

## **Diet, Exercise Top Drugs in Preventing Diabetes**

(HealthDay News) -- Preventing diabetes with diet and exercise may be not only possible, especially among nonsmokers, but also more cost-effective than medication.

So say two studies appearing in the March 1 issue of the *Annals of Internal Medicine*.

One study found diet and exercise modifications reduced the risk of developing diabetes in nonsmoking men. The second study, a computer simulation, found a diet and exercise program was cheaper than using a pill when it came to preventing the disease.

The issue of preventing type 2 diabetes is looming as one of the most pressing public health issues of the 21st century, with two-thirds of U.S. adults now overweight or obese. The number of people diagnosed with type 2 diabetes is rising even as the age at which they are diagnosed is falling.

The Diabetes Prevention Program (DPP), a trial published in 2002, found intensive lifestyle interventions such as diet or exercise were more effective than the diabetes pill metformin in preventing the onset of type 2 diabetes. The trial involved people with impaired glucose tolerance, often a precursor to diabetes.

Since then, the question has been: how to make such lifestyle programs work.

"There has been a debate about how to implement lifestyle intervention," said study author Dr. William Herman, a professor of internal medicine at the University of Michigan School of Medicine. "The word on the street is that it can't be done. It's too expensive." Herman himself used to belong to this camp, he noted.

What changed his mind was this study, which involved a computer simulation using data from the DPP. The researchers compared the cost-effectiveness of diet and exercise programs in preventing diabetes versus either the use of the drug metformin, or placebo.

Both the lifestyle program and the metformin program reduced the risk of developing diabetes among people with abnormal blood sugar levels. The diet-exercise program, however, cost society about \$8,800 while taking the pill cost about \$29,000 per year of healthy life saved. Unlike the lifestyle strategy, the metformin program was not cost-effective after the age of 65, the researchers added.

Diet and exercise delayed the onset of type 2 diabetes by about 11 years, while metformin delayed the onset by about three years.

"The bottom line is that is even though everything but the kitchen sink was thrown in, the intensive lifestyle intervention is more cost-effective than a pill," Herman said. "We have to find better ways to implement it in clinical public health practice."

One such way would be to convince public and private health insurance programs to cover things such as health club memberships, Herman said.

Some are not convinced by the findings, however.

"This was a hard pill for me to swallow," said Dr. Stuart Weiss, an assistant professor of clinical medicine at New York University School of Medicine. "I have very few patients who will go to a class on lifestyle issues." That means Weiss has to spend time in face-to-face discussions with the patient.

Also, he added, many classes are not effective and may even teach participants bad habits.

Dr. Nathaniel Clark, national vice president for clinical affairs at the American Diabetes Association, said doctors need to focus on individual patients before thinking about cost-effectiveness across health plans, or in the health-care system as a whole.

"The first thing we need is to motivate the patient to make the lifestyle change or this type of study will do nothing," he said. "One would hope it would be helpful in getting either the health-care system or health plan to ask, 'Is it worth my investment to pay for these sorts of services?'"

The second study involved 11,827 men who had normal glucose levels at the beginning of the trial. Some of the men were assigned to a program aimed at modifying their diet, helping them to quit smoking and increasing physical activity, while the others were provided with "usual care."

Overall, roughly the same percentage of people in both groups (about 11 percent) developed diabetes over a six-year period. However, nonsmokers in the lifestyle program were less likely to develop diabetes than nonsmokers in the usual care group.

"This study gives tremendous support for the concept that we shouldn't look only for people who have abnormal blood glucose levels and say 'You need to lose weight and be more active.' We should really be doing that as a society," Clark said. "Let's try to move further and further back down the time frame, so that ultimately the goal is really to have people be born healthy and then remain healthy through their lives."

Both studies seemed to be giving the same message: lifestyle programs work.

"If patients ate properly and exercised well, then diabetes would definitely not be as big an issue," Weiss said. "Evidence is accumulating, and we just need for people to accept it and move away from the kitchen."

More information

The National Institute of Diabetes and Digestive and Kidney Diseases can tell you more about type 2 diabetes.

By Amanda Gardner

SOURCES: William Herman, M.D., professor, internal medicine, University of Michigan School of Medicine, and professor,

epidemiology, University of Michigan School of Public Health, both in Ann Arbor; Stuart Weiss, M.D., assistant professor, clinical medicine, New York University School of Medicine, New York City; Nathaniel Clark, M.D., national vice president, clinical affairs, American Diabetes Association; March 1, 2005, Annals of Internal Medicine

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