NORTH AMERICAN ASSOCIATION FOR THE STUDY OF OBESITY 2004 ANNUAL SCIENTIFIC MEETING

NAASO 2004 was held from November 14 to 18, 2004, in Las Vegas.

People and Pets Can Fight Obesity Together

A combined people and pet weight management study found that both people and their pets are more successful staying with a weight-loss program when they exercise together.

The People and Pets Exercising Together (P-PET) study was conducted by Northwestern Memorial Hospital and Hill's Pet Nutrition, the maker of Science Diet and Prescription Diet brand pet food. The 12-month program consisted of three groups of overweight participants: a dog/owner group (36 people with their dogs), a dog-only group (53 dogs), and a people-only group (56 people). The study compared the efficacy of weight-loss programs for dog-only and people-only groups to that of a combined dog/owner weight-loss program for both weight-loss and weight-maintenance.

Both people and pets lost weight and kept it off: People lost an average of 11 lbs (5% of initial body weight) and dogs lost an average of 12 lbs (15.6% of initial body weight). The maximum weight-loss for people was 51 lbs. Participants gained the confidence and the motivation to stick to a specific diet and exercise strategy and succeed at losing weight, not just for the moment but for the long term, said Robert Kushner, MD, medical director of the Wellness Institute at Northwestern Memorial Hospital, in a news release.

"We devised a state-of-the-art weight management program based on previous studies that show that people are more effective at losing weight and maintaining that weight loss when they do it with a friend or companion. The P-PET study proves that a faithful pet provides effective social support for losing weight and maintaining weight for up to one year," Dr. Kushner said.

Limited Access to Quality Fruits, Vegetables in Some Urban Areas

People who live in poor, urban neighborhoods have less access to quality fruits and vegetables and to stores selling a larger variety of foods than those living in higher-income neighborhoods.

Study investigators compared the availability and quality of produce in high-income versus low-income urban neighborhoods in Kansas City. They found that people living in low-income, urban neighborhoods had access to at least one convenience store and one liquor store that sold convenience foods, but had access to very few supermarkets or grocery stores. The produce that was available in these neighborhoods included few fresh fruits or vegetables.

The high-income urban neighborhoods were more likely to have access to supermarkets and grocery stores and the quality and quantity of produce available was higher than that of low-income neighborhoods.

"Obesity disproportionately burdens low-income, ethnic minority populations," said Rebecca E. Lee, PhD, of the department of health and human performance at the University of Houston, and lead investigator. "The results of our study suggest that one reason may be that these populations have less access to healthy foods."

In a separate study conducted by investigators at Baylor College of Medicine's Children's Nutrition Research Center in Houston, two economic characteristics of low-income neighborhoods explained the absence of superstores in these neighborhoods. Predominantly African-American neighborhoods were more likely to have fewer chain grocery stores and more independently-owned operations, which typically offer more limited food choices.

Youth Weight Loss: After-School Programs, Smaller Snack Portions and Better Health Education

School-based programs can play a significant role in helping youth lose weight or avoid putting it on.

Programs such as the Medical College of Georgia's FitKid Project offer a good example of how school-based fitness programs can make a difference. This program provided third-graders in Augusta-Richmond County with 80 minutes of physical activity and 40 minutes of academic enrichment every day after school for the duration of the school year. Physical activities focused on motor-skill acquisition through basketball, volleyball, soccer and dance. It also included 40 minutes of vigorous exercise designed to maintain heart rates above 150 beats per minute. The program also provided homework help and general academic curriculum.

At the end of the school year, those children who took part in at least 40% of the classes saw a 0.7% decrease in their percentage of body fat versus children at schools that did not participate in the program, who saw an increase of 0.1% in body fat. Those who took part in at least 80% of the classes saw a 1.1% decrease in body fat.

Another study calculated the potential calorie-saving effect of shrinking middle school snack bar portion sizes. Using actual sales data from 23 middle school snack bars in Texas, the study determined that students would have consumed an average of 45 fewer calories per day if snack bars sold 1-oz bags of chips instead of 3.75-oz bags, and 12-oz cans of sweetened beverages rather than 20-oz bottles. Over the school year, this could prevent up to 2 lbs of excess weight-gain per child.

"Reducing snack food portion sizes is an easy but significant step toward making the school eating environment healthier for children," said lead researcher Karen Cullen, PhD, associate professor of Behavioral Nutrition in the Children's Nutrition Research Center at Baylor College of Medicine.

A third study looked at the effectiveness of a program designed to help first-year college students avoid sudden weight gain, a trend often referred to as the freshmen 15. The study found that enrolling first-year students in a group seminar that focused on improving and maintaining healthy lifestyles helped them to lose an average of nearly 0.5 lb over the course of 1 year, compared to students who did not take the seminar, who gained close to 4 lbs on average.

The seminars, based in social cognitive theory, taught students about obesity and its consequences, good food habits, food caloric density concepts, and the benefits of physical activity. It also included information about local physical fitness centers and tips on how to maintain weight control during stressful periods.

"Young adulthood, particularly the early college years, is a time when it's very easy to put on extra pounds," said lead researcher Marie-France Langlois, MD, associate professor of medicine, biochemistry and physiology at the University of Sherbrooke in Quebec. "Our study showed that students gain weight very rapidly in their first few months of university studies. The small group seminar approach could be very effective at helping young people avoid unnecessary weight gain and at giving them the skills they need to avoid obesity later in life."

New Weight-Loss Programs on the Web Can Work

A study from the University of Vermont found that an interactive Web site including personal and group feedback helped patients lose an average of 21 lbs in 6 months. That was more than twice as much as those who used a commercial weight-loss Web site could shed. The pilot program, known as VTrim, offered subjects weekly behavioral lessons, online facilitated chats, self-monitoring of calories and exercise, individualized therapist feedback and peer support with group members. Members of a control group made use of eDiets.com, a Web site offering information on weight-loss methods and peer support but no one-to-one therapist feedback or structured group format.

"I felt like it was a win-win result," said lead researcher Beth Casey Gold, a registered dietitian and clinical coordinator of the University of Vermont weight management program. "While the VTrim program was far more successful than eDiets.com, the group on eDiets, which is a less expensive program to run, still lost an average of 9 lbs in 6 months. Our research clearly showed that it's possible to run a successful weight-loss program on the Internet."

Lack of Sleep May Cause Excess Weight

Investigators from Columbia University's Mailman School of Public Health and the Obesity Research Center presented findings that suggest the risk of obesity and the duration of sleep are linked.

Controlling for depression, physical activity, alcohol consumption, ethnicity, level of education, age and gender, the investigators analyzed data from the National Health and Nutrition Examination Survey I (NHANES I) and concluded that the less sleep individuals got on a regular basis, the more likely they were to be obese.

Patients – aged between 32 and 59 – who slept 4 or less hours each night were 73% more likely, and those who slept 5 hours were 50% more likely to be obese than those who get full night's sleep (between 7 and 9 hours). If 6 hours of sleep per night was the average, patients were 23% more likely to be obese, the investigators reported.

"The results are somewhat counterintuitive, since people who sleep less are naturally burning more calories," said James Ganwisch, lead researcher, and postdoctoral fellow in psychiatric epidemiology at Columbia University, in a news release. "But, we think it has more to do with what happens to your body when you deprive it of sleep as opposed to the amount of physical activity that you get. Other studies have shown that leptin levels decrease and grehlin levels increase in people who are sleep-deprived, leading to increased appetite and consumption."

Gangwish said that less sleep could trigger the body to increase food intake, which means extra fat storage.

DIABETES UPDATE CONFERENCE

The update was held on November 12, 2004, in Seattle.

Insulin Resistance, Metabolic Syndrome Discussed

Kittie Wyne, MD, PhD, from the division of endocrinology and metabolism, University of Texas Southwestern Medical School, Dallas, presented information showing the prevalence of the metabolic syndrome and insulin resistance.

According to her presentation, the highest incidence of metabolic syndrome, as seen in type 2 diabetic patients from the NHANES III study, is in Mexican-Americans. A total of 31.9% of Mexican-Americans have the syndrome. Overall, 22% of the population, aged ≥20, have the metabolic syndrome.

Wyne also reported that type 2 diabetes is a risk factor for cardiovascular disease, and this risk increases with hypertension, hypercholesterolemia and smoking. Certain

risk factors, like central obesity, insulin resistance, low HDL, high triglyceride levels, systolic hypertension, and an absent nocturnal drop in blood pressure, cluster with microalbuminuria. Wyne also noted that other cardiovascular risk factors clustering with microalbuminuria include being male, having salt sensitivity, increased cardiovascular oxidative stress, impaired endothelial function, abnormal coagulation/fibrinolytic profiles and left ventricular hypertrophy.

Wyne concluded that an integral component of the metabolic syndrome is insulin resistance – people should be checked for resistance if they have the metabolic syndrome. Since the metabolic syndrome may lead to the development of type 2 diabetes, Wyne said that early detection of the metabolic syndrome may reduce the risks of cardiovascular disease, as well as the progression to diabetes.

Prognosis and Treatment of Diabetic Nephropathy

Treatment options for diabetic nephropathy should control hypertension, glucose and LDL cholesterol, according to presenter Rex F. Ochi, MD.

To meet the blood pressure goal of <130/80 mm/Hg, Ochi suggested using an angiotensin-converting enzyme inhibitor in type 1 diabetic patients, and an angiotensin receptor antagonist in type 2 diabetic patients to preserve renal function. Diuretics should also be used: If creatinine <1.4, hydrochlorothiazide may be beneficial. If creatinine is >1.4, consider furosemide.

On average, patients should use three to four agents to control hypertension. Beta-blockers and calcium antagonists are two other options. If experimental methods are an option, diabetic with unilateral renal artery stenosis can protect from hypertension if it demonstrates normal glomerular architecture. Other goals for the treatment of diabetic nephropathy include an HbA1c <7 and LDL <100 mg/dL.

Ochi said that 25% of people with diabetes (18.2 million in the United States and 124 million worldwide) will develop nephropathy 20 years after being diagnosed with diabetes. Within 10 years of the onset of nephropathy, 5% will reach end stage renal disease.

AMERICAN HEART ASSOCIATION'S SCIENTIFIC SESSIONS 2004

The AHA sessions were held from November 7 to 10, 2004, in New Orleans.

Intervention Boosts Activity in Children

A short, moderately intense exercise intervention helped third-graders switch to healthy activities instead of television watching, investigators reported.

The intervention consisted of three 20-minute weekly physical education (PE) classes with vigorous noncompetitive children's games. Classes were for 8 weeks, and were at low or no cost to three participating metropolitan, public schools in Nashville.

Each school represented children from various socioeconomic communities. Fifty-five African-American children, 44 Caucasians, 14 children from other groups including Hispanics and Asians participated in the PE classes. The 45 boys and 68 girls were 8- and 9-years old.

"This modest, 8-week school intervention changed and heightened the intensity levels of the existing physical exercise program in the schools and benefited children by encouraging more vigorous physical activities and less sedentary activities at home," said Tom H. Cook, PhD, RN, lead author and assistant professor at Vanderbilt University School of Nursing in Nashville.

Cook said African-American children, particularly girls, experienced the greatest increase in physical activity levels following the exercise intervention.

About 24% of the children were sedentary before starting the program. After the PE intervention, this dropped to 16%. More than 13% of students who initially reported moderate physical activity increased their activities to more vigorous activities such as swimming and running.

Metabolic equivalent scores ranging from 0 to 8 were assigned to each exercise. Caucasian children showed the smallest increase in activity after the intervention (6.3 to 6.4). African-American children and other children including Hispanics and Asians increased their activity from 5.5 to 6.5.

"After the study, there was a significant increase in vigorous activities and a decrease in more sedentary activities," Cook said. "Playing soccer and going swimming became the most frequent leisure activities and, at the same time, there was a significant decrease in sedentary activities such as watching television."

Funded by the National Institutes of Health, the intervention study used a public health model of intervention to prevent cardiovascular disease in children. It replicates and extends the Cardiovascular Health in Children study.

Lifetime Alcohol Users May be Tempting Metabolic Syndrome

The risk of metabolic syndrome increases the more a person drinks – and an early heavy drinking pattern adds extra risk.

Investigators found that the heaviest drinkers have a 60% greater risk of developing metabolic syndrome than the lightest drinkers.

"Lifetime cumulative effects of alcohol consumption on cardiovascular risk factors comprising the metabolic syn-

drome have been largely unknown, but our study found that drinking patterns independently predict the risk of metabolic syndrome," said lead author Amy Z. Fan, MD, PhD, in a news release.

Fan, cardiovascular epidemiologist with the Centers for Disease Control and Prevention in Atlanta, and Marcia Russell, PhD, senior scientist at the Prevention Research Center, Pacific Institute for Research and Evaluation, Berkeley, Calif, conducted the study.

"Intensity and frequency of alcohol consumption is important, not just the volume of drinking over a lifetime," Fan said. "It's the historical pattern of drinking that matters."

The research has led to a new way of examining complex multidimensional patterns of drinking over a lifetime. Total volume is the total number of drinks in a lifetime; frequency is the total lifetime drinking days; intensity is volume divided by frequency or drinks per drinking day, averaged over a lifetime.

Lifetime drinking patterns of a large population-based sample from northwestern New York provided a sample of healthy controls for case-control studies of chronic disease. A total of 2,817 individuals aged 35 to 79 years who drank at least once a month for at least 6 months during their lifetime were assessed.

A multivariate regression analysis determined whether measures of lifetime drinking patterns predicted metabolic syndrome. The effects of drinking patterns were independent of age, race, gender, family history of heart disease and diabetes, smoking, physical activity and other risk factors.

Twenty-five percent of the patients had metabolic syndrome. The highest quartile category of intensity represented females consuming an average of 4 drinks/drinking day and males who consumed an average of 6 drinks/drinking day. These drinkers are at 60% greater risk for metabolic syndrome than the lowest-intensity drinkers, who represented females consuming an average of 1 drink/drinking day and males consuming an average of 1.3 drinks/drinking day, and had a 23% higher risk. Those in the third quartile category had a 43% higher risk versus those in the low-intensity group.

"Individuals who had an early peak of drinking behavior are at higher risk of metabolic syndrome compared to those who have initiated drinking later in life and maintained a low moderate level through life," Fan said. The early group peaked drinking at about age 20 to 30, then sharply dropped as they age. Among women, the former early-peak drinkers had a 52% higher risk of metabolic syndrome than current low-level drinkers.

"A history of heavy, episodic drinking carries a greater risk of developing metabolic syndrome, regardless of gender," Fan said. "Young people who tend to become involved in episodic drinking rather than moderate drinking should be discouraged."

The researchers concluded that it is healthier to drink smaller amounts per drinking day than to drink more on fewer days, in line with current guidelines on moderate drinking. "The drinking pattern of 1 drink/day is much healthier than seven drinks on a weekend," Fan said.

Heart Failure Registry Highlights Clinical Differences In Hispanic-Americans

Data presented from the Acute Decompensated Heart Failure National Registry (ADHERE), the world's largest heart failure (HF) registry, indicated that Hispanic-Americans may have higher rates of diabetes and higher cholesterol levels than African-Americans and whites who are admitted to the hospital for HF.

"For the first time we have data that clearly show there may be differences in how Hispanic-Americans present with [HF] compared to other ethnic groups," said Javier Jimenez, MD, assistant professor of medicine at the University of Miami/Jackson Memorial Medical Center, and lead author of the study, in a news release. "We need to understand how genetic and cultural differences play a part in patient care if we are to improve [HF] patient treatment and outcomes."

The observational analysis provided a first-time glimpse of how the hospital treatment, outcomes and clinical characteristics of Hispanic-Americans may differ from those of African-American and white HF patients. The study evaluated patients from the three ethnic groups who were admitted to ADHERE-participating hospitals between October 2001 and February 2003 and were diagnosed with acutely decompensated HF. Male Hispanic-Americans more often had a higher incidence of diabetes and higher cholesterol than African-Americans or whites.

"It is important to act now to identify the gaps in [HF] care and outcomes among different ethnic groups, otherwise we risk allowing these gaps to widen rather than be eliminated," said Clyde W. Yancy, MD, professor of medicine and cardiology, director of the congestive heart failure/heart transplant program at University of Texas Southwestern Medical Center, Dallas, and supporting author of the study. "Currently, the ADHERE database indicates that Hispanic-Americans constitute no more than 3% of the overall population affected with [HF], but given the high penetration of cardiovascular risk factors and the growing Hispanic-American population, the problem of [HF] is likely to grow in this group. ADHERE offers us the opportunity to determine the gaps in [HF] care that influence how patients present and are treated with the disease, and how to close them." ■