

Study shows community approach effective in fight against diabetes

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New research from Wake Forest Baptist Medical Center shows that a diabetes prevention program led by community health workers is effective at reducing blood glucose and potentially reducing diabetes over the long term.

This is the largest program to successfully replicate the results achieved by the Diabetes Prevention Project (DPP), a research study led by the National Institutes of Health and supported by [Centers for Disease Control and Prevention](#), which demonstrated several years ago that lifestyle weight-loss interventions can reduce the incidence of diabetes by 58 percent. The study is published in the March 18 issue of the *American Journal of Preventive Medicine*.

"We wanted to take this intervention out to people in the community rather than having them have to come to us in a clinical setting," said the study's lead author, Jeff Katula, Ph.D., assistant professor of health and exercise sciences at Wake Forest University and joint assistant professor of epidemiology and prevention at Wake Forest Baptist. "Given the high [prevalence of obesity](#) and [metabolic syndrome](#) and risk for diabetes, our study shows we can provide an effective program in a community setting."

Latest estimates indicate that almost 26 million people in the U.S. have diabetes and another 79 million adults have prediabetes, a condition in which [blood glucose levels](#) are higher than normal but not yet high enough to be diagnosed as diabetes. Despite improved treatment, the

overall public health burden continues to increase, which highlights the critical importance of prevention, Katula said.

Because the DPP involved substantial amounts of resources and specialized personnel, the goal of the Wake Forest Baptist study was to test a translation of the DPP model in community settings. The lifestyle weight-loss interventions were conducted by community health workers in parks and recreation centers, rather than by [health care professionals](#) in [clinical settings](#).

The research team examined the effects of a 24-month lifestyle weight-loss program in 301 overweight or obese participants with elevated fasting blood glucose, a common indicator of prediabetes. The study was conducted in and around Forsyth County, N.C., from 2007 through 2011 with the volunteers representing the racial composition of the county's population. Fasting blood glucose, insulin, insulin resistance, body weight, body mass index (BMI) and waist circumference were assessed every six months for 24 months.

Overweight and obese volunteers with elevated fasting blood glucose were assigned randomly to either a group-based, lifestyle weight-loss intervention (LWL) or an enhanced usual care comparison (UCC). The UCC was designed to exceed the usual care a person with prediabetes would typically receive, which might include a doctor advising a patient to lose weight and to exercise. In this study, the enhanced UCC provided participants with two meetings with a registered dietitian and monthly newsletters.

Results indicated that the significant reductions in body weight, BMI, waist circumference, fasting [blood glucose](#), insulin and insulin resistance achieved during the first year of the program by the LWL group largely were maintained in the second year as compared to the usual care group. Additionally, at 24 months the percentage of volunteers who lost 5

percent or more of their initial body weight was 46.5 percent in the LWL group versus 15 percent in the UCC group.

"Many previous studies have shown that people can lose weight for six months, but maintaining those changes, particularly metabolic changes, over time is the real challenge," Katula said.

The study was limited in that participants were only from one county in North Carolina that included a mid-sized city. It is unknown whether this type of intervention can be implemented effectively in varying geographic locations involving various racial distributions and/or in rural settings, Katula said.

Provided by Wake Forest University Baptist Medical Center

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