

Eating More Whole Grains May Extend Life, Decrease CV Deaths

Marlene Busko | January 06, 2015

BOSTON, MA — Consuming more whole-grain foods was linked with a decreased risk of dying, mainly from cardiovascular disease (CVD), but not from cancer, in a long-term study of more than 100 000 American healthcare professionals^[1].

Each daily whole-grain serving was associated with a 5% lower risk of total mortality and a 9% lower risk of cardiovascular mortality, but no change in overall cancer mortality, during a follow-up of up to 26 years, Dr Hongyu Wu (Harvard School of Public Health, Boston, MA) and colleagues write. The study was published online January 5, 2015, in *JAMA Internal Medicine*.

The researchers also estimated that replacing one serving a day of refined grains with whole grains was tied to a 4% and 8% drop in total mortality and CVD mortality, respectively. Replacing a daily serving of red meat with whole grains was linked with a 10% and 20% lower risk of total mortality and CVD mortality, respectively.

Given that Americans fall far short of the recommended three daily servings of whole grains in their diet, "these findings further support current dietary guidelines that recommend increasing whole-grain consumption to facilitate primary and secondary prevention of chronic diseases and also provide promising evidence that suggests a diet enriched with whole grains may confer benefits toward extended life expectancy," Wu and colleagues conclude.

"Patients [should be] encouraged to eat whole grains as their main source of carbohydrate on a daily basis," senior author Dr Qi Sun (Harvard School of Public Health) told *heartwire*.

Typical American Diet Lacks Whole-Grain Foods

The 2010 American Dietary Guidelines recommend that people eat at least three to five servings of whole-grain foods a day, where a serving is 28 g (1 ounce), which is equivalent to a slice of whole-grain bread, a half-cup of cooked brown rice or whole-wheat pasta, or a cup of whole-grain cereal^[2]. However, only 5% of Americans currently eat the recommended minimum amount^[2].

Sun and colleagues previously reported that substituting whole grains for white rice may lower the risk for type 2 diabetes in this study population.

In the current study, they examined whole-grain intake and mortality in 74 341 women in the Nurses' Health Study (1984–2010) and 43 744 men in the Health Professionals Follow-up Study (1986–2010).

The participants replied to food-frequency questionnaires asking about whole grains (intact and flour forms of wheat, corn, rye, oats, and brown rice, as well as barley, bulgur, buckwheat, popcorn, amaranth, and psyllium) as well as added bran or (wheat or other) germ.

At baseline, the participants had a mean body-mass index (BMI) of 24 to 25; the women had a mean age of 50 and the men a mean age of 53. They were divided into quintiles of median whole-grain consumption, which ranged from 4.2 g/day (quintile 1) to 33.0 g/day (quintile 5).

The authors documented 26 920 deaths during follow-up. There was a linear, significant, inverse relationship between whole-grain consumption and mortality, especially CV mortality, after adjustment for multiple confounders.

Mortality Risk (for Baseline Whole-Grain Intake vs Quintile 1*)

Quintile	Total mortality, HR (95% CI)	CVD mortality, HR (95% CI)
2	0.99 (0.95–1.02)	0.94 (0.88–1.01)
3	0.98 (0.95–1.02)	0.94 (0.87–1.01)
4	0.97 (0.93–1.01)	0.87 (0.80–0.94)
5	0.91 (0.88–0.95)	0.85 (0.78–0.92)

*Adjusted for age and other potential confounders, including physical activity, smoking, BMI, and diet (other than whole grains)

Whole-grain consumption was associated with reduced colorectal cancer in men, but this would need to be replicated in larger studies, Wu and colleagues write.

The beneficial effect of whole grains is likely related to its glycemic properties and nutrient content, Sun said. "Whole grains do not lead to rapid or dramatic changes in blood sugar and blood insulin levels, unlike refined grains or other carbohydrates, such as sugar, [and this] may explain why whole grains are associated with lower diabetes and cardiovascular disease risk," he noted. Moreover, "whole grains contain many beneficial nutrients, including magnesium, vitamins, lignans, phenolic acids, and alkylresorcinols, and they may jointly lead to lower risk of developing heart disease and diabetes."

The researchers found an inverse relationship between consumption of bran, but not germ, and mortality, which suggests that the bran component is key. "Bran is a rich source of fiber, B-group vitamins, vitamin E, magnesium, and phytochemicals, which may potentially explain whole grains' favorable effects," Wu and colleagues write. "For instance, fiber, primarily found in the bran, may reduce the risk of certain chronic diseases, in particular CVD, metabolic syndrome, diabetes, and certain cancers."

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References

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