We assessed if being diabetic or a former or current smoker, having hypertension or hypercholesterolemia, or having a family history of premature coronary heart disease or a higher waist to height ratio were independently associated to a higher mortality with Cox regression models.

**Results:** We identified 348 deaths after a median follow-up of 4.8 years. Former smoking [HR = 1.57; 95%CI, 1.18–2.08] and current smoking (2.06; 1.49–2.85) were associated with a higher risk of mortality. In addition, being diabetic increased the risk of dying by a 51% (1.18–1.92). Also, having a waist to height ratio greater or equal than 0.7 was independently associated with mortality (1.44; 1.01–2.05).

**Conclusion:** Classic cardiovascular risk factors such as diabetes, smoking and a larger waist to height ratio were independently associated with total mortality in the PREDIMED trial.

## P165

## Biochemical Analysis in Almond and Hazelnut European Cultivars

*M.* Rovira<sup>1</sup>, A. Romero<sup>1</sup>, R. Botta<sup>2</sup>, V. Di Giammatteo<sup>3</sup>, H. Duval<sup>4</sup>, P. Drogoudi<sup>5</sup>, A. Silva<sup>6</sup>, D. Spera<sup>3</sup>, R. Socias-Company<sup>7</sup>, A. Solar<sup>8</sup>, L. Bacchetta<sup>9</sup>

<sup>1</sup>Biochemical Analysis In Almond and Hazelnut European Cultivars, Spain, <sup>2</sup>Dipartimento Di Scienze Agrarie, Forestali E Alimentari (DISAFA)- Universita' Degli Studi Di Torino (UNITO), Via Leonardo Da Vinci 44, Torino, Italy, <sup>3</sup>Consorzio Di Ricerche Applicate Alla Biotecnologia (CRAB), Via S.Pertini 106, 67051 Avezzano (AQ), Italy, <sup>4</sup>INRA GAEL Avignon BP94, 84143 Montfavet, France, <sup>5</sup>Pomology Institute, Hellenic Agricultural Organisation 'Demeter', D.G. of Agricultural Research, NAGREF, 38 RR Station, 59035 Naoussa, Greece, <sup>6</sup>Centre For The Research and Technology of Agro-Environmental and Biological Sciences (CITAB) of The University of Trás-Os-Montes and Alto Douro (UTAD), Quinta De Prados, 5001-801 Vila Real, Portugal, <sup>7</sup>Univerza V Ljubljani, Biotehniska Fakulteta, Jamnikarjeva 101, 1000 Ljubljana, Slovenia, <sup>8</sup>Unidad De Fruticultura, CITA De Aragón, Av. Montañana, 930. 50059 Zaragoza, Spain, <sup>9</sup>ENEA, Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile, UTAGRI-INN Via Anguillarese 301 00025 S. Maria Galeria, Roma, Italy

During the period 2007–2010, the European Project SAFE-NUT: "Safeguard of almond and hazelnut genetic resources from traditional uses to modern agro-industrial opportunities", has been carried out in Europe, by researchers from six European countries (France, Greece, Italy, Portugal, Slovenia and Spain), and the participation of 11 different partners. The main cultivars of almond (Prunus dulcis Mill.) and hazelnut (Corylus avellana L.) of each country were evaluated, among other studies, according to their nutritional and nutraceutical aspects: fatty acids, oil content; tocopherols, phenolic compounds, mineral content (K, Ca, Mg, P) and total protein content. More than 70 accessions of each species were analyzed for these parameters.A great range of variation was found in the germplasmanalysed. Eleven phenolic compounds were found in the almond kernel, 6 were well identified. Referring to mineral content, the potassium content varied 2.7 times, the calcium content varied 4.1 times, the phosphorous content varied 2.4 times, the magnesium content varied 2.1 times, and finally, the protein content varied 3.0 times, ranging from 11.6 to 34.3 mg/kg DW. Almond samples from France had high P, Mg and Ca content and from Greece had high Ca content. In hazelnut cultivars the oil content with mean value of 57% varied widely and ranged from 46.95% to 65.20%. The ?-tocopherol content varied from 108.25 to 360.69 mg/kg. Five cultivars presented the highest total (13) phenolic compounds (between 200 and 225 mg/kg) and six cultivars had less than 60 mg/kg phenolic compounds in their kernels. Potassium content varied 1.9 times, calcium content varied 2.3 times; phosphorous content varied 2.7 times, magnesium content varied 1.7 times, and protein content varied 4.1 times. The variation found among accessions, almond and hazelnut, indicates the possibility of selecting genotypes for different uses and with different technological and nutritional properties.

## P166

## Beverage Consumption Patterns are Associated with Diet Quality and Abdominal Adiposity in Spanish Youth

H. Schröder<sup>1</sup>, M. Mendez<sup>2</sup>, S.F. Gomez<sup>3</sup>, A. Funtikova<sup>4</sup>, L. Ribas<sup>5</sup>, J.M. Baena<sup>6</sup>, J. Aranceta<sup>7</sup>, L. Serra-Majem<sup>8</sup>

<sup>1</sup>Cardiovascular Risk and Nutrition Research Group (CARIN), Research Programme In Inflammatory and Cardiovascular Disorders (RICAD), IMIM (Hospital Del Mar Medical Research Institute), Barcelona, Spain, <sup>2</sup>CIBER Epidemiology and Public Health (CIBERESP), Instituto De Salud Carlos III, Spain, <sup>3</sup>Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC, <sup>4</sup>Fundación THAO, Spain, <sup>5</sup>CIBER Physiopathology of Obesity and Nutrition (CIBEROBN), Instituto De Salud Carlos III, Spain, <sup>6</sup>Fundación Para La Investigación Nutricional (Nutrition Research Foundation), Spain, <sup>7</sup>Department of Preventive Medicine and Public Health, University of Navarra, Spain, <sup>8</sup>Department of Clinical Sciences, University of Las Palmas De Gran Canaria, Spain

Beverages are an important part of dietary patterns. This study assessed the impact of beverage pattern on diet quality and anthropometric proxy measures for central adiposity in young Spaniards. Data were obtained from a representative national sample of 2513 young Spaniards aged 10 to 24 years. Height, weight, and circumferences at the waist and hip were measured. Dietary assessment was performed with a 24 h recall. Beverage patterns were identified by cluster analysis. Adherence to the Mediterranean diet was measured by the KIDMED index. Four beverage clusters were identified low milk (53.4%), high milk (20.4%), juice/milk (12.4%), and soft drink (13.8%) consumption - and accounted for 5.3%, 13.9%, 14.6%, and 15.8% of total energy intake, respectively. Each unit of increase in the KIDMED index was associated with an 8% lower (p = 0.019) and 11% higher (p < 0.001) probability of membership in the "juice/milk" and "soft drink" cluster, respectively, compared with the "low milk" cluster. Members of the "soft drink" cluster had a 2% and 14.0% higher risk of 1 cm increase in