritional supplements (ONS), enriched with leucine and vitamin D for 6 months. Sociodemographic, clinical, nutritional, and functional variables were collected by physicians at baseline, 3 and 6 months. Health-related quality of life was assessed using the EORTC QLQ-C30 at the same time points. SP is defined by SMI values (cm^2/m^2): ≤53 (males) and 41 (females). Descriptive analysis (40% target sample) was performed using STATA v.14.

Results:

Nineteen patients (63.2% male), mean age 64.2±5.2 years, were included. GLIM criteria for severe malnutrition were met in 21.1% of patients. Most (74%) were stage IVa; oral cavity and oropharynx were the most frequent tumor sites. Radical RT with chemotherapy was the main treatment. Mean handgrip strength was 29.3 ±7.3 kg (males) and 15.6±6.1 kg (females); 52.6% had low grip strength. Mean SMI was 50.4±9.5 cm^2/m^2 (males) and 44.8±7.4 cm^2/m^2 (females), indicating SP in over 50%. Mean QLQ-C30 score was 74.5±24.0.

Conclusion:

CT-derived SMI identified a relatively high prevalence of SP. It may be a valuable tool for detection and monitoring. Muscle-targeted nutritional support appears essential to improve nutritional status, function, and quality of life.

Disclosure of Interest:

None Declared

POSITIVE CORRELATION BETWEEN MEDICAL NUTRITION THERAPY AND OVERALL SURVIVAL IN HEAD AND NECK CANCER PATIENTS RECEIVING BIOLOGICAL THERAPY

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Rationale:

Previously our working group showed positive correlation between survival and medical nutrition therapy (MNT) in head and neck cancer patients (HNC). In our subsequent study with expanded data, we examined the relationship between MNT and survival in patients receiving biological therapy.

Methods:

The data of this retrospective, analytical, cohort study was collected from electronic healthcare records from the Hungarian National Health Insurance Fund Management. The data of recurrent/metastatic HNC patients receiving cetuximab biological therapy in the period between 2018 and 2022 was used. “RStudio” software was employed to extract data and to perform statistical analyses. Survival was tested by Kaplan-Meier method with log-rank test, and Cox regression analysis.

Results:

In the examined period only 214 (22.9%) patients received MNT out of 936 new HNC patients in biological therapy. We found that two-year overall survival was significantly better 47.7% vs 39.2% (n=214 vs n=722; HR: 1.344(95% CI: 1.094-1.651) log-rank test p=0.00492) of patients who received MNT versus those who did not, during biological therapy.

Conclusion:

Our study has highlighted that in Hungary MNT prescription for HNC cancer patients receiving biological therapy is not optimal. Our main finding is that we showed a positive correlation between the MNT and overall survival in patients receiving biological therapy.

Disclosure of Interest:

None Declared.

REDUCTION OF COMPLICATIONS WITH USE OF HIGH PROTEIN ORAL NUTRITIONAL SUPPLEMENTS IN PATIENTS WITH GASTROINTESTINAL CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Rationale:

Oral nutritional supplements (ONS) have been shown to reduce complications in many patient types*. This systematic review investigated the use of high protein ONS (HPONS, ≥20% energy from protein) on incidence of complications in gastrointestinal (GI) cancer patients.

Methods:

Searches to Jan 2025 identified 14RCT (n=1291) of HPONS in GI cancer patients. Ten RCT (n=1028, mean age range 55-69y) in patients with colon and colorectal (6RCT), pancreatic (2RCT), gastric (1RCT) and all GI (1RCT) cancers reported incidence of complications and were pooled into meta-analysis (Comprehensive Meta-Analysis v4, fixed effects). HPONS was given in the community (4RCT), hospital (1RCT), or in both settings (5RCT). Mean HPONS prescription was 710kcal/d (309-1236); 40.3g pro/d (16.8-72) for 63d (5-365).

Results:

Meta-analysis (10RCT; n=1028) showed the use of HPONS alongside dietary intake significantly reduced the incidence of complications vs standard care (OR 0.70, 95% CI 0.52-0.95, I2=4, p=0.02). Complications included infections, non-infectious and surgical complications (e.g. respiratory/cardiac insufficiency, ileus, anastomotic leak) and chemo/radiotherapy-related toxicities. Overall, 28% (140/498) of HPONS supplemented patients had complications vs. 35% (165/474) of controls, number needed to treat (NNT)=14.9. Analysis without studies in pancreatic cancer (OR 0.69,95% CI 0.51-0.94, I2=10, p=0.02) and studies (7RCT) using HPONS enriched with omega-3 fatty acids showed a similar outcome (OR 0.70, 95% CI 0.50-0.98, I2=34, p=0.04).

Conclusion:

This systematic review and meta-analysis showed that use of HPONS alongside dietary intake significantly reduced the incidence of complications in GI cancer patients, with omega-3 enriched HPONS also showing significant benefits.

References:

*Cawood et al, 2023. Ageing Res Rev

Disclosure of Interest:

M. Delsoglio Other: Nutricia Employee, R. Capener Other: Nutricia Employee, M. Donald: None Declared, T. Smith: None Declared, G. Hubbard Other: Nutricia Employee, R. Stratton Other: Danone Employee

IMPACT OF AI-ASSISTED MUSCLE MASS ASSESSMENT, NUTRITIONAL STATUS, AND SYSTEMIC INFLAMMATION ON OUTCOMES IN METASTATIC PANCREATIC CANCER: EVIDENCE FROM THE PANTHEIA–SEOM STUDY

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Rationale:

Sarcopenia influences survival and therapy response in metastatic pancreatic cancer. Advances in AI, such as FocusedON®, enable precise muscle mass assessment on CT scans. This study investigates baseline muscle mass, treatment-related muscle loss, and the roles of nutrition and inflammation in outcomes for patients with metastatic pancreatic cancer (mPC).

Methods:

50 patients from the retrospective PANTHEIA–SEOM cohort. CT scans covering levels L1–L5 were analyzed using the FocusedON® AI software, which automatically segmented skeletal muscle. Muscle mass was quantified and normalized by height (kg/m²) and body surface area (BSA in kg/m²) to enable inter-individual comparisons. Comprehensive clinical and nutritional data were collected in PANDORA-SEOM platform, including oral nutritional supplement (ONS), serum albumin, and Nutriscore. SIRI was (neutrophils × monocytes) / lymphocytes: low (<2.3) or high (≥2.3).

Results:

Median age was 64.5 years, 42% were male, and 67% had ECOG PS 1. Lean muscle/BSA (<1.19 vs ≥1.19) differed significantly in males (69% vs 9%, p=0.005) and females (31% vs 91%, p=0.005). The median muscle mass change from diagnosis was -3.81% (IQR: -11.87 to 1.59). Patients with baseline lean muscle/BSA ≥1.19 showed higher survival rates (40% vs 7%, p=0.08) and median OS (15 vs 10 months, p=0.3) but experienced greater muscle loss (-9.92% vs 0.5%, p=0.03). They also had lower SIRI (1.98 vs 3.2, p=0.48). ONS were more frequent among those with higher muscle mass (60% vs 33%, p=0.2). No group differences emerged for Nutriscore ≥5. Among patients not on ONS, 75% lost ≥2.5% muscle mass vs 50% of those on ONS (p=0.6). Albumin <3.2 g/dL was linked to shorter survival (6 vs 15 months, p=0.3) and greater muscle loss (p=0.02).

Conclusion:

Baseline muscle mass, its treatment-induced decline, and systemic inflammation impact survival in patients with mPC. Muscle monitoring and early nutritional interventions are pivotal to improve outcomes in mPC.

Disclosure of Interest:

V. Pacheco-Barcia Other: Vilma Pacheco-Barcia: Advisory role: Advanced accelerator applications, a Novartis company, Nutricia. Speaker: Merck, Eli Lilly, Eisai, Pierre Fabre, Nutricia. Congress attendance: Merck, Amgen, Merck Sharp and Dhome, Nutricia. Grant support: FSEOM and Merck. Other: Amgen. Grant support: FSEOM, Merck and Pfizer. Research financial support: Nutricia, Pfizer, Servier and Leo Pharma. , F. X. Palmas Candia: None Declared, R. Guerra: None Declared, A. Mariño Méndez: None Declared, E. Brozos Other: Amgen, Invited Speaker, Personal Astra Zeneca, Invited Speaker, Personal Bayer, Advisory Board, Personal BMS, Invited Speaker, Personal Kiowa Kirin, Invited Speaker, Personal LEO Pharma, Invited Speaker, Personal Merck, Invited Speaker, Personal MSD, Invited Speaker, Personal Pfizer, Advisory Board, Personal Roche, Invited Speaker, Personal Rovi, Invited Speaker, Personal Servier, Advisory Board, Personal Servier, Invited Speaker, Personal, M. L. Soriano: None Declared, R. Hernandez San Gil: None Declared, W. Parra: None Declared, L. Cabezon Gutierrez Other: presentations of Roche, Astra Zeneca, Brystol Myers Squibb, Merck Serono, Ipsen Pharma, Grunenthal, Kyowa Kirin, Pfizer and Eisai and received support for attending meetings from Roche, Merck. Eli Lilly, Bristol-Myers Squibb and Nutricia. , P. Jimenez-Fonseca Other: honoraria for speakers' bureau participation, and serving on advisory boards from Astellas, AstraZeneca, Bristol-Myers Squibb (BMS), Esteve, LeoPharma, Merck Sharp & Dohme (MSD), Novartis, Nutricia, Pfizer, Rovi, Takeda, and Viatri and research grants from Astellas, AstraZeneca, BMS, and MSD.

THE IMPACT OF EARLY WEIGHT LOSS, SYSTEMIC INFLAMMATION, AND SPECIALIZED NUTRITIONAL SUPPLEMENTS ON PROGNOSIS IN METASTATIC PANCREATIC CANCER: DATA FROM THE PANTHEIA–SEOM STUDY

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Rationale:

Cachexia, driven by systemic inflammation and malnutrition, is common in metastatic pancreatic cancer (mPC). This study examined the impact of early weight loss, the Systemic Inflammation Response Index (SIRI), and specialized oral nutritional supplements (ONS) on overall survival (OS) in mPC.

Methods:

PANTHEIA is an observational, multicenter study involving 28 Spanish hospitals under SEOM. We analyzed 285 patients from the retrospective cohort (January 2021–June 2024). Clinical and nutritional data were recorded via the PANDORA-SEOM platform. SIRI was calculated as (neutrophils × monocytes)/lymphocytes, then categorized as low (<2.3) or high (≥2.3). Weight loss was assessed at 3 months (m) after chemotherapy initiation. ONS use was recorded at physician discretion.

Results:

The median age was 67 years, with 68% men; 67% had ECOG 1 and 30% had comorbidities. Weight loss >5% at 3m correlated with reduced OS (10 vs 14m; p<0.0001). Patients receiving ONS demonstrated longer OS whether they lost >5% weight (11 vs 7m; p<0.0001) or not (20 vs 12m; p<0.0001). ONS recipients had a smaller decline in albumin (48% vs 66%; p=0.003). SIRI-high (SIRI-H) patients had a higher rate of >5% weight loss (56% vs 43%; p=0.03) and increased prevalence of cachexia at diagnosis (56% vs 43%; p=0.006). Cachectic patients showed significantly worse survival (10 vs 14m; p<0.0001), yet ONS still improved outcomes in these (11 vs 7m; p<0.0001). On multivariate analysis, SIRI (HR 1.6; p=0.001) and weight loss at 3m (HR 1.7; p<0.0001) remained independent negative prognostic factors, whereas ONS use showed a trend toward improved OS (HR 0.7; p=0.05).

Conclusion:

Early weight loss and systemic inflammation (SIRI-H) predict poor outcomes in mPC. However, ONS appears to mitigate this negative effect and help preserve nutritional status. Further prospective validation within PANTHEIA-SEOM is warranted to confirm the role of nutritional support in improving prognosis for mPC patients.

EXAMINATION OF NUTRITIONAL STATUS, SARCOPENIA AND DIETARY FACTORS IN OLDER ADULTS

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Rationale:

Malnutrition is regarded as one important contributing factor in the complex etiology of sarcopenia and frailty. Older persons are at increased risk of malnutrition.

Methods:

We included elderly people aged 65 years and over (n=100) in our study from February 2024 to March 2024 by face-to-face interviews. We used a self-designed questionnaire with sociodemographic, disease and nutrition-related questions, Sarcopenia Screening Questionnaire (SARC-F), Frailty Index For Elders (FIFE) and Mini Nutritional Assessment Short Form (MNA-SF). We measured body weight, body composition (OMRON BF511), handgrip and calf circumference. For our statistical analysis, we performed descriptive statistics, correlation, linear regression, Fisher's exact and Mann-Whitney tests using IBM SPSS Statistics 27 software ($p<0.05$).

Results:

The average age of the elderly was 80.00±7.11 years and their body mass index were 26.89±5.38 kg/m2. Multimorbidity and polypharmacy were detected in 41% and 30% of participants. According to the SARC-F, 42 people had sarcopenia, but based on the European Working Group on Sarcopenia in the Elderly 2019 guideline, 10 patients had a true muscle wasting. 23% of our participants already had the presence of frailty, while 55% had some of the symptoms by FIFE. Based on MNA-SF, 18% were at risk of malnutrition, 2% had undernutrition. There was a positive moderately strong correlation between the total FIFE and SARC-F scores and skeletal muscle percentage ($r=0.53$, $p<0.01$). Residents of nursing home consumed less frequently margarine ($p=0.01$), butter ($p=0.04$), raw fruit ($p<0.01$) and pastries ($p=0.02$) than people living in day care.

Conclusion:

By monitoring the symptoms of geriatric syndrome and providing an appropriate nutritional therapy, the rate of subsequent deterioration and quality of life could be significantly improved.

Disclosure of Interest:

None Declared

NUTRITIONAL GAPS IN VITAMIN D INTAKE AMONG OLDER ADULTS: A COMPARATIVE ANALYSIS WITH DIETARY GUIDELINES

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Rationale:

Vitamin D deficiency due to inadequate dietary intake, limited sunlight exposure and age-related changes affects older adults' health (i.e., bone mineral density, falls & fractures risk).[1] This review evaluates dietary vitamin D intake of older adults compared to guidelines.

Methods:

A comprehensive search of PUBMED database (2019-2024) and citation assessment identified 16 publications involving participants with mean age ≥65years(yr) from EU & USA. Nutritional intake data was collected using 24-hour dietary recall (5 studies), food diary (3 studies) and food frequency questionnaire (9 studies). Data was categorized by health conditions and settings (community-dwelling & nursing home) and compared to dietary guidelines (EFSA:15 µg/day(d) for adults; other guidelines from the US, NL, BE, Nordics, DE: 20 µg/d for >70yr).

Results:

The mean dietary intake of vitamin D among older adults was 4.4±2.6µg/d, resulting in gaps of 10.6µg/d (-71%) and 15.6µg/d (-78%) compared to EFSA and guidelines for >70yr. Subgroup analysis showed mean intakes of 5.8µg (at risk of malnutrition), 5.0µg (falls & fractures), 4.5 µg (pre-frail & frail), 6.1µg (community-dwelling) and 1.6 µg (nursing home). Supplemental vitamin D was reported in 7 studies with 15.7% of participants using supplementation, dosages ranging from 5-20 µg/d. Serum 25(OH)D levels were measured in 8 studies, with a mean of 20.4±6.9ng/ml, indicating vitamin D insufficiency.

Conclusion:

Dietary intake of vitamin D among older adults is considerably lower than guidelines recommendations, with vitamin D insufficiency prevalent. This highlights the need for targeted vitamin D strategies and status monitoring, as dietary intake alone is insufficient to reach the recommended levels to prevent deficiency/insufficiency to support health outcomes in older adults.

References:

1. Giustina A et al. Endocrine. 2023 Jan;79(1):31-44.

Disclosure of Interest:

M. Yildirim Spraakman Other: Employee of Danone Research & Innovation, Y. Cassidy Other: Employee of Danone Research & Innovation, J. Roberts Other: Employee of Danone Research & Innovation, A. O'Callaghan Other: Employee of Danone Research & Innovation

A PREBIOTIC-CONTAINING COMPACT-STYLE ORAL NUTRITIONAL SUPPLEMENT IMPROVES NUTRITIONALINTAKE, WITH GOOD TOLERANCE, COMPLIANCE AND ACCEPTABILITY IN OLDER ADULTS AT RISK OF DISEASE-RELATED MALNUTRITION

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Rationale:

Prebiotic-containing oral nutritional supplements (PreB-ONS) may be beneficial for older patients at risk of disease-related malnutrition (DRM)*. This study investigated their effects on nutrient intake and compliance, toleranceand acceptability in community-based older adults at risk of DRM.

Methods:

19 patients (6M:13F; age 87±7y (range 67-97); BMI 18.9±2.2kg/m2) at medium & high risk of DRM (MUST) with various conditions (Cardiovascular: 5; Respiratory: 4; Frailty: 2; Parkinson's disease: 2; other: 6) were recruited from 12 care homes. They received dietary advice and ≥1bottle/d of a compact-style PreB-ONS (300kcal (2.4kcal/ml), 12g protein, 4.5g prebiotic fibres (galacto-oligosaccharides (GOS) / sc&lc fructo-oligosaccharides (FOS) / pectin), Nutricia Ltd/125ml bottle for 7d. Total nutrient intake, compliance, gastrointestinal (GI) tolerance and acceptability were recorded.

Results:

PreB-ONS (mean ONS intake 379kcal, 15.3g protein, 5.9g prebiotics/d) significantly increased total energy (1514±556 vs. 1919±526kcal/d), protein (51.6±20.6 vs. 67.8±19.8g/d) and fibre (7.4±3.6 vs. 13.5±4.1g/d) intakes (p=0.0001) with NS improvements in food intake. Mean % compliance was 84±5%, acceptability was high with >90% of patients finding it convenient, pleasant and liking the taste. PreB-ONS was well tolerated, with no statistically significant differences vs baseline over 7d with a trend towards reduced flatulence and abdominal discomfort.

Conclusion:

Use of a prebiotic-containing ONS alongside dietary advice improved total nutritional intake in older adults atrisk of DRM, while being well complied with, accepted and tolerated. Larger, longer term controlled research is needed to assess the impact on patients' intake and outcomes.

References:

*Sheridan et al, 2014; 5(1); 74-82

Disclosure of Interest:

None Declared

A PREBIOTIC FIBRE BLEND IMPROVES GUT BIFIDOBACTERIA LEVELS IN HEALTHY OLDER ADULTS

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Rationale:

Aging is associated with lower levels of beneficial gut bacteria such as bifidobacteria, which can impact immune response[1]. This study evaluated the impact of a prebiotic fibre blend on gut microbiota and immune parameters in healthy older adults.

Methods:

During a 6 week, randomised, controlled, double-blind study, subjects received 9 g of a prebiotic fibre blend (GOS, FOS, pectin, N=37) or control (maltodextrin & modified starch, N=36) daily. Blood and feces were sampled at baseline and after 3 and 6 weeks of supplementation to assess gut microbiota (Fluorescent in situ Hybridization), functional non-specific immune parameters (phagocytic capacity, oxidative burst and NK activity in monocytes and granulocytes), serum inflammatory markers and cytokines (produced by blood mononuclear cells in ex-vivo cultures). Statistical analysis used non-parametric tests. Correlation coefficient (CC) based on Spearman test.

Results:

Abundance of bifidobacteria increased in the prebiotic group at week 3 & 6 vs baseline ($P<0.001$) and were higher at 3 & 6 weeks vs the control group. No changes in control group noted.

No differences between or within groups were noted for lactobacilli, clostridia, Enterobacteriaceae. In this healthy noncompromised study population, immune parameters did not differ at any timepoint. Post hoc correlation analysis of the change in bifidobacteria after 6 weeks revealed a negative correlation with serum IL-6 (CC =-0.47, P=0.0048), IL-10 (CC -0.37, P=0.0308), and CRP (CC=-0.36, P=0.0385).

Conclusion:

The prebiotic fibre blend increased gut bifidobacteria levels and was associated with positive immune responses in healthy older adults.

References:

1. Arboleya et al. Front. Microbiol. 2016;(7).

Disclosure of Interest:

A. Gagnon Other: Employee of Danone Research & Innovation, H. Wopereis Other: Employee of Danone Research & Innovation, K. Ben Amor Other: Employee of Danone Research & Innovation, J. van

Bergenhenegouwen Other: Employee of Danone Research & Innovation, P. van Horssen Other: Employee of Danone Research & Innovation, Y. Luiking Other: Employee of Danone Research & Innovation

Data as Median (min-max)

Bifidobacterium **- spp. (log10/gram wet feces)**			
	Prebiotic Group	**Control Group**	**P**
BL	8.87 (7.48-9.59)	8.87 (7.78-9.73)	0.939
Wk.3	9.47 (7.67-10.24)	8.94 (7.65-9.83)	0.002
Wk.6	9.41 (7.47-9.97)	8.92 (7.71-9.56)	0.003

GASTROINTESTINAL (GI) TOLERANCE OF A PREBIOTIC FIBRE BLEND IN HEALTHY OLDER ADULTS

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Rationale:

Prebiotic fibre supplementation can have positive effects on gut microbiota composition and function[1]. Although this is beneficial for older adults, it is important that such prebiotic fibre supplementation does not cause GI intolerance or reduce appetite. The aim of this study was to evaluate the impact of a prebiotic fibre supplement on GItolerance and changes in appetite in healthy older adults.

Methods:

A 6 week, single centre, randomised, controlled, double-blind, parallel group study was performed in whichhealthy older subjects who received 9 g per day of a prebiotic fibre blend (short chain GOS, long chain FOS, low viscosity pectin; N=37) or a control product (maltodextrin and modified starch; N=36). GI tolerance was measured daily from day -4until day 14 and from day 38 until day 41 by self-reported incidence and severity of symptoms (absent, mild, moderate, or severe). Defecation pattern was assessed by stool frequency and consistency with the Bristol Stool Form Scale. Subjectswere also asked about changes in appetite, and presence of vomiting and diarrhea (≥3 liquid stools/day). Data were analyzed by Fisher's Exact Test.

Results:

Most tolerance parameters were only reported incidentally and were of mild intensity. No significant differences were observed between study groups in mean intensity of burping, heartburn, abdominal distension, abdominal pain, flatulence, nausea, vomiting, stool incidence, stool consistency, diarrhoea (≥3 liquid stools/day) and liquid stools ($P>0.05$). Significant differences between study groups were also not found in changes from baseline in mean intensity of the tolerance parameters ($P>0.05$). Furthermore, no significant change in appetite was noted within each group nor between groups ($P>0.05$).

Conclusion:

A prebiotic fibre blend was well tolerated by healthy older adults and did not negatively impact appetite.

References:

1. Gill et al. 2021. Nat Rev Gastroenterol Hepatol, 18(2):101-116.

Disclosure of Interest:

A. Gagnon Other: Employee of Danone Research & Innovation, H. Wopereis Other: Employee of Danone Research & Innovation, K. Ben Amor Other: Employee of Danone Research & Innovation, J. van Bergenhenegouwen Other: Employee of Danone Research & Innovation, P. van Horssen Other: Employee of Danone Research & Innovation, Y. Luiking Other: Employee of Danone Research & Innovation

EFFECT OF ORAL NUTRITIONAL SUPPLEMENTATION (ONS) ON MUSCLE STRENGTH IN OLDER HIP FRACTURE PATIENTS AT NUTRITIONAL RISK – PRELIMINARY RESULTS FROM A RCT

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Rationale:

Malnutrition and dehydration are common in older hip fracture patients and can reduce the effectiveness of rehabilitation. This study aimed to assess if an increased intake of energy and protein from ONS improves musclestrength during rehabilitation.

Methods:

Hip fracture patients aged ≥ 65 years at nutritional risk were included. The ONS provided 613 kcal, 37 g of protein, and 3.66 mg of omega-3 daily. Muscle strength was measured using the 30-second chair-stand test. Other outcomes included hydration status (serum osmolarity), CRP, appetite (SNAQ), quality of life (EQ-5D-5L), and energy and protein intake (24-hour recall). Mann-Whitney was used to test differences between groups at 12 weeks.

Results:

98 out of the planned 107 participants have been randomized, with 49 in the intervention group (IG) and 49 in the control group (CG). At baseline, the IG was 84 years (79-86), and the CG was 78 years (77-83). The percentage of women was 30 (61%) in IG and 25 (51%) in CG. The dropout rate was 6% in IG and 5% in CG. Preliminary data for 68 completed participants have been reported for those with >75% compliance (53%). Muscle strength was higher in IG 11 (7-13) vs. 5 (0-10) ($p=0.0319$). IG had higher energy and protein intake 2102 kcal (1714-2386) and 87.7 g (76.2-111.0) vs. 1658 kcal (1547-1918) and 64.3 g (55.1-74.9) in CG ($p=0.0349$, $p=0.0390$). The omega-3 index was higher in IG 12.0 (9.8-14.4) vs. 6.4 (5.9-7.1) in CG ($p<0.0001$). Serum osmolarity was lower in IG 291 mmol/L (285-297) vs. CG 296 mmol/L (293-299) ($p=0.0291$). There were no differences in CRP, appetite, or quality of life.

Conclusion:

Preliminary results showed that an increased energy and protein intake resulted in a clinically relevant improvement in muscle strength and improved hydration status in older hip fracture patients during rehabilitation.

Disclosure of Interest:

None Declared

TOLERANCE AND COMPLIANCE TO FIBRE CONTAINING ORAL NUTRITIONAL SUPPLEMENTS (ONS) IN PATIENTS AT RISK OF DISEASE RELATED MALNUTRITION (DRM)

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Rationale:

Fibre containing enteral formulas can normalize bowel function and reduce diarrhoea and constipation[1]. Confirming the gastrointestinal (GI) tolerance of fibre containing ONS is important to promote compliance. This multicountry study investigated GI tolerance and compliance of two fibre containing ONS.

Methods:

A 4 week, randomized, controlled, single-blind, study was performed. Patients with medium or high risk of DRMor already taking ONS received 1-2 servings daily of either a 125 ml ONS, n=25, (Fortimel Compact Fibre®), or a 200 ml ONS, n=25, (Fortimel Energy Multifibre®). Both products contained 300 kcal, 12g protein, and 4.5g fibre per serving. GI symptoms, stool frequency and incidence of liquid stools were self-reported at baseline, day 14 and 28. Symptom severity was reported as absent, mild, moderate or severe. Compliance (% consumed vs prescribed; mean ± SEM) was assessed daily. Statistical analysis by Non-parametric Mann-Whitney U test (stool frequency, compliance) or Fisher's Exact test (liquid stools & GI symptoms).

Results:

GI symptoms and changes from baseline were not different between groups at any time point (P>0.05). There was a larger increase in the change in mean daily stool frequency from baseline in the 125 ml group vs the 200 ml group (P=0.008). However, mean daily stool frequency was not different between groups (P=0.949) and varied between 0-1 per day for most subjects. Incidence of liquid stools and diarrhoea (≥3 liquid stools/day) did not differ between groups (P=0.549). Mean compliance over the total intervention was not different between Fortimel Compact Fibre (91.7% ±3.2) vs Fortimel Multifibre (94.2%±3.4) (P=0.870).

Conclusion:

125 ml & 200 ml fibre containing ONS were well tolerated, and patients at risk of DRM complied similarly to the intervention with both ONS.

References:

1. Elia et al. Aliment Pharmacol Ther, 2008; 27(2).

Disclosure of Interest:

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FIBRE CONTAINING ORAL NUTRITIONAL SUPPLEMENTS (ONS) INCREASE TOTAL DAILY FIBRE INTAKE IN ADULTS WITH OR AT RISK OF DISEASE-RELATED MALNUTRITION (DRM)

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Rationale:

Fibre plays an important role in bowel function[1] which significantly impacts quality of life[2]. Adequate intake (AI) for fibre has been set at 25 g/d[3]. Patients with or at risk of DRM have reduced dietary intake overall[4] and are therefore atrisk of failing to meet fibre recommendations.

Methods:

A four week, randomized, controlled, single-blind, parallel-group, multi-country study was performed. Patients with medium or high risk of DRM or already taking ONS, received 1-2 servings per day of either a 125 ml ONS, n=25, (Fortimel Compact Fibre®) or 200 ml ONS, n=25, (Fortimel Energy Multifibre®) containing 300 kcal, 12 g protein, and 4.5g fibre per serving. Dietary intake was assessed by 24 hr dietary recall at baseline (day -1 & -2), day 13 & 14, and day 27 & 28.

Results:

Fibre intake increased over time versus baseline in both groups receiving either 125 ml or 200 ml fibre containing ONS (Table).

Conclusion:

Total daily fibre intake of patients requiring ONS was below recommended levels at baseline. Fibre containing ONS are an effective way to increase fibre intake, however, total fibre intake of patients at risk of DRM remained below recommended levels.

References:

1. Gill et al. 2021. Nat Rev Gastroenterol Heptaol, 18(2):101-116.

2. Arco et al. 2022. Gastroenterology, 68(4):397-406.

3. EFSA. https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2010.1462 [15.03.2025]

4. Cederholm & Boseaus (2024). N Engl J Med, 391(2):155-165.

Disclosure of Interest:

A. Gagnon Other: Employee of Danone Research & Innovation, A. O'Callaghan Other: Employee of Danone Research & Innovation, C. Rouws Other: Employee of Danone Research & Innovation, Y. Luiking Other: Employee of Danone Research & Innovation

Data as mean ±SEM; Statistics using ANCOVA

Total Dietary Fibre Intake (g)					
Time Point	**125ml ONS**	**P vs Baseline**	**200ml ONS**	**P vs Baseline**	**P Between Groups**
Baseline	15±1	-	16±1	-	0.812
Day 13/14	18±1	0.001	20±1	0.000	0.154
Day 27/28	19±1	0.00	18±2	0.000	0.792

SYSTEMATIC ORAL NUTRITIONAL SUPPORT IN HOSPITALIZED, MODERATELY HYPOPHAGIC PATIENTS AT NUTRITIONAL RISK: A RANDOMIZED-CONTROLLED TRIAL

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Background:

Acute diseases responsible for hospitalization negatively affect the protein-calorie balance as well as the capacity of the patients to cope with it. In patients still retaining spontaneous feeding, oral nutritional supplements (ONS) are an important strategy but evidence on the timing they should be provided along with nutritional counseling is lacking. We evaluated the efficacy of a systematic use of ONS since hospital admission.

Methods:

In a single-site, double-blind, randomized, controlled trial (NCT02763904; July 2016 - July 2024), acutely hospitalized adults (N=220) at nutritional risk (NRS-2002:≥3), without severe hypophagia (<50% of requirements) and with an expected length of stay (LOS)≥7 days were randomized to receive ONS systematically since admission or ondemand since day 8. The primary endpoint was the change in phase angle (PhA) on day 8. Secondary outcomes were the change in PhA at discharge and in muscle strength, body weight and protein-calorie intakes over the stay. The LOS and the rate of acquired infections were also evaluated.

Results:

A total of 201 patients were re-assessed at day 8 and discharge. Systematic ONS (n=100) resulted in improved PhA at day 8 (mean difference, 0.47 [95%CI, 0.31-0.62]; P<0.001) and discharge (mean difference, 0.49 [95%CI, 0.33-0.64]; P<0.001). A significant effect was also found for body weight and protein-calorie intake at all time-points (P<0.001) and for muscle strength at discharge (P=0.042). LOS was also reduced (P=0.044).

Conclusion:

In acutely hospitalized adults at nutritional risk and without severe hypophagia, the systematic use of ONS since admission improved body composition, muscle function, and protein-calorie intake, and reduced the LOS.

Disclosure of Interest:

None Declared

LOW VITAMIN D LEVEL IS COMMON AND NOT CORRECTED BY INTENSIVE STANDARD CLINICAL NUTRITION IN CRITICALLY ILL TRAUMA PATIENTS

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Rationale:

Deficiency of vitamin D among critically ill patients admitted to intensive care unit is not uncommon. Hypovitaminosis is associated to unfavourable outcome in some populations however, the need and method of regular vitamin D supplementation is not clear. Aim of our study was to assess hypovitaminosis among critically ill trauma patients and measure the effect of standard clinical nutrition interventions on vitamin D levels during long term clinical nutrition.

Methods:

Single centre, prospective, observational study over 1 year period. Only acute, adult, major trauma patients admitted to intensive care unit and possibly requiring long term (at least 2 weeks) clinical nutrition were involved. Demographic and injury parameters, clinical data, co-morbidities, nutritional status (NRS-2002), interventions, method and length of clinical nutrition and outcome parameters were registered. Vitamin D level was measured by central lab (ABBOTT Architect Immunoassay) at admission and day 7,14,28. Statistical analysis: Mann-Whitney test, chi-square test ($p<0.05$).

Results:

We enrolled 57 patients (84% men, median age 51 , median BMI 26). Majority of them suffered moderate-severe brain injury (63%), half of them had major multiple trauma (median ISS: 25). Malnutrition (NRS > 3) at admission was detected in 31 %, comorbidities in 72% of patients. Ventilation was needed in 89%, vasopressor support in 73% of patients. Infection was diagnostized in 58% during ICU, median LOS in ICU was 13 days and a 25% mortality was observed. Enteral nutrition was applied in 94%, parenteral in 38% and oral supplementation in 38% of patients. Energy and protein goals were determined by ESPEN guideline and achieved in 82% and 75% of the treatment days. Standard, worldwide accepted formulas were used. Vitamin D level slightly increased by time (38-44-44-53 ng/ml), deficiency was detected in 39%. Vitamin D level increased markedly only in 45% of patients, but deficiency was corrected only in 35% of cases by standard care. An increasing kinetic of Vit D level was associated to less severe patients with better outcome (infection: 50% vs 70%)

Conclusion:

Vitamin D deficiency is common among major trauma patients admitted to intensive care unit in a continental trauma centre. Well guided standard clinical nutrition is sufficient to maintain normal vitamin levels, but unable to correct deficiency. Vitamin D therapy might be required in patients admitted with low vitamin D levels and with severe post-admission complications.

Disclosure of Interest:

None Declared

FAILURE OF ORAL DIGESTION IN POST CRITICAL ILL PATIENTS

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Rationale:

We want to investigate how adequate the nutritional therapy is on a ward by finding out what the GI tolerance to oral feeding is and to which extent the disorders of gut-brain interaction are relevant in critically ill survivors population.

Methods:

We conduct an interim analysis of the Bright Side study (ClinicalTrials.gov ID NCT06023251). This study aims to identify factors contributing to suboptimal nutrition in ICU survivors, a critical aspect of their post-ICU recovery. We focus on understanding the reasons why patients experience a diminished or absent appetite, which poses a challenge to meeting their nutritional needs. We categorize these factors into two categories: somatic disorders and functional disorders.

Results:

The study included 67 patients (47 males, 20 females) with a mean age of 60.8 years and a mean BMI of 26.6. Over 990 observation days, 12 barriers to adequate feeding were assessed. On 548 days (55% of observation days), one or more barriers were identified. The most frequent barriers were poor appetite (46%), anorexia (12%), early satiety (12%), refusal to eat (13%), agitation (15%), disliking the food (10%), nausea and vomiting (5%), fasting for surgery (5%), tube dislocation (6%), planned procedures (5%), and other reasons (51%). A high prevalence of poor appetite was observed, contributing to frequent failures in meeting patients' caloric and protein needs.

Conclusion:

Nearly one in four post-critically ill patients experience nutritional deficiencies, highlighting the significant challenge of maintaining adequate nutritional intake during recovery. Our findings reveal that a substantial proportion of patients face barriers related to both somatic and functional gut failure. These issues increase the risk of long-term complications. This emphasizes the urgent need for proactive and individualized nutritional therapy, to ensure patients meet their energy and protein requirements and achieve optimal outcomes.

Disclosure of Interest:

None Declared

NUTRITIONAL STATUS OF SERVICEMEN WITH LOW EXTREMITY AMPUTATION ON REHABILITATION STAGE: SCREENING AND NUTRITIONAL SUPPORT

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[1]South Ukrainian National Pedagogical University named after K.D.Ushinsky, [2]Ukrainian Research Institute of Rehabilitation and Resort Therapy of the Ministry of Health of Ukraine , Odesa, [3]Department of Rehabilitation, Lviv National Medical University named after Danylo Halytsky, [4]Department of Rehabilitation, Lviv Regional Hospital for War Veterans and Victims of Repression named after Yu. Lypa, Lviv, Ukraine

Rationale:

Number of amputations in Ukraine increases due to military injuries, aging of population and chronic diseases. Rehabilitation after amputation is a long process when energy needs for proteins, macro- and micronutrients increase, which is difficult to compensate. The aim is to study nutritional status of servicemen with unilateral transtibial amputation and improve quality of long-term rehabilitation.

Methods:

32 servicemen (aged 20 to 48) with unilateral transtibial amputation on long-term inpatient rehabilitation stage (4-11 months after amputation) were examined. Rehabilitation examination: Bartel index, SF-12, walking tests, timed up and go test; assessment of nutritional status: estimated body mass index (eBMI) for amputations using calculator; malnutrition (MUST) and sarcopenia screening. Data were statistically processed using Statistica 10.0 program.

Results:

Screening of nutritional status shows that MUST screening and eBMI calculator were not sufficient for estimation of nutritional status after amputation. We assessed muscle mass using corrected mid-upper arm muscle area (CAMA) measures. Although the eBMI was normal in 14 patients and overweight in 18 patients, 24 patients (75%) were found to have reduced muscle mass: CAMA were below the 25th centile according to ESPEN recommendations. 85.7% of patients with normal eBMI and 66.7% with overweight eBMI had reduced CAMA. Only 8 patients (25%) had normal CAMA. The data obtained shows presence of a sarcopenic phenotype, even in patients with normal eBMI. 6 servicemen received nutritional support – high protein sipping ("Nutridrink Protein") 125 ml 3 times a day, 14 days.

Conclusion:

Nutritional status screening of servicemen with unilateral transtibial amputation showed sarcopenic phenotype in 75% which necessitates need for nutritional support – high-protein sipping during long-term rehabilitation.

Disclosure of Interest:

None Declared

ENERGY AND PROTEIN ADEQUACY IMPROVES FOLLOWING AN INDIVIDUALLY TAILORED, STEP-WISE NUTRITION PROTOCOL IN POST-ICU PATIENTS: THE PROSPECT-II STUDY

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Rationale:

Adequate nutritional intake is essential for recovery in ICU survivors, yet nutritional intake substantially declines post-ICU especially during the transition to oral feeding. The present study evaluates the effect of a tailored, step-wise nutrition protocol on energy and protein intake adequacy from ICU to hospital discharge.

Methods:

In this prospective, single-centre cohort study (Gelderse Vallei Hospital, Netherlands), 70 adult post-ICU patients (ICU stay ≥72 hrs, receiving enteral feeding) followed a step-wise protocol reducing tube feeding based on prior-day oral intake, aiming for ≥90% of prescribed energy and protein goals. Intake was measured daily until hospital discharge. Primary outcomes were intake adequacy; secondary outcomes included physical performance (MRC, CPAx, handgrip strength), hospital stay, discharge destination, and mortality.

Results:

Seventy patients were included (median age 69 [61–74] years; 51% male). Mean energy and protein intake adequacy during the first 14 post-ICU days was 100.2%±28.8 and 97.1%±29.0, respectively. Median hospital stay post-ICU was 10 days [7–16], during which 71% patients transitioned to complete oral intake. Physical performance improved significantly from ICU to hospital discharge: MRC sum score (42 [36–47] to 48 [44–51]), CPAx (25 [18–30] to 40 [34–44]), and handgrip strength (14 [9–21] to 20 [14–28] kg) (all $p < 0.001$).

Conclusion:

A personalised, step-wise nutrition protocol enabled high energy and protein adequacy (>100% and >95%, respectively) in the first 14 days post-ICU discharge. This approach effectively supported gradual weaning from enteral feeding and increasing oral food intake, while maintaining ≥90% of nutritional targets. The impact on clinical and functional outcomes warrants further investigation.

Disclosure of Interest:

M. Paulus: None Declared, I. Kouw Grant / Research Support from: NWO ZonMW Veni Fellowship, N. van Beek-Westeneng: None Declared, I. de Leeuw: None Declared, E. van Lingen: None Declared, M. Holverda: None Declared, B. Strookappe: None Declared, A. van Zanten Grant / Research Support from: Nutricia Danone Research , Other: Prof. Dr. Van Zanten reported receiving honoraria for advisory board meetings, lectures, research, and travel expenses from AOP Pharma, Abbott, Baxter, Cardinal Health, Danone-Nutricia, DIM3, Dutch Medical Food, Fresenius Kabi, GE Healthcare, InBody, Mermaid, Rousselot, and Lyric.

NUTRITION DAY 2024 IN HUNGARIAN INTENSIVE CARE UNITS - FACTORS ASSOCIATED TO ACHIEVE CALORIE TARGETS

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Rationale:

We analysed the results of Hungarian ICU-s involved in Nutrition Day 2024 survey to compare with international results and to differentiate the characteristics of units which were efficient or not to achieve calorie targets on the day of the study.

Methods:

Observational, multicenter, prospective survey, applying the Nutrition Day ICU questionnaire to assess patients characteristics, malnutrition, nutritional interventions, complications and outcome. Single centre reports and data were collected and analysed by the national coordinator team. Statistics: Mann-Whitney test, Fisher-test ($p<0.05$)

Results:

Data of 148 patients from 10 Hungarian ICUs was compared to more than 3800 patients from the international database. There was no difference in demographic data, but more surgical patients (58% vs 38%) with higher SOFA score (5 vs 4) were included from Hungary. Use of enteral feeding was similar (43%), but more parenteral interventions were applied (30% vs 12%). The calorie planned was similar, but the given amount of energy tended to be higher in Hungary. As comparing Hungarian centres being efficient or failed to achieve calorie targets (80% of planned) we found more enteral (48% vs 33%) and parenteral (29% vs 15%) interventions, less interruptions (25% vs 42%), but more complications (23% vs 15%) in successful centres. Ratio of patient above the 80% threshold was 85% vs 40% between centres.

Conclusion:

We found more surgical patients involved from Hungarian ICU-s to Nutrition Day survey in 2024. More parenteral nutrition interventions were documented, that could be the explanation of higher success rate in calorie intake. As compared Hungarian centres, low success rate centres reported more feeding interruption events and less enteral and parenteral interventions consequently. A more precise nutrition planing for the patients and a liberal use of supplemental parenteral feeding could improve the efficiency of clinical nutrition in intensive care units.

Disclosure of Interest:

None Declared

IMPROVED HEALTH-RELATED QUALITY OF LIFE IN ADULT BOLUS TUBE FEEDING PATIENTS WITH A UNIQUE, READY-TO-USE, SQUEEZABLE BOLUS TUBE FEEDING POUCH

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Rationale:

Health-related quality of life (HRQoL) can be low in adult enteral tube feeding patients. Use of bolus tube (BT) feeding is increasing in clinical practice allowing more flexibility and freedom, yet current methods are often messy/burdensome. This study evaluated the effect of a multi-nutrient BT feed in a unique, small volume, squeezable pouch, on HRQoL.

Methods:

Following a 7 day baseline, 25 adult BT feeding patients (60y SD12 n=18 head and neck cancer) received ≥1 pouch/d of the BT feeding pouch (250ml, 1.6kcal/ml, 8g protein/100ml; Nutrison Bolus Energy HP Nutricia Ltd, mean prescription 665ml/d) for 28 days. HRQoL was assessed at baseline and 28 days via the Functional Assessment of Cancer Therapy–Enteral Feeding (FACT-EF) QoL questionnaire, consisting of 20-items, each scored on a 5-point scale, with a total score range of 0-80.

Results:

Compared to baseline BT feeding methods (80% syringe; 16% gravity; 4% pump), HRQoL significantly increased from 51 (SD13) to 58 (SD8) points (+7 points, $p<0.001$). Overall, 18/20 questions showed improvements compared to baseline and 7/20 were statistically significant ($p<0.05$) with key themes of improved independence, hygiene and reduction of tube feeding constraints. Patients with the lowest HRQoL at baseline demonstrated the greatest improvements over time (lower quartile: range 19-40, n=6, +16 points p=0.003; second quartile: range 47-53, n=6, +9 points p=0.03). Older (age 50-76y), more active patients also showed significant improvements in HRQoL compared to baseline scores ($p\leq0.02$).

Conclusion:

Adults who are bolus tube feeding report improved health-related quality of life with use of a unique, squeezable bolus tube feeding pouch, especially those with low baseline scores. These findings may have important clinical implications for managing patients who choose or require bolus tube feeding.

Disclosure of Interest:

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