Conclusions: Our results confirm that an intervention with VD is able to determine a reduction in circulating levels of vitamin B12.

A42
ASSOCIATION OF TRADITIONAL MEDITERRANEAN DIET AND NON-MEDITERRANEAN DIETARY SCORES WITH ALL-CAUSE AND CAUSE-SPECIFIC MORTALITY: PROSPECTIVE FINDINGS FROM THE MOLI-SANI STUDY

Marialaura Bonaccio[1], Augusto Di Castelnuovo[1], Simona Costanzo[1], Mariarosaria Persichillo[1], Amalia De Curtis[1], Chiara Cerletti[1], Maria Benedetta Donati[1], Giovanni De Gaetano[1], Licia Iacoviello[2]. [1] IRCCS Neuromed, Pozzilli, Italy; [2] IRCCS Neuromed e Università dell'Insubria-Varese, Pozzilli, Varese, Italy

Introduction: Health benefits associated with Mediterranean diet (MD) are well-established in non-Mediterranean population settings, while less is known on the potential health advantages associated with non-Mediterranean dietary (MD) patterns among Mediterranean populations.
Objectives: To establish the association between the traditional MD and non-MD patterns with mortality in a sample of the Italian general population, through a longitudinal analysis on 22,849 men and women from the Moli-sani study (2005−2010). A traditional MD was assessed by the Mediterranean diet score (MDS); the dietary approach to stop hypertension (DASH), the Palaeolithic diet and the Nordic diet were chosen as non-MD patterns. Hazard ratios (HR) with 95% confidence intervals (95%CI) were calculated by multivariable Cox regression and competing risk models.
Results: During follow-up (median 8.2 y), 1,237 subjects died. Higher MDS was associated with lower risk of all−cause (HR = 0.77;95%CI 0.66−0.90, highest vs lowest quartile) and CVD (HR = 0.77;0.59−1.00) death risk and a downward trend was found with cancer death (HR = 0.88; 0.68−1.12). Closer adherence to the DASH diet was associated with reduced all-cause but not with CVD mortality; risk reduction associated with the Palaeolithic diet was limited to non CVD-non cancer death, whereas the Nordic diet was not associated with any death risk modification.
Conclusions: A traditional MD lowers the risk of all-cause and CVD mortality in an adult general Mediterranean population; a DASH diet was associated with improved survival but not with a reduction of CVD mortality, while other non-MD diets were not associated with substantial health benefits.

A43
EFFECT OF A LOW GLYCEMIC INDEX MEDITERRANEAN DIET ON CARDIOVASCULAR RISK FACTORS IN WOMEN DIAGNOSED WITH BREAST CANCER: PRELIMINARY DATA FROM DEDiCa study

Ilaria Calabrese[2], Giuseppe Porciello[1], Concetta Montagnese[1], Sara Vitale[1], Elvira Palumbo[1], Serena Cubisino[3], Anna Crispo[1], Maria Grimaldi[1], Rosita Pica[1], Vincenzo Marotta[1], Luca Falzone[4], Patrizia Dainotta[5], Michele De Laurentis[1], Massimiliano D'Aiuto[1], Massimo Rinaldo[1], Guglielmo Thomas[6], Francesca Catalano[3], Giuseppe Banna[3], Vera Ursino[3], Francesco Ferraù[7], Rosalba Rossello[7], Diego Serraino[8], Ettore Bidoli[8], Samuele Massarut[8], Vittoria Barchiesi[1], Anita Minopoli[1], Marco Cuomo[1], Ernesta Cavalcanti[1], Daniela Cianniello[1], Carmen Pacilio[1], Gennaro Guerra[9], Amalia Farina[9], Francesco Messina[9], Monica Pinto[1], Luigina Poletto[8], Silvia Cervo[8], Monica D'Andrea[8], Agostino Steffan[8], Gabriele Riccardi[2], David J A Jenkins[10], Davide Gatti[11], Massimo Libra[4], Maurizio Montella[1], Livia S A Augustin[1]. [1] Istituto Nazionale Tumori IRCCS "Fondazione Giovanni Pascale", Napoli, Italy; [2] Dipartimento di Medicina Clinica e Chirurgia, Università di Napoli "Federico II", Napoli, Italy; [3] Ospedale di Cannizzaro, Catania, Italy; [4] Dipartimento di Scienze Oncologiche Biomediche e Biotecnologiche, Sezione di Patologia Clinica e Generale, Università di Catania, Catania, Italy; [5] Lega Italiana per la Lotta Contro i Tumori (LILT) Catania, Catania, Italy; [6] Università degli Studi della Campania Luigi Vanvitelli, Napoli, Italy; [7] Ospedale San Vincenzo, Taormina, Italy; [8] Istituto Nazionale dei Tumori CRO, Aviano, Italy; [9] Ospedale Evangelico Betania, Napoli, Italy; [10] Clinical Nutrition and Risk Factor Modification Centre, St Michael's Hospital, Toronto, Canada; [11] Unità di Reumatologia, Università di Verona, Verona, Italy

Introduction: Life expectancy in women with breast cancer (BC) is 80% at 5 years. Age, medications, obesity, metabolic syndrome and diabetes increase cardiovascular risk. The Mediterranean diet (MeD) and low glycemic index (GI) diets, nevertheless, are protective. Therefore, we evaluated the effect of low-GI Mediterranean diet on cardiovascular risk factors in women treated for BC.
Methods: Two-hundred-fifty women (30−74 yr) with primary BC, participating in DEDiCa study (NCT02786875), were randomized into one of two treatments that included: recommendations on a traditional MeD with low GI carbohydrates (group A) or recommendations on a traditional MeD with whole grains (group B). At time 0 and 12 months, in a subgroup of 70 participants, we assessed dietary habits by food records and anthropometric and biochemical parameters by standard protocols.
Results: Only 24% of participants showed high adherence to the MeD at baseline. Low adherence was found for fish, legumes, fresh fruit and nuts intakes while adherence to vegetables intake was medium. The differences at 12 months showed in both groups a significant reduction (p < 0.05) for calories (approximately 300 Kcal), glycemic load (28% group A, 15% group B), saturated fats (10% in both groups) and an increase for monounsaturated fats (14% group A) and fiber/1000 Kcal (60% in both groups). Significant reductions (p < 0.05) for LDL cholesterol were observed in both groups (8%) while in group A we observed reductions for triglycerides (15%), PCR (12%), waist circumference (4 cm) and blood pressure (7%) and an increase for HDL cholesterol (16%).
Conclusions: The effect of a low GI MeD showed improvements in cardiovascular risk factors. This result is important in view of an increased cardiovascular risk in women with BC.

A44
OBSERVATIONAL STUDY ON ADOLESCENTS' LIFESTYLE OF PARMA: ADHERENCE TO MEDITERRANEAN DIET, PHYSICAL ACTIVITY AND TIME AND QUALITY OF SLEEP

Francesca Giopp, Alice Rosi, Francesca Scazzina. Università di Parma, Parma, Italy

Introduction: Diet, physical activity and sleep are potential risk factors for overweight and obesity and could influence the proper growth during the developmental age. Therefore, monitoring adolescents' lifestyle is essential to better understand the association between body composition and possible risk behavioural variables and to design preventive programme for educating people towards healthy habits. Thus, the aim of the study was to investigate the relations between BMI and lifestyle factors in a sample of Italian adolescents.
Methods: A total of 409 students (46% females, mean age 12.5 ± 0.6 years) of two secondary schools in Parma (Italy) were enrolled in this observational study. The following data were collected for each participant through a web platform: anthropometric measures, adherence to the Mediterranean diet (KIDMED), physical activity level (PAQ-A), time and quality of sleep (PDSS). Moreover, weight status was evaluated using the IOTF gender- and age-related cut-offs for BMI.
Results: Up to 69% of participants was in a normal weight status and 14% overweight/obese. 12% showed a low adherence to the Mediterranean diet, while 28% had a high adherence. Only 1% reported a light physical activity level, 14% very intense and 85% intense or moderate. Participants' sleep duration (mean time 8h55min) was in line with the international sleep recommendation for adolescents and the 60% had a medium sleep quality.
Conclusions: Contrary to what was expected, no evidence of association was found between BMI and adherence to the Mediterranean diet, BMI and physical activity level and BMI and time/quality of sleep. However, some differences were found between genders, between normal weight status and overweight/obese subjects and between participants with low

and high adherence to Mediterranean diet. Further analyses are required to explore the associations among the variables considered as key factors for adolescents' healthy development.

A45
FOOD DATABASE OF ENDOCANNABINOIDS, N-ACYLETHANOLAMINES AND N-ACYLPHOSPHATIDYLETHANOLAMINES AND DAILY INTAKE IN WESTERN, MEDITERRANEAN AND VEGETARIAN DIETS

Lucia De Luca, Paola Vitaglione. *Dipartimento di Agraria, Università degli Studi di Napoli Federico II, Portici, Italy*

Introduction: N-acylphosphatidylethanolamines (NAPEs), N-acylethanolamines (NAEs), and the endocannabinoids (ECs) are lipids involved in different physiological processes in both animals and plants. NAEs derive from NAPEs through the action of NAPE-PLD. NAEs can be hydrolyzed by FAAH and form free fatty acids and ethanolamine. In animals, NAEs and ECs activate the cannabinoids receptors, the vanilloid receptor/TRPV1, peroxisome proliferator-activated receptor-α (PPAR-α) and G protein-coupled receptors present along the gastrointestinal tract (GIT). The activation of receptors is involved in the regulation of food intake, lipid metabolism, release of gut peptides and pain modulation. Although the presence of NAPEs, NAEs and ECs in foods is recognized, their content in foods is underestimated.
Objectives: The objectives of this study were to determine the concentration of NAPEs, NAEs and ECs in 43 foods and to estimate their daily intake through a diet that follows the principles of Mediterranean (MD), Vegetarian (VD) and Western Diet (WD). The concentration of NAPEs, NAEs and ECs in foods was determined by LC-HRMS analysis. The diets provided 2,000 kcal.
Results: NAPEs and NAEs are most abundant in vegetables products than in animal products, while the opposite was found for the ECs. The estimated daily intake of NAPEs was hundreds of milligrams with abundance being in MD = VD>WD. The intake of NAEs and ECs was hundreds or tens of micrograms; the abundance of NAEs was in MD = VD>WD, while that of ECs was in MD = WD>VD.
Conclusions: Food choices influence NAPEs, NAEs and ECs intakes. It is likely that those compounds may contribute to the biological effects of diets in short and long periods.

A46
LONG-TERM EFFECTS OF THE KETOGENIC DIET ON GROWTH IN CHILDREN WITH RESISTANT DRUG EPILEPSY AND GLUCOSE TRANSPORTER TYPE 1 DEFICIENCY SYNDROME

Cinzia Ferraris [3], Valentina De Giorgis [1], Ilaria Brambilla [2], Monica Guglielmetti [3], Claudia Trentani [3], Lara Manea [3], Ottavia Ferraro [4], Simona Bertoli [5], Pierangelo Veggiotti [6], Anna Tagliabue [3]. [1] *Fondazione Neurologica IRCCS C. Mondino - Unità complessa di NPI - Dipartimento di Scienze del Sistema Nervoso e del Comportamento, Pavia, Italy;* [2] *Clinica Pediatrica, IRCCS Fondazione Policlinico San Matteo, Pavia, Italy;* [3] *Centro Interdipartimentale di Studi e Ricerche sulla Nutrizione Umana e i Disturbi del comportamento Alimentare, Dipartimento Sanità Pubblica, Medicina Sperimentale e Forense, Università di Pavia, Pavia, Italy;* [4] *Unità Biostatistica e Epidemiologia Clinica, Dipartimento Sanità Pubblica, Medicina Sperimentale e Forense, Università di Pavia, Pavia, Italy;* [5] *ICANS - International Center Assessment Nutritional Status- Università Degli Studi di Milano, Milano, Italy;* [6] *Struttura Complessa di Neurologia Pediatrica Ospedale Vittore Buzzi, Milano; Dipartimento di Scienze Biomediche e Cliniche L. Sacco, Università di Milano, Milano, Italy*

Introduction: The ketogenic diet (KD) is an effective therapeutic option for patients with drug-resistant epilepsy (EFR) and is the only therapy currently available for Glucose Transporter Type 1 Deficiency Syndrome (GLUT1-DS). Studies on long-term effects and, particularly, on growth are required.

Methods: Primary objective: evaluate the growth trend in children with EFR and GLUT1-DS treated with KD. Secondary objective: identify patients with growth retardation eligible for diagnostic tests to identify GH deficiency. Retrospective study, conducted on children (age 1-15 years) affected by EFR (n 23) and by GLUT1-DS (n 22) treated with classical KD for at least 1 year and with follow-up of at least 6 months. All subjects underwent measurements of anthropometric (height, weight, body mass index, body circumferences), auxological (genetic target, growth rate), body composition (skinfold thickness, bio-impedance) parameters. Patients with a height $\leq$-3 DS or height $\leq$-2DS and growth rate $\leq$-1DS were considered pathological (Note 39 AIFA).
Results: All patients showed significant changes in weight and height at 12 months. 3 patients with EFR and 10 patients with GLUT1 were diagnosed as pathological. There were no differences between the variables analyzed at baseline and at 12 months between pathological GLUT1 and non-pathological GLUT1.
Conclusions: Preliminary analysis showed a higher incidence of short stature in patients with GLUT1 compared to epileptics. The disease could directly affect growth through a defective GH secretion induced by the GLUT1 mutation. A total of 13 patients are candidates for diagnostic studies of GH deficiency. A larger number of patients is required to allow optimal stratification of subjects to investigate relationship between diet variables and growth.

A47
SUPPORT OF NUTRITIONAL THERAPY IN THE KOREIC SYNDROME: CLINICAL CASE

Maria Luigia Polese, Roberta Di Martino, Teresa Di Lauro, Elisabetta Salomone, Rossella Trio, Bruna Guida. *A.O.U. Policlinico Federico II, Napoli, Italy*

Introduction: The choreic syndrome is characterized by irregular, arrhythmic movements, variable location, difficulty in phonation and deglutition and increase in energy expenditure. The aim of the study was to evaluate the weight variation and body composition during nutritional therapy.
Methods: A 53-year-old man with choreic syndrome diagnosis in 2015 and weight loss of 20 kg in the last 8 months before our observation. The patient reports irregular episodes of dysphagia for solids and liquids, burning in the oral and perioral region. The nutritional state was evaluated using: athropometric parameters, body composition by bioimpedance analysis and dietary intakes with a follow-up of 24 months. Dietary plan: energy, 2466 Kcal/die; proteins, 109 g/die (17.7%); lipids 70 g/die (25.5%); glycid 373 g/die (56.8%); privileged complex carbohydrates, vegetable fats and high biological value proteins. The caloric intake was distribute into 5 meals /die. The consistency of the dishes was made creamy and thickeners were used for liquids which have been recommended to receive adequate intake.
Results: The diet compliance was good. At baseline and after 24 months of dietotherapy we observe: weight increase 47.8 Kg vs 55.5 Kg, increase of BMI 18 kg/m2 vs 21 kg/m2, respectively; maintenance of the BCM and recovery of a normoidratation state. The patient reports a subjective well-being.
Conclusions: Despite the excessive energy expenditure resulting from hyperkinesis and complications associated with the choreic syndrome, adequate nutritional therapy allows a recovery of body weight with good preservation of muscle mass and hydration status. This contributes to improving the quality of life in the course of pathology.

A48
BODY DENSITY ESTIMATION FROM MULTI-FREQUENCY BIOELECTRICAL IMPEDANCE ANALYSIS MEASUREMENTS

Luigi Fattorini [1], Aurora Summa [1], Enrico Marchetti [2], Stefania Corradi [4], Jonathan di Fazio [4], Claudia Fantini [4], Lorenzo Maria Donini [4], Camillo Cammarota [3], Alessandro Pinto [4]. [1] *Dip di Fisiologia e Farmacologia "V. Erspamer", Sapienza Univ di Roma, Roma, Italy;* [2] *Dip*