

# Physical Activity's Weight Control Effects Limited

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Physical activity prevents weight gain in middle-aged and older women only if they are already of low or ideal weight, not in those with body mass indexes of 25 or more, according to a large 13-year study.

Even the lighter women must sustain vigorous physical activity—1 hour or more of moderate-intensity activity every day, on average—to prevent weight gain over time. Women who exercise regularly but do so at lower intensity gain weight at the same rate as those who are inactive, said I-Min Lee, Sc.D., of Brigham and Women's Hospital, Boston, and her associates (JAMA 2010;303:1173-9).

These findings imply that following federal and other recommendations advocating 150 minutes of physical activity per week isn't sufficient to prevent weight gain in most middle-aged women, although it may well provide other health benefits, the investigators noted.

Dr. Lee and her colleagues assessed weight changes associated with various levels of physical activity, they said, because different expert groups have recommended widely varying levels of activity. For example, the federal

government, the American College of Sports Medicine, and the American Heart Association recommend a minimum of 150 minutes per week, while the Institute of Medicine suggests nearly 3 times that amount, 420 minutes per week, to avoid becoming overweight or obese.

The researchers examined the issue using data from the Women's Health Study, a prospective cohort study of healthy women who had a mean age of 54 years at baseline in 1992. The team assessed 34,079 of these subjects who have been followed up on periodically since the main portion of that study was concluded in 2004.

At baseline, approximately half the women were classified as inactive, performing less than 150 minutes per week of moderate-level physical activity such as brisk walking, hiking, running, bicycling, tennis, swimming, weight training, or aerobic dance or exercise. Another 29% performed an intermediate amount of physical activity, and 22% performed a high level, putting in 21 or more hours of such activity per week.

In an initial data analysis, all three groups showed similar patterns of weight gain over a mean 13 years of follow-up. In particular, the inactive group gained a mean of 0.12 kg and the inter-



**Regular, low-intensity exercise promotes health but may not help overweight middle-aged or older women lose weight.**

women with BMIs lower than 25. Only in those women did a high level of activity prevent weight gain.

Finally, an analysis of the subgroup of women of normal weight who maintained that weight throughout follow-up showed that they spent at least 60 minutes per day performing

moderate group gained 0.11 kg, an insignificant difference.

Further analysis showed, however, that women starting with body mass indexes (BMIs) lower than 25 demonstrated an inverse correlation between physical activity and weight gain, Dr. Lee and her associates said.

Another analysis examined the likelihood of gaining 2.3 kg or more over the course of 3 years. Again, there was no correlation between activity level and weight gain except in the subgroup of

moderately intense activity, an amount closer to the Institute of Medicine recommendations than to others.

These findings indicate that once women are overweight, "it may be too late" for physical activity to stave off further weight gain, the investigators said.

This study was supported by the National Institutes of Health. Dr. Lee reported serving as a consultant to Virgin HealthMiles and sitting on its scientific advisory board. The authors reported no other financial conflict of interest. ■

## Exercise Appears to Offset Effects of the 'Obesity Gene' in Adolescents

Physical activity may cancel out the effects of the "obesity gene" in adolescents, as it has been shown to do in adults.

"To our knowledge, our study is the first to report an interaction between the FTO rs9939609 polymorphism and physical activity level on adiposity indices using objectively assessed physical activity in adolescents," said Jonatan R. Ruiz, Ph.D., of the Karolinska Institute, Huddinge, Sweden, and his associates.

The investigators genotyped and assessed body mass index, waist circumference, and body fat percentage in 752 adolescents participating in the Healthy Lifestyle in Europe by Nutrition in Adolescence Cross-Sectional Study (HELENA-CSS). They also assessed subjects' physical activity level using an accelerometer attached to the lower back rather than by using subjective measures such as questionnaires.

As expected, the fat mass and obesity-associated

(FTO) gene variant known as rs9939609 was significantly associated with higher BMI, greater waist circumference, and higher percentage of body fat.

However, there was no such association in the subgroup of carriers who participated in at least 60 minutes per day of moderate to vigorous physical activity, Dr. Ruiz and his colleagues said (Arch. Pediatr. Adolesc. Med. 2010;164:328-33).

The U.S. Department of Health and Human Services recommended this level of activity in recently released guidelines. Therefore, the study findings "have important public health implications and indicate that meeting the physical activity recommendations may offset the genetic predisposition to obesity associated with the FTO polymorphism in adolescents," the researchers added.

This study was supported by several European government organizations. No financial conflicts of interest were reported. ■

## Quality of Health Care May Not Differ by Patients' Weight Status

Obese and overweight patients do not appear to receive inferior health care, compared with normal-weight patients, according to a recent report.

In fact, patients with a higher body mass index may be more likely than normal-weight patients to undergo lipid screening and hemoglobin A<sub>1c</sub> testing; vaccination for influenza and pneumococcus; and screening for breast, colorectal, and cervical cancer, said Dr. Virginia W. Chang of the University of Pennsylvania, Philadelphia, and associates.

"While it may be true that physicians often harbor negative attitudes toward obesity, such attitudes may not be borne out in lower quality of care," they noted (JAMA 2010;303:1274-81).

The investigators examined whether quality of care differs by patient weight status because in many studies, physicians have admitted to feeling discomfort with and dislike toward overweight patients, reluctance to treat them, and dissatisfaction with managing their care.

In addition, more than half of overweight patients in one study reported being stigmatized by a physician on multiple occasions, and physicians have been cited by

overweight people as one of their most common sources of weight-related bias.

Dr. Chang and her colleagues assessed the issue using data from two large patient populations: nationally representative samples of 36,122 Medicare beneficiaries and 33,550 VA patients. The preva-

**'There was no instance in which obese or overweight individuals were estimated to have significantly lower odds of recommended care relative to normal-weight individuals.'**

lence of obesity was 20% in the Medicare group and 39% in the VA group.

Eight quality-of-care measures were examined: whether diabetic patients received eye examinations, lipid screening, and HbA<sub>1c</sub> testing; whether appropriate patients received influenza and pneumococcal vaccines; and whether appropriate patients were offered mammography, Pap smears, and colorectal cancer screening.

"Across all measures in both Medicare and VHA samples, there

was no instance in which obese or overweight individuals were estimated to have significantly lower odds of recommended care relative to normal-weight individuals," the researchers wrote.

Moreover, overweight and obese patients "often had higher estimated odds of care, and the increase in odds from normal, to overweight, to obese sometimes exhibited a monotonic pattern," they added.

Dr. Chang and her associates noted that this study did not address health conditions and needs other than the eight specific indicators assessed here, "and obese patients may have experienced inferior care along other dimensions of medical care."

In addition, "it is important to note that our findings may not be generalizable to quality of care in younger populations, in which the stigma and stereotypes associated with obesity may be more salient," they said.

This study was supported by the Veterans Health Administration and the Robert Wood Johnson Foundation. No financial conflicts of interest were reported. ■