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Physical Activity and Abnormal Blood Glucose Among Healthy Weight Adults.

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Abstract

INTRODUCTION: Physical activity has been linked to prevention and treatment of prediabetes and diabetes in overweight and obese adults. This study examines the relationship between low physical activity levels and risk of abnormal blood glucose (prediabetes or undiagnosed diabetes) in healthy weight adults.

METHODS: Data from the 2014 Health Survey for England were analyzed in July 2016, focusing on adults with a BMI ≥18.5 and <25 who had never been diagnosed with diabetes (N=1,153). Abnormal blood glucose was defined as hemoglobin A1c ≥5.7. Physical activity was measured through the International Physical Activity Questionnaire. Bivariate analyses and Poisson models were conducted on the effect of physical activity on abnormal blood glucose, controlling for age, sex, waist to hip ratio, sitting time, age X physical activity interaction, sex X physical activity, and race.

RESULTS: Abnormal blood glucose was detected in 23.7% of individuals with low activity levels, 14.8% of those with medium activity levels, and 12.2% of those with high activity levels (p<0.003). Similarly, 25.4% of inactive individuals (physically active for <30 minutes per week) were more likely to have abnormal blood glucose levels than active individuals (13.4%, p<0.0001). Higher physical activity was associated with a lower likelihood of abnormal blood glucose in an adjusted Poisson regression.

CONCLUSIONS: Among healthy weight adults, low physical activity levels are significantly associated with abnormal blood glucose (prediabetes and undiagnosed diabetes). These findings suggest that healthy weight individuals may benefit from physical exercise.

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