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Improving Vitamin D level, physical fitness, and body weight may help to reduce health risks in African-American adults

DALLAS, TX (September 4, 2019) – An estimated 40% of American adults may be vitamin D deficient. For African-Americans, that number may be nearly double at 76% according to a new study by The Cooper Institute.

Previous studies have shown that African-American adults have higher rates of vitamin D deficiency and obesity, as well as lower levels of cardiorespiratory fitness when compared with other groups. Across the board, African-American adults are generally at greater risk for a number of chronic and potentially life-shortening conditions such as hypertension, stroke, insulin resistance, metabolic syndrome, type 2 diabetes, cancer, heart disease and all-cause mortality, some of which is associated with vitamin D deficiency.

Earlier studies by The Cooper Institute show a strong relationship between fitness, body weight status, and vitamin D levels in Caucasian adults. To help generalize these findings to other groups, the research team examined these relationships in a group of 468 generally healthy African-American adults (average age 47) who were participants in the Cooper Center Longitudinal Study (CCLS). All subjects underwent a maximal treadmill exercise test to measure their fitness level and placed into low, moderate or high categories based on their age and sex. Their body weight status was also measured via body mass index (BMI), waist circumference and body fat percentage. For BMI, the participants were categorized as normal weight, overweight or obese. For waist circumference and body fat, they were categorized as normal or obese. Additionally, a fasting blood sample determined vitamin D levels.

The results, published in the Journal of Investigative Medicine, found that African-American men and women with moderate or high fitness levels were 45% less likely to have vitamin D deficiency than those with low fitness levels. Additionally, obese African-American men and women were 70% more likely to have vitamin D deficiency than those who were normal weight.

“Some of the health disparities that we see in African-American Adults may be partially due to the high prevalence of vitamin D deficiency in this population,” said Steve Farrell, PhD, lead researcher on the study and senior investigator for The Cooper Institute. “Our data shows that vitamin D deficiency is strongly associated with low fitness and obesity in this group.”
The body naturally produces vitamin D in response to the skin’s exposure to sunlight. People with darker skin pigmentation, like African-Americans, are at greater risk for vitamin D deficiency or insufficiency because the higher presence of melanin reduces the body’s ability to produce vitamin D. Other common risk factors include not getting enough sunlight, sunscreen use, older age, and not eating much dairy or fatty fish.

Symptoms of vitamin D deficiency include frequent illness or infection, slow wound healing, fatigue, bone and back pain, hair loss, muscle pain, and depression.

“Although cross-sectional studies such as these do not prove cause and effect, it is reasonable to suggest that all African-American adults have their blood vitamin D levels measured at their next checkup,” said Farrell. “Sedentary African-American adults should strive to meet the minimal physical activity guidelines while those who are overweight or obese should strive to lose weight.”

The most recent edition of the Physical Activity Guidelines for Americans recommends a minimum of 150 minutes per week of moderate-intensity aerobic physical activity for all adults. This may include brisk walking, cycling, swimming, slow jogging, or moderately intense activities at work or home such as taking the stairs, cleaning, and lawn work. Additionally, a minimum of 2 days per week of strength training is recommended. Only about 20% of Americans meet these minimum recommendations for physical activity.

ABOUT THE COOPER INSTITUTE
The Cooper Institute was established as a nonprofit in 1970 by Kenneth H. Cooper, MD, MPH, to promoting life-long health and wellness worldwide through research, education and advocacy. By improving public health, The Cooper Institute helps people lead better, longer lives now and Well. Into the Future. To learn more, visit CooperInstitute.org.

ABOUT THE COOPER CENTER LONGITUDINAL STUDY
Owned and operated by The Cooper Institute, the Cooper Center Longitudinal Study (CCLS) is the largest and longest-running study in the world with measured fitness. Developed in 1970, it contains over 300,000 patient records from the Cooper Clinic and is one of the world’s most referenced studies relating fitness to overall well-being and the improvement of public health. To learn more, visit CooperInstitute.org/CCLS.

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