

Abstract

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Dietary calcium and magnesium intakes and the risk of type 2 diabetes: the Shanghai Women's Health Study.

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BACKGROUND: Diet plays a key role in the development of type 2 diabetes (T2D), but little is known about the contributions of specific nutrients in populations in which dietary patterns differ from Western populations.

OBJECTIVE: We examined associations between calcium and magnesium intakes and the risk of T2D in a Chinese population.

DESIGN: We used data from a population-based, prospective study of 64,191 women who were free of T2D or other chronic diseases at study recruitment and were living in urban Shanghai, China. Dietary intake, physical activity, and anthropometric measurements were assessed through in-person interviews. A Cox regression model was used to evaluate the association of the exposures under study with the risk of T2D.

RESULTS: An inverse association between calcium and magnesium intakes and T2D risk was observed. The relative risks for the lowest to the highest quintiles of calcium intake were 1.00, 0.82, 0.73, 0.67, and 0.74 (P for trend < 0.001), and for magnesium they were 1.00, 0.84, 0.84, 0.79, and 0.86 (P for trend < 0.001). Milk intake was also inversely associated with the risk of T2D.

CONCLUSION: Our data suggest that calcium and magnesium intakes may protect against the development of T2D in this population.

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