

# Supervised Weight Loss Program Reduced Mild Sleep Apnea

BY HEIDI SPLETE

A program for healthy weight loss significantly improved mild obstructive sleep apnea, according to results of a study of overweight adults aged 18-65 years.

Obesity is a known risk factor for obstructive sleep apnea (OSA), but no randomized studies have addressed whether weight reduction improves the condition, noted Dr. Henri P.I. Tuomilehto of the University of Kuopio (Finland), and colleagues.

In the study, the researchers randomized 72 overweight adults with mild OSA to a program that included a very-low-calorie diet and supervised lifestyle modification, or to a program of routine lifestyle counseling. The intervention included instructions for a very-low-calorie diet and 14 visits with a nutritionist during a 1-year period (including face-to-face meetings and group sessions), as well as recommendations for increasing physical activity. No specific exercise program was included in the intervention.

Improvements in OSA were objectively measured using the apnea-hypopnea index (AHI), and subjectively measured using a quality of life scale and patient reports of symptom changes. All participants had a body mass index between 28 and 40 kg/m<sup>2</sup> and an AHI of 5-15 events per hour when they entered the study. Demographic characteristics were similar between the two groups.

At 1-year follow-up, the intervention group achieved significantly greater weight loss on average, compared with the controls (11 kg vs. 2 kg). The average total AHI in the intervention group was 6 events per hour, which was significantly less than the average of 9.6 events per hour in the control group

(*Am. J. Respir. Crit. Care Med.* 2009;179:320-7).

"Changes in AHI during the 12-month follow-up were strongly associated with changes in weight and waist circumference," the researchers wrote. A 5-kg weight loss from baseline body weight was associated with a 2.0-unit reduction in AHI, and a 5-cm reduction in waist circumference was associated with a 2.5-unit reduction in AHI.

In addition, the intervention was associated with improvements in other obesity-related cardiovascular disease risk factors.

During follow-up, two of four patients in the intervention group who were taking oral diabetes medications were able to discontinue the medications, while two of the controls started taking diabetes medications. In all, 5 of 18 intervention patients were able to discontinue their antihypertensive medications, compared with 2 of 15 patients in the control group. And 6 of 12 patients in the intervention group who were taking cholesterol medications were able to discontinue them, compared with 3 of 18 controls.

Patients in the intervention group also reported improvements in quality of life, with scores nearly twice as high as the controls at the 1-year follow-up point. Patients in the intervention group also reported greater improvement in symptoms of OSA, including snoring and daytime sleepiness, compared with controls.

Long-term lifestyle changes can improve OSA, the researchers said. "Significant improvements were also found in symptoms related to OSA, insulin resistance, lipids, and cardiorespiratory variables, such as arterial oxygen saturation, in patients belonging to the intervention group," they wrote.

The researchers had no financial conflicts to disclose. ■

# Blood Pressure Cut In Obese Patients

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treatment also led to huge blood pressure reductions, Dr. Bakris said (*Am. J. Hypertens.* 2003;16[pt.1]: 925-30).

Subsequent basic sciences studies have determined what's going on. Subcutaneous adipocytes are not simply passive fat stores but function as a "miniendocrine organ," releasing a variety of enzymes called adipokines. A series of adipokine-triggered enzymes activate angiotensin II release and boost the sensitivity of adrenocortical cells, triggering aldosterone secretion and producing the mild hyperaldosteronism state, he explained (*Int. J. Obesity* 2007;31:1605-16).

This condition can occur in people with a body mass index of 30 kg/m<sup>2</sup> or higher, although it seems like the higher the body mass index, the more common the condition becomes. In these patients another frequent consequence of obesity is sleep apnea, which itself causes a dramatic increase in blood pressure that may be very responsive to treatment with continuous positive airway pressure.

A role for aldosterone receptor blockade in treating hypertension in obese patients began to appear recently in expert guidelines, such as a position paper on treating hypertension in patients with diabetes from the American Society of Hypertension that was published last September (*J. Clin. Hypertens.* 2008;10:707-13).

Dr. Bakris also said it is possible that adipocyte-triggered hyperaldosteronism and hypertension might even appear occasionally in leaner individuals. "I don't think it's necessarily the amount of fat, but the company it keeps—the metabolic milieu. How the patient got these cells is the key, and right now we don't know the details," he said. ■

To view a video interview of Dr. Bakris go to [www.youtube.com/watch?v=U0QsfPLTgLA](http://www.youtube.com/watch?v=U0QsfPLTgLA).

# Obesity Raises Risk of Death, Complications After Trauma

BY KERRI WACHTER

FORT MYERS, FLA. — Severely obese patients are more likely other patients to develop common complications and to die following trauma, according to a retrospective study of more than 1.3 million patients.

An analysis of National Trauma Data Bank records for more than 1,373,777 trauma patients from 2002 to 2006 found that severely obese patients were 19% more likely to die, compared with other patients, based on crude mortality (odds ratio 1.19). After adjustment, severely obese patients had an even greater risk of death following trauma (OR 1.30), Dr. Neema Kaseje reported at the annual Academic Surgical Congress.

A total of 7,962 trauma patients with a body mass index of more than 40 kg/m<sup>2</sup> were classified, according to the World Health Organization classification, as severely obese (obese class III).

Dr. Kaseje and her colleagues at the Center for Surgery and Public Health at Harvard University in Boston conducted their study to determine if mortality and morbidity following trauma differed between patients who are severely obese and those who are not. The primary outcome was in-hospital mortality. Secondary out-

comes included rates of pneumonia, urinary tract infection, wound infection, bacteremia, disseminated fungal infection, and empyema. The researchers adjusted for age, gender, Injury Severity Score (ISS), and insurance status.

Compared with the other patients in the database, severely obese patients were more likely to be older than 49 years (50% vs. 28%, respectively), to be female (53% vs. 34%), to have an ISS greater than 25, and to have health insurance (85% vs. 78%). Severely obese patients also had significantly greater rates of pneumonia (OR 1.73), urinary tract infection (OR 3.25), wound infection (OR 2.16), bacteremia (OR 3.46), and disseminated fungal infection (OR 4.87).

A major limitation of the study is that the data did not include actual BMIs. In the database, patients were classified either as obese (BMI greater than 40 kg/m<sup>2</sup>) or nonobese (BMI no greater than 40 kg/m<sup>2</sup>). "Because we did not have actual BMIs, we could not calculate a dose-response relationship between increased obesity and increased morbidity and mortality following trauma," said Dr. Kaseje. "That's a major limitation because if we did stratify, I'm sure that we would see differences in outcome" for normal, overweight, obese, and morbidly obese patients, she explained. ■

# Obesity in African American Women Linked to Depression

BY BRUCE JANCIN

CHICAGO — The odds of comorbid depression are 41% greater in obese than in nonobese African American women, according to a large national study. Based on this finding, obese African American women should routinely be screened for depression during office visits, Stephanie Sturgis said at the annual American Psychiatric Association's Institute on Psychiatric Services.

The study involved 9,343 randomly selected African American women with a landline telephone in 36 states who participated in the Centers for Disease Control and Prevention's 2006 Behavioral Risk Factor Surveillance System survey and also completed the Patient Health Questionnaire-8 Anxiety and Depression Screen.

More than 40% of the women had a BMI of at least 30 kg/m<sup>2</sup>. In addition, more than 13% of the women were depressed as defined by a score of 10 or more on their summed responses to the brief 8-question depression screen, said Ms.

Sturgis, a public health analyst at the CDC.

Among obese African American women, the adjusted odds of depression were significantly increased among those with a college degree, who were 2.75-fold more likely to be depressed than were those with less education.



**Obese African American women should routinely be screened for depression during office visits.**

MS. STURGIS

Depression also was significantly more common in obese African American women who were moderate drinkers than in either obese heavy drinkers or nondrinkers. After adjustment for potential confounders, the moderate drinkers were 2.1-fold more likely to be depressed. This finding was surprising, because in other studies, heavy drinking is associated with depression, she said. ■