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Contact: Amy Dugas Rose

DugasAK@upmc.edu

412-586-9776

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Clinical trials demonstrate effective weight loss strategies for obese and overweight adults

CHICAGO -- Lifestyle interventions, including physical activity and structured weight loss programs, can result in significant weight loss for overweight, obese and severely obese adults, according to two reports that were posted online today by *JAMA*. The studies and accompanying editorials were made available early online to coincide with the presentation of these papers at the 28th Annual Scientific Meeting of the Obesity Society. The articles will appear in the October 27 print issue of *JAMA*. According to background information in the papers, obesity is among the most significant public health problems of the 21st century and the prevalence of obesity has been rapidly rising for the past three decades, especially among African American women. National statistics indicate that the prevalence for overweight and obesity combined (having a body mass index of 25 or greater) is 68 percent of the population. Both papers note the increased risk of numerous other medical problems for people who are overweight or obese, including diabetes and high blood pressure. The authors also point out the lack of scientific evidence for most weight loss programs or evidence-based treatment guidelines, particularly for severe obesity.

In a one-year intensive lifestyle intervention study of diet and physical activity, Bret H. Goodpaster, Ph.D., from the University of Pittsburgh School of Medicine and colleagues, randomized a group of 130 severely obese adult individuals without diabetes in two groups to assess weight loss for a period of one year. One group was randomized to diet and physical activity for the entire 12 months, while the other group had the identical dietary intervention, but with physical activity delayed for six months. The study was conducted from February 2007 with follow-up through April 2010.

"To facilitate dietary compliance and improve weight loss, liquid and pre-packaged meal replacements were provided at no cost for all but one meal per day during months one through three and for only one

meal replacement per day during months four through six of the intervention," the authors report. The physical activity component included brisk walking up to 60 minutes, five days a week. Participants were provided with a pedometer and encouraged to walk at least 10,000 steps a day. Small financial incentives for adherence to the behavioral goals of the intervention were also provided. The participants received a combination of group, individual and telephone contacts as part of the lifestyle intervention.

"Of 130 participants randomized, 101 (78 percent) completed the 12-month follow-up assessments," the authors state. The group that started with the diet and physical activity lost more weight in the first six months than the delayed-activity group (about 24 pounds as compared to 18 pounds). However, the authors report that weight loss at 12 months was about the same in the two groups (almost 27 pounds versus about 22 pounds). "Waist circumference, visceral abdominal fat, hepatic (liver) fat content, blood pressure and insulin resistance were all reduced in both groups," according to the authors.

"In conclusion, intensive lifestyle interventions using a behavior-based approach can result in clinically significant and meaningful weight loss and improvements in cardiometabolic risk factors in severely obese persons. It is also clear that physical activity should be incorporated early in any dietary restriction approach to induce weight loss and to reduce hepatic steatosis [fatty liver] and abdominal fat. Our data make a strong case that serious consideration should be given by health care systems to incorporating more intensive lifestyle interventions similar to those used in our study. Additional studies are clearly needed to determine long-term efficacy and cost-effectiveness of such approaches."

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Editorial: The State of Obesity and Obesity Research

"Class II obesity (body mass index [BMI] of more than 35) and class III obesity (BMI of 40 or more) is a prevalent condition that adversely affects health," according to Donna H. Ryan, M.D. of Pennington Biomedical Research Center, Louisiana State University System, Baton Rouge, and Robert Kushner, M.D., M.S., of Northwestern University Feinberg School of Medicine, Chicago, in an accompanying editorial.

"Severe obesity is a prevalent public health problem, disproportionately affecting women and minorities. There is still much to learn about the mechanisms underlying differing risk and treatment outcomes

between populations. Optimal treatment approaches for class II and class III obesity are underexplored, while payment approaches for interventions known to work have yet to be adopted."

"Additional rigorous research, such as the clinical trial by Goodpaster et al, are needed to unravel the causes, identify prevention strategies, and develop the best treatments for obesity," they conclude.

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