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Study finds fitness level, not body fat, may be stronger predictor of longevity for older adults

Adults over age 60 who had higher levels of cardiorespiratory fitness lived longer than unfit adults, independent of their levels of body fat, according to a study in the December 5 issue of JAMA.

Previous studies have provided evidence that obesity and physical inactivity each can produce a higher risk of death in middle-aged adults. Whether this is also true for older adults is uncertain, according to background information in the article.

Xuemei Sui, M.D., of the University of South Carolina, Columbia, and colleagues examined the associations between cardiorespiratory fitness, various clinical measures of adiposity (body fat) and death in older women and men. The study included 2,603 adults age 60 years or older (average age, 64.4 years; 19.8 percent women) enrolled in the Aerobics Center Longitudinal Study who completed a baseline health examination during 1979-2001. Fitness was assessed by a treadmill exercise test and adiposity was assessed by body mass index (BMI), waist circumference, and percent body fat. Low fitness was defined as the lowest fifth of the sex-specific distribution of treadmill exercise test duration. There were 450 deaths during an average follow-up of 12 years.

The researchers found that those who died were older, had lower fitness levels, and had more cardiovascular risk factors than survivors. However, there were no significant differences in adiposity measures. Participants in the higher fitness groups were for the most part less likely to have risk factors for cardiovascular disease, such as hypertension, diabetes, or high cholesterol levels. Fit participants had lower death rates than unfit participants within each stratum of adiposity, except for two of the obesity groups. In most instances, death rates for those with higher fitness were less than half of rates for those who were unfit.

Higher levels of fitness were inversely related to all-cause death in both normal-weight and overweight BMI subgroups, in those with a normal waist circumference and in those with

abdominal obesity, and in those who have normal percent body fat and those who have excessive percent body fat.

we observed that fit individuals who were obese (such as those with BMI of 30.0-34.9, abdominal obesity, or excessive percent body fat) had a lower risk of all-cause mortality than did unfit, normal-weight, or lean individuals. Our data therefore suggest that fitness levels in older individuals influence the association of obesity to mortality," the authors write.

Our data provide further evidence regarding the complex long-term relationship among fitness, body size, and survival. It may be possible to reduce all-cause death rates among older adults, including those who are obese, by promoting regular physical activity, such as brisk walking for 30 minutes or more on most days of the week (about 8 kcal/kg per week), which will keep most individuals out of the low-fitness category. Enhancing functional capacity also should allow older adults to achieve a healthy lifestyle and to enjoy longer life in better health.

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