

premenopausal women (Hazard ratio: 0.90; 95% confidence interval: 0.49, 1.68).

**Conclusions:** Even though the number of cases was small, we observed an association between SSB consumption and higher postmenopausal breast cancer risk. Nonetheless further longitudinal larger studies are needed to support this association.

### P146-T | Plasma trimethylamine-N-oxide and related metabolites are associated to type 2 diabetes risk in the PREDIMED trial

C. Papandreou<sup>\*</sup>; M. Bulló<sup>\*</sup>; Y. Zheng<sup>†</sup>; M. Ruiz-Canela<sup>‡</sup>; E. Yu<sup>†</sup>; M. Guasch-Ferré<sup>†</sup>; E. Toledo<sup>‡</sup>; C. Clish<sup>§</sup>; D. Corella<sup>¶</sup>; R. Estruch<sup>\*\*</sup>; E. Ros<sup>††</sup>; M. Fitó<sup>‡‡</sup>; F. Arós<sup>§§</sup>; M. Fiol<sup>¶¶</sup>; J. Lapetra<sup>\*\*\*</sup>; L. Serra-Majem<sup>†††</sup>; E. Gómez-Gracia<sup>‡‡‡</sup>; L. Liang<sup>§§§</sup>; G. Fragkiadakis<sup>¶¶¶</sup>; C. Razquin<sup>‡</sup>; F. Hu<sup>†</sup>; J. Salas-Salvadó<sup>\*</sup>

*\*Human Nutrition Unit, Faculty of Medicine and Health Sciences, Institut d'Investigació Sanitària Pere Virgili, Rovira i Virgili University, Reus, Spain, Reus, Spain; †Department of Nutrition, Harvard T.H. Chan School of Public Health, Boston, MA, USA, Boston, USA; ‡University of Navarra, Department of Preventive Medicine and Public Health, IdisNA, Pamplona, Spain; §Broad Institute of MIT and Harvard University, Cambridge, USA; ¶Department of Preventive Medicine, University of Valencia, Valencia, Spain; \*\*Department of Internal Medicine, Department of Endocrinology and Nutrition Institut d'Investigacions Biomediques August Pi Sunyer (IDI-BAPS), Hospital Clinic, University of Barcelona, Barcelona, Spain; ††Lipid Clinic, Department of Endocrinology and Nutrition Institut d'Investigacions Biomediques August Pi Sunyer (IDI-BAPS), Hospital Clinic, University of Barcelona, Barcelona, Spain; †‡Cardiovascular and Nutrition Research Group, Institut de Recerca Hospital del Mar, Barcelona, Spain; §§Department of Cardiology, University Hospital of Alava, Vitoria, Spain; ¶¶Institute of Health Sciences IUNICS, University of Balearic Islands and Hospital Son Espases, Palma de Mallorca, Spain; \*\*\*Department of Family Medicine, Primary Care Division of Sevilla, San Pablo Health Center, Sevilla, Spain; †††Department of Clinical Sciences, University of Las Palmas de Gran Canaria, Las Palmas, Spain; ‡‡‡Department of Preventive Medicine, University of Málaga, Málaga, Spain; §§§Departments of Epidemiology and Statistics, Harvard T.H. Chan School of Public Health, Boston, USA; ¶¶¶Department of Nutrition and Dietetics, Technological Education Institute of Crete, Crete, Greece*

**Background:** The role of trimethylamine-N-oxide (TMAO) in type 2 diabetes (T2D) is currently partially understood and controversial. We aimed to investigate associations between TMAO and related metabolites with type 2 diabetes (T2D) risk in subjects at high risk of cardiovascular disease.

**Material and methods:** This is a case-cohort design study within the PREDIMED study, with 251 incident T2D cases and a random sample of 694 participants (641 non-cases and 53 overlapping cases) without T2D at baseline (median follow-up: 3.8 years). We used liquid chromatography-tandem mass spectrometry to measure plasma TMAO, L-carnitine, betaine, lyso-phosphatidylcholine (LPC) and lyso-

phosphatidylethanolamine (LPE) species, phosphocholine, alpha-glycerophosphocholine, choline, at baseline and 1-year. We examined associations using weighted Cox proportional hazard models; accounting for the weighted case-cohort design by the Barlow method.

**Results:** After adjusting for recognized T2D risk factors and multiple testing, individuals in the highest quartile of baseline TMAO and alpha-glycerophosphocholine had lower risk of T2D; hazard ratio (HR) 0.52 (95% CI 0.29, 0.89), and 0.46 (95% CI 0.24, 0.89), respectively. The HR (95% CI) comparing the extreme quartiles of betaine was 0.41 (0.23, 0.74). Similar trends were observed for C16:0 LPC, C18:1 LPC, C18:0 LPC, C20:4 LPC, C22:6 LPC, C18:1 LPC plasmalogen and C16:0 LPE. After correcting for multiple comparisons, participants in the highest quartile of 1-year changes in C18:1 LPC plasmalogen levels had lower T2D risk as compared to the reference quartile.

**Conclusions:** Whether the associations between plasma TMAO and certain metabolites levels with T2D risk reflect its pathophysiology or represent an epiphenomenon need to be elucidated.

### P147-T | Assessing dietary sustainability at the community level

C. Ruano-Rodriguez<sup>\*</sup>; P. Momo-Cabrera<sup>\*</sup>; A. Ortiz-Andrelluchi<sup>\*</sup>; E. González-Padilla<sup>‡</sup>; A. Alvarez-Falcón<sup>\*†</sup>; L. Serra-Majem<sup>\*‡</sup>

*\*Research Institute of Biomedical and Health Sciences, University of Las Palmas de Gran Canaria (ULPGC), Las Palmas De Gran Canaria, Spain; †University Hospital of Gran Canaria "Doctor Negrín", Las Palmas de Gran Canaria, Spain; ‡UNESCO Chair of Local Health Systems and Food Systems, Spain*

**Background:** The Mediterranean Diet is considered to be the epitome of what a Sustainable Diet means. "The Island on Your Plate" is a communication project that intends to draw attention towards the gastronomic diversity of the island of Gran Canaria (Canary Islands, Spain) and to encourage a more sustainable diet by adapting the local habits to a Mediterranean-like Diet. A survey has been developed with the aim to investigate consumer's dietary habits and food shopping preferences in Gran Canaria.

**Material and methods:** The survey will be piloted in twenty subjects at two SPAR stores located in both rural and urban areas of the island. Validity and Reliability of the piloted survey will be tested through SPSS analyses. A final model will be developed and distributed around the island through SPAR's weekly catalogue expecting to recollect at least data from 3000 participants.

**Results:** Results of the survey are expected to provide representative data of diverse socioeconomic levels and food