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Dietary recommendations for patients with diabetes

A new UK guideline bolsters recommendations from the American Diabetes Association and cites newer evidence of diabetes remission through weight loss.

Diabetes affects approximately 9.4% of the US population (more than 30 million people),¹ and it is one of the most common conditions treated by family physicians. Additionally, more than 80 million Americans meet the criteria for prediabetes.¹ The prevalence of diabetes has increased in adults between the time periods 1988-1994 and 2011-2014, and it varies by race and ethnicity, with the highest prevalence, 18%, among African Americans and Mexican Americans, and the lowest, 9.6%, among non-Hispanic whites (FIGURE).²

Diet is the cornerstone of diabetes treatment

The foundation of a comprehensive management plan for type 2 diabetes mellitus (T2DM) is an appropriate diet. A growing body of evidence shows that a well-structured diet is important in controlling diabetes, delaying or preventing the onset of diabetes, and, in some instances, contributing to its remission. Diabetes UK, the United Kingdom's equivalent of the American Diabetes Association (ADA), recently updated its clinical guideline for physicians and patients on the role of nutrition in managing and preventing diabetes, and it is consistent with one published by the ADA in 2013.^{3,4}

The Diabetes UK guideline is the result of an evidence-based process that meets the standards recommended by the National Academy of Medicine (previously the Institute of Medicine): a systematic review and formal assessment of the quality of the evidence,

and recommendations based on the highest quality evidence available, with the level of evidence stated for each recommendation.⁵ Assessing the level of evidence and determining the strengths of recommendations were done using the Grades of Recommendation Assessment, Development, and Evaluation (GRADE) system, which uses an approach similar to that of the Strength of Recommendation Taxonomy (SORT).

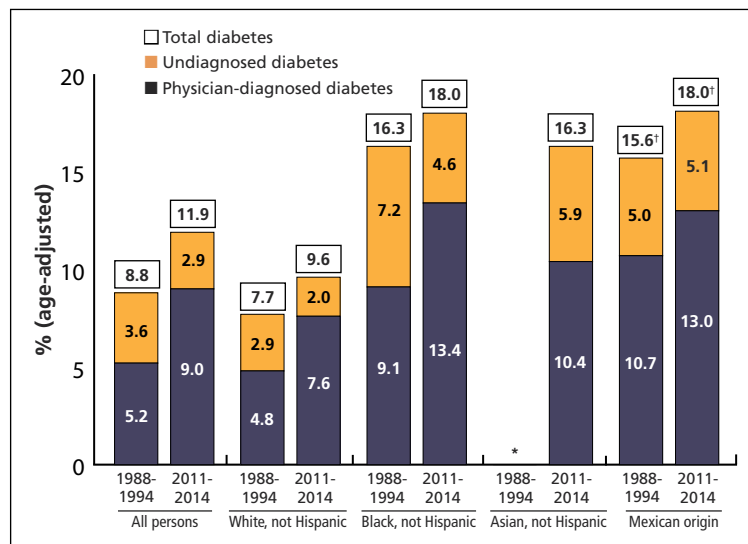
What, and what not, to focus on.

The first set of recommendations states that everyone with, or at risk for, diabetes should receive structured, personalized, and ongoing nutritional advice from a dietician who is coordinated with their clinical care. Nutritional advice should focus on the quality and quantity of food, not on specific nutrients (fat and carbohydrates), since there is no good evidence on what proportion of such nutrients is optimal. And it should be tailored to the culture and eating preferences of the patient.

The type of diet with the strongest evidence base for preventing T2DM is a Mediterranean diet, which is supported by level-4, high-quality evidence. Important aspects of a Mediterranean diet are the regular consumption of nuts, whole grains, fruits, and vegetables; use of olive oil instead of butter; and favoring fish over red meat.⁶ Other dietary patterns associated with reduced risk but supported only by level-2, low-quality evidence, include Dietary Approaches to Stop Hypertension (DASH), vegetarian, vegan, and Nordic healthy diets. Moderate carbohydrate

FIGURE

Diabetes prevalence in the United States has increased over recent decades²



*Estimates are not available for the non-Hispanic Asian population, 1988-1994.

[†]Totals as reported by the Centers for Disease Control and Prevention.

restriction is supported only by level-1, very low-quality evidence.

The UK guideline, too, recommends preferentially eating whole grains, fruits, and green leafy vegetables, as well as yogurt, cheese, tea, and coffee. And it advises reducing consumption of red processed meats, potatoes (especially French fries), sugar-sweetened beverages, and refined carbohydrates. However, these specific food preferences are supported only by low-level evidence. Both Diabetes UK and the ADA recommend minimizing consumption of free sugars and added fructose, in addition to sugar-sweetened drinks, but conclude that artificial sweeteners are safe and can be recommended. Both organizations also recommend against the use of vitamins and minerals to manage or prevent diabetes and against protein restriction for those with diabetic nephropathy.

Plant stanols and plant sterols are found in a variety of plant foods such as cereals, vegetable oils, seeds, and nuts, and are now being added to some food products. (For more on plant stanols and plant sterols, see <https://my.clevelandclinic.org/health/articles/17368-phytosterols-sterols-stanols/phytosterols-diet>.) They have a chemical structure similar to cho-

lesterol and reduce the intestinal absorption of cholesterol, thereby lowering total serum cholesterol and LDL-cholesterol. Both Diabetes UK and the ADA recommend 2 to 3 grams of stanols/sterols per day.

Alcohol intake. And what about alcohol intake in those with T2DM? Once again, both guidelines are in concert by stating that alcohol use in those with diabetes should be moderate, defined by the ADA as one or fewer drinks/d for women and 2 or fewer for men.

Weight loss and exercise are important, too. Those who are overweight or obese with T2DM can improve glycemic control with a 5% weight loss achieved by reducing caloric intake and by increasing energy expenditure with 150 minutes of moderate physical activity per week over at least 3 days.³ This recommendation is supported by high-quality evidence.

A 15-kg weight loss is recommended for those attempting diabetes remission (supported by moderate-level evidence).³ One small study in the United Kingdom found that more than half of those with T2DM could achieve remission with weight loss of 10 kg or more; 86% with weight loss of 15 kg or more.⁷ The Diabetes UK guideline panel rated this as having moderate-level evidence.

The bottom line. Diet and exercise are key interventions for the prevention and treatment of diabetes and can lead to remission if sufficient weight loss is achieved. To achieve and maintain an optimal diet, patients need individualized professional advice and follow-up. The evidence base for nutritional advice is growing and can be used to improve the quality of these patient-provider interactions. **JFP**

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