Energy intake and expenditure in obese older adults with and without type 2 diabetes

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Publication date
2017
Document Version
Final published version
Published in
Abstracts of the 39th ESPEN Congress

Table 1:

	GLOBAL (n = 180)			ADULTS (n = 102)			ELDERLY (n = 78)		
REE (kcal)	Mean	SD	r	Mean	SD	r	Mean	SD	r
Indirect Calorimetry	1891,53	±723,58	1	1928,33	±661,76	1	1843,40	±799,12	1
Harris-Benedict	1414,38*	±229,12	0,33**	1501,44*	±237,79	0,35**	1300,53*	±157,16	0,35**
Ireton-Jones	1535,98*	±378,02	0,23**	1747,29*	±316,28	0,21*	1259,64*	±253,91	0,32**
MifflinStJeor 1990	1339,39*	±239,65	0,40**	1419,46*	±234,55	0,42**	1234,68*	±204,33	0,40**

Friedman Test *p-value <0,05 r- Pearson correlation * < 0,05 and ** <0,01.

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Disclosure of Interest: None declared.

MON-P144
ENERGY INTAKE AND EXPENDITURE IN OBESE OLDER ADULTS WITH AND WITHOUT TYPE 2 DIABETES

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Rationale: Obesity is a risk factor for type 2 diabetes (DM2), however not all obese people develop DM2. We explored differences in energy intake and expenditure between obese older adults with and without DM2.
Methods: Baseline data from 2 lifestyle interventions with a total of 202 obese older adults were included in the analyses. Obesity was defined as BMI > 30.0, or >27.0 with waist circumference >88 (women) or >102 cm (men). DM2 was confirmed by use of diabetes medication. Subjects were between 55 and 85 years old and 45% was female. Energy intake (EI) was measured by 3-day food diary and physical activity level (PAL) by 3-day movement diary. Resting energy expenditure (REE) was measured using indirect calorimetry and total energy expenditure (TEE) was calculated as REE x PAL. Between group differences were analysed with independent samples T-tests.
Results: The obese group with DM2 (n = 117) had more males (67.5% vs 37.6% p < 0.001) and similar BMI (33.3 vs 33.0 kg/m^2) compared to the group without DM2 (n = 85). Analyses of males and females separately showed lower PAL in males with DM2 (vs without DM2; 1.37 vs 1.45, p = 0.015), without differences in EI (2055 vs 1953 kcal/d), REE (1970 vs 1929 kcal/d), and TEE (2699 vs 2830 kcal/d). In females with DM2, both PAL (1.38 vs 1.47, p = 0.014) and EI (1543 vs 1839 kcal/d, p = 0.008) were significantly lower, whereas REE (1592 vs 1598 kcal/d) and TEE (2220 vs 2318 kcal/d) did not differ significantly from obese females without DM2.
Conclusion: In both males and females, obese older adults with type 2 diabetes showed similar resting and total energy expenditure but lower physical activity level compared to those without DM2. Females with DM2 showed lower energy intake. On average, subjects seem to have a negative energy balance, which is probably due to a combination of under-reporting of intake and over-reporting of activity.

Disclosure of Interest: R. Memelink Grant / Research Support from: Baseline data obtained from Nutricia Research co-funded trials, A. Verreijen: None declared, J. De Vogel-Van den Bosch Other: Employee Nutricia Research, P. Weijs: None declared.

MON-P145
THE EFFECT OF DIETARY NITRATE SUPPLEMENTATION ON MECHANICAL EFFICIENCY AND CARDIOMETABOLIC RISK PROFILE IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Rationale: Many patients with COPD have a decreased mechanical efficiency during exercise and are at increased cardiometabolic risk. Dietary nitrate supplementation may reduce oxygen requirements during submaximal exercise, improve exercise performance and lower blood pressure. This study determines the impact of acute and 7-days dietary nitrate supplementation on mechanical efficiency and cardiometabolic risk profile in patients with COPD.
Methods: In a double-blind, randomized cross-over placebo-controlled trial 18 COPD patients were included with moderate airflow obstruction and exercise impairment, normal BMI (25.9 ± 3.4 kg/m^2) but high prevalence of abdominal obesity (77.8%) and moderately decreased mechanical efficiency. Subjects were randomly allocated to the treatment order of 7 days sodium nitrate ingestion (~8 mmol per day) and 7 days placebo (NaCl solution), separated by one week washout. Before (day 1) and after (day 7) both intervention periods mechanical efficiency during submaximal cycle ergometry, plasma nitrate and nitrite levels, cardiac plasma markers (e.g. high-sensitive troponin T (Hs-TNT), Nt-proBNP and creatinine kinase (CK)) and blood pressure were measured.
Results: Plasma nitrate and nitrite concentrations increased at day 1 (7-fold and 2-fold, respectively) and day 7 (8-fold and 2-fold, respectively) after sodium nitrate compared with placebo ingestion. Systolic and diastolic blood pressure did not change following nitrate ingestion. Furthermore, no differences were observed in mechanical efficiency during submaximal exercise and no changes were observed in Hs-TNT, CK and Nt-proBNP concentrations between the nitrate and placebo treatment.
Conclusion: Acute as well as 7-days of dietary nitrate supplementation does not increase mechanical efficiency or improve cardiometabolic risk profile in mild-to-moderate COPD patients.

Disclosure of Interest: None declared.