Cochrane for Clinicians

Putting Evidence into Practice

Pelvic Floor Muscle Training to Prevent and Treat Urinary and Fecal Incontinence in Antenatal and Postnatal Patients

Pamela Vnenchak, MD, Penn Medicine Lancaster General Hospital Family Medicine Residency Program, Lancaster, Pennsylvania

Author disclosure: No relevant financial affiliations.

Clinical Question

Does pelvic floor muscle training (PFMT) help prevent or treat urinary or fecal incontinence during pregnancy or after delivery?

Evidence-Based Answer

Structured PFMT beginning early in pregnancy prevents the onset of urge incontinence later in pregnancy and in the postpartum period compared with no intervention (number needed to treat = 4; 95% CI, 3 to 9). (Strength of Recommendation [SOR]: B, based on inconsistent or limited-quality patient-oriented evidence.) There is no evidence that PFMT improves urinary incontinence later in pregnancy or in the postpartum period in pregnant patients who already have urinary incontinence. (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.) There is no clear evidence that PFMT effectively prevents or treats fecal incontinence later in pregnancy or after delivery.[1] (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

More than one-third of pregnant patients experience urinary incontinence at some point in their second and third trimesters. Approximately one-fourth of pregnant patients experience fecal incontinence—the involuntary loss of flatus or feces—late in pregnancy, and about one-fifth of patients leak flatus or feces one year after delivery.[1] Other factors that may increase incontinence include elevated prepregnancy body mass index, method of delivery (vaginal vs. cesarean), forceps- or vacuum-assisted delivery, multiple gestations, or history of multiple pregnancies. PFMT is the repeated voluntary contraction of the pelvic floor muscles (also known as Kegel exercises), and health care professionals commonly advise pregnant patients to do PFMT one or more times per day for at least eight weeks during and after pregnancy to prevent and treat urinary incontinence.

This Cochrane review included 46 trials involving 10,832 patients from 21 countries.[1] Overall, the studies were small, and the PFMT programs varied in training methods as well as the strength, endurance, and coordination of exercises. Given the nature of the intervention, it was not possible to blind the participants or clinicians; thus, there is the risk of performance and detection bias. Outcomes were generally self-reported using urinary or fecal incontinence questionnaires.

The review included 10 randomized controlled trials of pregnant patients without urinary incontinence to see if PFMT could prevent the development of urinary incontinence later in pregnancy or after delivery. Trials included 1,384 participants from nine countries. Patients who were randomized to treatment received instruction in PFMT, although the instructions differed in each trial. The control groups received no instruction, were provided "usual care," or treatment was not specified. All trials used the patient's self-report of urinary incontinence and some used the International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form, a validated questionnaire to report urinary frequency or incontinence, amount of urinary leakage, and overall impact of urinary incontinence. Others used self-report diaries or pad count. Patients randomized to PFMT were less likely to report urinary incontinence later in pregnancy compared with patients in the control group (relative risk = 0.38; 95% CI, 0.20 to 0.72).

Treatment trials included 1,140 primigravida and multigravida patients with symptoms of urinary or fecal incontinence; participants were from four countries. These randomized

These are summaries of reviews from the Cochrane Library.

This series is coordinated by Corey D. Fogleman, MD, assistant medical editor.

A collection of Cochrane for Clinicians published in *AFP* is available at https://www.aafp.org/afp/cochrane.

CME **This clinical** content conforms to AAFP criteria for CME. See CME Quiz on page 228.

controlled trials showed no evidence that PFMT initiated early in pregnancy improved urinary or fecal incontinence, either later in pregnancy or after delivery.

The 2015 American College of Obstetricians and Gynecologists practice bulletin on urinary incontinence in women recommends PFMT as an effective first-line treatment for stress, urge, or mixed urinary incontinence.[2] (SOR: A, based on consistent, good-quality patient-oriented evidence.) The bulletin does not specifically address the use of PFMT in pregnancy or the postpartum period. Other than occasional pelvic pain, there are few adverse effects of PFMT. Family physicians caring for pregnant patients should engage them early in pregnancy in a shared decision-making discussion on the use of PFMT to prevent urinary incontinence later in pregnancy and after delivery.

The practice recommendations in this activity are available at http://www.cochrane.org/CD007471.

Editor's Note: The NNT and related CI reported in this Cochrane for Clinicians were calculated by the author based on raw data provided in the original Cochrane review.

References

1. Woodley SJ, Lawrenson P, Boyle R, et al. Pelvic floor muscle training for preventing and treating urinary and faecal incontinence in antenatal and postnatal women. *Cochrane Database Syst Rev*. 2020;(5):CD007471.
2. ACOG practice bulletin no. 155: urinary incontinence in women. *Obstet Gynecol*. 2015;126(5):e66-e81.

Reducing Saturated Fat Intake to Decrease the Risk of Cardiovascular Disease

Drew Baird, MD, and Vanessa Rivera, MD

Carl R. Darnall Army Medical Center, Fort Hood, Texas

Author disclosure: No relevant financial affiliations.

Clinical Question

Does reducing saturated fat intake decrease morbidity and mortality related to cardiovascular disease (CVD)?

Evidence-Based Answer

Reducing saturated fat in the diet for at least two years decreases the risk of combined cardiovascular events (relative risk [RR] = 0.83; 95% CI, 0.70 to 0.98; number needed to treat [NNT] for primary prevention = 56). However, there is little to no effect on cardiovascular mortality, all-cause mortality, or individual cardiovascular events.[1] (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

CVD continues to be the leading cause of death in the United States and worldwide.[2,3] Up to one-third of deaths globally are directly attributable to CVD, 85% of which are associated with heart disease and stroke. In the United States, heart disease is consistently the leading cause of death, and stroke is currently the fifth. The American Heart Association estimates that 45% of the U.S. population will have some form of CVD by 2035.[4] As of 2016, more than 10.3% of primary care visits have been related to CVD, and up to 55% of visits include management of CVD risk factors (e.g., hypertension, dyslipidemia, diabetes mellitus).[4] In an effort to determine the role of diet in CVD prevention, this review assessed if reducing saturated fat intake resulted in decreased cardiovascular morbidity and mortality.

This Cochrane review included 15 randomized controlled trials (RCTs) published between 1965 and 2019 that involved 56,675 adults 46 to 66 years of age.[1] Participants were living in developed nations of North America, Europe, and Australia/New Zealand and had varied levels of CVD risk. They were followed for an average of 4.7 years (range = 2 to 8 years). The largest study was the 2006 Women's Health Initiative, involving 29,294 women; sensitivity analyses excluding this study did not alter the major findings of this review, as outlined below. Blinding of study participants was largely not possible given the dietary interventions and need to follow instructions. The review included studies that intentionally sought a reduction in saturated fat intake, or that produced a statistically significant ($P < .05$) reduction in saturated fat intake, compared with usual diet, a control diet, or a diet higher in saturated fat. Interventions included dietary advice to alter intake in 15 of 16 intervention arms (across the 15 studies), such as reducing saturated fats and/or substituting with polyunsaturated fat, monounsaturated fat, carbohydrate, or protein.

Advice was given face-to-face in 13 of 16 arms (unclear in three) to individual participants, groups of participants, or those with a combination of individual and group visits. The frequency of visits ranged from three to 18 in the

first year and quarterly to annually in subsequent years. Advice was given by a dietitian (nine of 16 intervention arms), nutritionist (one arm), or trained nurse (one arm); it was unclear who gave advice in four arms. In addition to advice, three studies (four arms) also provided supplements (i.e., 85 g of soya oil per day, 0.5 L of soy bean oil per week plus sardines in cod liver oil, 80 g of corn oil per day, or 80 g of olive oil per day). In one study, patients were not given advice, but two-thirds of saturated fats were substituted with unsaturated fats in older men living in a residential facility. The primary outcomes assessed were all-cause mortality, CVD mortality (from myocardial infarction, stroke, or sudden death), and combined CVD events. Combined CVD events were defined as cardiovascular death, cardiovascular morbidity (nonfatal myocardial infarction, angina, stroke, atrial fibrillation, peripheral vascular disease, heart failure), and unplanned interventions (coronary artery bypass grafting or angioplasty).

Reducing saturated fat intake did not affect all-cause mortality (55,858 participants and 3,518 deaths; 11 RCTs) or cardiovascular mortality (53,421 participants and 1,096 deaths; 10 RCTs), even when controlling for multiple variables, based on moderate-quality evidence. It did result in a 17% reduction in combined CVD events (RR = 0.83; 95% CI, 0.70 to 0.98; 53,758 participants, 4,538 of whom had CVD events; 12 RCTs) for a minimum of two years (average = 4.7 years), based on moderate-quality evidence. This equates to an NNT of 56 in primary prevention trials. The NNT in secondary prevention trials was 53. In subgroup analysis, the greater the baseline saturated fat intake, degree of saturated fat reduction, or degree of cholesterol reduction, the greater the reduction in CVD events, although this finding was not statistically significant. Similarly, subgroup analysis of specific nutrients used to replace saturated fats (i.e., polyunsaturated fats, monounsaturated fats, carbohydrates, or protein) did not show statistically significant reductions in CVD events with any one replacement nutrient, although substitution with polyunsaturated fats and carbohydrates had a greater nonsignificant trend toward CVD event reduction.[1]

The American Heart Association and the Department of Health and Human Services with the U.S. Department of Agriculture released dietary guidelines that recommend lowering saturated fat intake to prevent CVD events. Methods to reduce saturated fat intake include switching to low-fat or fat-free dairy products, choosing plant-based protein sources, minimizing consumption of animal fats and tropical plant–based oils (coconut and palm oils), and avoiding foods high in saturated fats (cookies, cakes, and some snack foods).[5,6]

The practice recommendations in this activity are available at http://www.cochrane.org/CD011737.

The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Department of Defense, the U.S. Army Medical Corps, or the U.S. Army at large.

References

1. Hooper L, Martin N, Jimoh OF, et al. Reduction in saturated fat intake for cardiovascular disease. *Cochrane Database Syst Rev*. 2020;(8):CD011737.
2. Heron M. Deaths: leading causes for 2017. National Vital Statistics Reports, vol. 68, no. 6. National Center for Health Statistics; 2019. Accessed August 2, 2021. https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_06-508.pdf
3. World Health Organization. Cardiovascular diseases (CVDs). May 17, 2017. Accessed August 11, 2021. https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)
4. Virani SS, Alonso A, Benjamin EJ, et al.; American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics–2020 update: a report from the American Heart Association. *Circulation*. 2020;141(9):e139-e596.
5. Carson JS, Lichtenstein AH, Anderson CAM, et al.; American Heart Association Nutrition Committee of the Council on Lifestyle and Cardiometabolic Health; Council on Arteriosclerosis, Thrombosis and Vascular Biology, Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; Council on Peripheral Vascular Disease; and Stroke Council. Dietary cholesterol and cardiovascular risk: a science advisory from the American Heart Association. *Circulation*. 2020;141(3):e39-e53.
6. U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015-2020 *Dietary Guidelines for Americans*. 8th ed. December 2015. Accessed December 14, 2020. http://health.gov/dietaryguidelines/2015/guidelines/ ■