

Low fat dairy consumption lowers diabetes risk in postmenopausal women, study

By Ben Bouckley, 18-Nov-2011

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A diet high in low-fat dairy products is associated with lower diabetes risk in postmenopausal women, particularly those who are obese, according to a new US research study.

Writing in the November issue of the *Journal of Nutrition*, Karen Margolis et al. also said that their data showed that high yogurt consumption was associated with a significant decrease in diabetes risk, but that there was no relationship between high-fat dairy product consumption and diabetes risk.

The scientists began upon the basis that previous studies suggested that consuming dairy products (and low-fat varieties), lowered the incidence of type-2 diabetes.

They wrote: *"However, no study to our knowledge has focused on an ethnically diverse group of postmenopausal women, a population with a high risk of this disease."*

According to American Diabetes Association estimates, 24m US citizens have diabetes and 1m more receive a new diagnosis of the disease each year.

Study design

Margolis et al. conducted a prospective cohort study of 82,076 postmenopausal women enrolled in the ongoing Women's Health Initiative Observational Study (WHI-OS) and enrolled therein from 1994-1998 and did not report diabetes at the time.

Participants' total, low-fat and high-fat dairy product and yogurt intakes were estimated via food frequency questionnaires (FFQ) at baseline and during 3 follow-up years.

Median intakes were 1.5 servings a day for all dairy products, 0.8 servings for low-fat dairy products and 0.4 servings for high-fat dairy products.

Yogurt consumption was reportedly low within the group, with median intake around 0.5 serving a week, while 38 per cent said they rarely or never consumed yogurt.

The scientists assessed treated diabetes levels from annual follow-up questionnaires, where over 8 years 3,946 cases of treated diabetes were reported (mean annual incidence 0.73 per cent, cumulative incidence 4.8 per cent).

Yogurt cuts diabetes risk

Margolis et al. concluded: *"Our results show that low-fat dairy product and yogurt consumption is associated with a lower risk of incident type-2 diabetes in postmenopausal women followed for roughly 8 years."*

Intake far below the US recommended daily intake of dairy foods for women over 50 years old (three 250g cups of milk or equivalent a day) was associated with an increased diabetes risk, the scientists added.

Reduced risk was not associated with weight, Margolis et al. said, because unlike previous studies, during a 3-year follow-up the WHI statistics showed no link between low-fat dairy intake and weight change.

Margolis et al. said one potential mechanism by which low-fat dairy food lowered diabetes risk could relate to the effect of milk proteins on the release of gut hormones, which augment insulin secretion and slow nutrient absorption.

But the scientists said such proteins were also present in high-fat milk, and did not explain the differential association with diabetes risk.

Diabetes 'could break the healthcare bank'

The researchers said they had adjusted their results to account for the fact that women who drank more milk were less likely to have a high intake of other foods (particularly sweetened beverages) and the findings did not change as a result.

Margolis et al. also adjusted their findings to account for the low glycemic load (a measure of quantity and quality of carbohydrate) of dairy products, which previous studies had suggested might lower diabetes risk, and said it didn't materially alter their results.

Pointing to possible unmeasured or confounding variables, Margolis et al. said that adjustment for dietary fat intake did lessen the inverse association more than adjustment for other dietary variables.

The team also called for more research into potential mechanisms and dietary patterns characterised by the consumption of low-fat dairy foods.

Commenting on the research, Gregory Miller, president of the Dairy Research Institute (a non-profit organisation affiliated with the Innovation Center for US Dairy) and executive vice president of the National Dairy Council, said: *"Type 2 diabetes is a debilitating and costly disease that could, if not reined in over the next 10 to 20 years, break the healthcare bank."*

He added: *"This research contributes to a growing body of work that indicates adequate amounts of dairy may play an important role in decreasing the risk of this disease."*