Background: Limited prospective studies have examined the association between micronutrient intake adequacy and mortality in general population, previous studies have evaluated such associations taking into consideration participants with specific pathologies or critical conditions. We aimed to prospectively assess the association between micronutrient intake adequacy and all-cause, cardiovascular and cancer-related mortality.

Material and methods: The PREDIMED trial is a randomized, controlled trial conducted in Spain from 2003 to 2011 with 7447 participants at high risk for CVD, aged 55 to 80 years. In a post hoc analysis, we assessed the association between micronutrient intake adequacy for vitamins B1, B2, B6, B12, C, D, E, folic acid, potassium, iron, magnesium, phosphorus and calcium at baseline. Inadequate intake was defined when the intake of the nutrient was below the estimated average requirements (EAR) if available or below the 50% of the adequate intake level for potassium (EAR was not available). We compared participants with inadequate intake for 2, 3 and ≥4 nutrients vs those with one nutrient or none. Main outcomes were all-cause, cancer and cardiovascular mortality as a function of the quartiles of intake of dairy products, one of the most consumed foods and rich in many nutrients, does not present a conclusive relationship with cardiovascular disease. This study aims to examine the association of dairy foods consumption with all-cause and cardiovascular mortality in a population at high risk for cardiovascular disease included in the PREDIMED study. Four different Cox regression models were used to assess the risks of mortality as a function of the quartiles of intake of dairy products, estimating reasons of risk (HR, 95% CI).

Results: The total number of deaths during the follow-up period was 292, of which 72 were due to cardiovascular causes. Total consumption of dairy products was not related to all-cause and cardiovascular mortality. Consumption of full-fat dairy products, comparing the highest and the lowest intakes, was associated with an increased risk of 67% of all-cause mortality (HR: 1.67, 95% CI: 1.18–2.37) and a 137% of cardiovascular mortality (HR: 2.37, 95% CI: 1.23–4.57). Intake of low-fat dairy products, comparing the highest with the lowest quartile of intake, was associated with a risk reduction of 37% of all-cause mortality (HR: 0.63, 95% CI: 0.45–0.88) and a 59% of cardiovascular mortality (HR: 0.41; 95% CI: 0.21–0.80).

Conclusions: No statistically significant association was found between micronutrient intake adequacy and all-cause, cancer, and cardiovascular mortality in elderly subjects at high cardiovascular risk.