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## Nut Consumption Associated with Reduced Mortality

### Clinical Question

Is nut consumption associated with lower mortality?

### Bottom Line

In a study of health professionals, nut consumption was associated with reduced all-cause mortality. This was primarily because of a reduction in heart disease associated with any nut consumption and a reduction in cancer associated with tree nut consumption. (Level of Evidence = 2a)

### Synopsis

Nuts are a component of the Mediterranean diet, which has been shown in observational studies and clinical trials to be associated with reduced cardiovascular mortality. The authors of the current study used data from two large prospective cohort studies: the Health Professionals Follow-Up Study (male health professionals) and the Nurses' Health Study (female nurses). Anyone with cancer or cardiovascular disease at baseline was excluded, as was anyone who did not provide data on physical activity, nut consumption, or height and weight. That left 76,464 women and 42,498 men for the study. Nut consumption was quantified using a food questionnaire administered every two to four years; in later years, the questionnaire distinguished peanuts from other nuts. A serving was defined as 28 g. Only dietary surveys given before a diagnosis of cancer or cardiovascular disease were included, because these diagnoses may have prompted a change in diet. All-cause mortality was determined using the National Death Index, and the cause of death was determined by a physician masked to nut consumption who reviewed death certificates and medical records.

Persons who ate a lot of nuts tended to be healthier in many ways than those who did not: they were thinner, more physically active, and were much less likely to smoke; they were also more likely to take a multivitamin, eat fruits and vegetables, and drink alcohol. A multivariate analysis was done to attempt to adjust for known confounders (the above, plus hypertension, hyperlipidemia, or diabetes mellitus; aspirin use and red meat intake; and family history of cardiovascular disease or cancer), but the possibility of residual confounding by other variables remains. Another limitation is that the health professionals may have overestimated their own nut consumption, leading to response bias. The adjusted analysis showed a dose-response effect of nut consumption, with the multivariate adjusted hazard ratio for all-cause mortality decreasing from 1.0 for those who never ate nuts to 0.89 for those who ate them once per week, 0.85 for five or six times per week, and 0.80 for seven or more times per week. These reductions in mortality were statistically significant, as was the trend, and the authors argue that the study was large enough that there would have to be a lot of unknown confounding variables to cancel out this effect.

**Study design:** Cohort (prospective)

**Funding source:** Industry plus government

**Setting:** Population-based

**Reference:** Bao Y, Han J, Hu FB, et al. Association of nut consumption with total and cause-specific mortality. *N Engl J Med*. 2013;369(21):2001-2011.

MARK H. EBELL, MD, MS

Associate Professor  
University of Georgia  
Athens, Ga.

## Long-Term Results of Drug Treatment for Obesity

### Clinical Question

Are weight-loss medications effective for the long-term treatment of obesity?

### Bottom Line

This review of commonly used weight-loss medications, including orlistat (Xenical), lorcaserin (Belviq), phentermine/topiramate (Qsymia), bupropion (Wellbutrin), metformin (Glucophage), and zonisamide (Zonegran), reported an average weight loss for participants of 2.5 to 8.0 kg (5.5 to 17.5 lb) relative to placebo after one year

of therapy, with improvements noted in cardiovascular risk factors, including reduced lipid, glucose, and blood pressure levels. However, there is no evidence yet that any of these treatments have improved patient-oriented cardiovascular outcomes, including reduced morbidity or mortality. (Level of Evidence = 1a–)

### Synopsis

These investigators searched clinicaltrials.gov and PubMed, and examined expert recommendation reports and bibliographic references of included studies for English language–only randomized controlled clinical trials. The trials must have lasted at least one year with at least 50 participants per group at baseline, and must have had a 50% retention rate or better. Studies meeting eligibility criteria included 15 trials of orlistat (N = 9,561), three trials of lorcaserin (N = 6,638), and two trials of phentermine/topiramate (N = 3,544), all compared with placebo. Phentermine is the most widely prescribed obesity medication in the United States, but there are no clinical trials evaluating outcomes of monotherapy at 12 months or longer. Other medications studied included bupropion, metformin, and zonisamide. Participants lost an average of 2.5 to 8.0 kg relative to placebo, with significant improvements noted in cardiovascular risk factors, including lowered lipid, glucose, and blood pressure levels. However, none of the medications have been shown to improve patient-oriented cardiovascular outcomes, including reduced morbidity or mortality.

**Study design:** Systematic review

**Funding source:** Foundation

**Setting:** Various (meta-analysis)

**Reference:** Yanovski SZ, Yanovski JA. *Long-term drug treatment for obesity: a systematic and clinical review*. JAMA. 2014;311(1):74-86.

DAVID SLAWSON, MD

Vice Chair, Department of Family Medicine  
University of Virginia  
Charlottesville, Va.

## Pelvic Floor Muscle Training Does Not Reduce Postpartum Urinary Incontinence

### Clinical Question

Does intensive postpartum pelvic floor muscle training reduce the prevalence of incontinence at six months?

### Bottom Line

This intervention, which included primiparous women with and without urinary incontinence at six weeks postpartum, demonstrated that intensive supervised pelvic floor muscle training did not reduce the prevalence of urinary incontinence at six months. These results are

noteworthy because the trial was well designed and the results were unexpected. (Level of Evidence = 1b–)

### Synopsis

These investigators conducted a well-designed randomized controlled trial including 175 primiparous women at a single institution in Norway. Women were enrolled at approximately six weeks postpartum, with and without urinary incontinence (mixed population), if they had a vaginal birth of at least 32 weeks' gestation and spoke a Scandinavian language. The authors excluded women with a perineal tear graded as 3b, 3c, or 4 (all of whom were referred to a physical therapist), and mothers or newborns with a serious illness. All of the women had received a leaflet at discharge after delivery describing and encouraging pelvic floor muscle exercises. The allocation was stratified by the presence (or not) of major defects of the levator ani muscle as assessed by transperineal ultrasonography. The intervention consisted of weekly classes for 16 weeks, supervised by an experienced physical therapist, and instruction to perform daily home exercises and to document adherence with a home diary.

Masked outcome assessment was at six months postpartum using a questionnaire (International Consultation on Incontinence Questionnaire—Urinary Incontinence Short Form), ultrasonography, and manometry, as compared with baseline. Analysis was by intention to treat; loss to follow-up was 14% in the intervention group and 9% in the control group. Adherence in the intervention group was greater than 80% for class attendance and reported daily home exercise. Urinary incontinence was not statistically different between groups at baseline (39% in the intervention group vs. 50% in the control group), although the intervention group tended to have more women with major levator ani defects (65% vs. 50%;  $P = .10$ ). At six weeks postpartum, there were no differences between the groups in incontinence at any frequency (relative risk = 0.89; 95% confidence interval, 0.60 to 1.32). There were also no differences between groups on per protocol analysis or on subgroup analysis based on the presence of levator ani defect.

**Study design:** Randomized controlled trial (nonblinded)

**Funding source:** Government

**Allocation:** Concealed

**Setting:** Outpatient (any)

**Reference:** Hilde G, Stær-Jensen J, Siafarikas F, Ellström Engh M, Bø K. *Postpartum pelvic floor muscle training and urinary incontinence: a randomized controlled trial*. Obstet Gynecol. 2013;122(6):1231-1238.

LINDA FRENCH, MD

Professor and Chair, Department of Family Medicine  
University of Toledo  
Toledo, Ohio ■