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Inter-university Master's degree in Nutrition and Metabolism

MILK AND DAIRY PRODUCT CONSUMPTION AND SHORT-TERM CHANGES IN COGNITIVE PERFORMANCE

MASTER'S THESIS/TRABAJO FIN DE MÁSTER

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Abstract

Introduction and objective: Milk and dairy product consumption have been suggested to have a notable impact on cognitive function, however, evidence is limited and inconsistent. The objective of this study was to longitudinally assess the association between consumption of milk and dairy products with changes in cognitive performance in an older Spanish population at high cardiovascular disease risk.

Materials and methods: A total of 4,668 participants of the PREDIMED-Plus cohort completed a food frequency questionnaire at baseline and an extensive neuropsychological battery of tests at baseline and at the 2-year follow-up. Multivariable linear regression models were used to assess longitudinal associations to compare 2-year changes in cognitive function across tertiles of milk and dairy product consumption at baseline.

Results: A higher total milk consumption was associated with greater decline in global cognitive function z-score over a 2-year period (β x100: -5.21 ; 95% CI x100: -9.20 to -1.22 ; p for trend =0.009) compared to the lowest tertile of milk intake. A significant inverse association with cognitive performance was also observed with whole-fat milk consumption, where the highest intake tertile had β x100: -7.39 (95% CI x100: -11.43 to -3.34 ; p for trend <0.001) compared to the lowest intake tertile. Whole-fat dairy, low-fat dairy, low-fat milk (semi-skimmed and skimmed milk) and fermented dairy (yogurt and cheese) consumption were not associated with cognitive decline.

Conclusion: Our results suggest that milk intake, especially whole-fat milk intake, in older adults at high cardiovascular disease risk may be associated with a greater rate of cognitive decline. Further prospective cohort studies and randomized clinical trials are required.

Key words: milk, dairy product, cognitive decline, cognition, PREDIMED-Plus