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Physical activity in the evening was better at lowering blood glucose levels

A clinical study by Spanish scientists has shown that moderate physical activity in obese people in the evening reduces daily, daytime and nighttime glucose levels. As reported in the journal Obesity, this association was more evident in participants with impaired glucose tolerance.

Healthy diet and physical activity remain the first line of therapy for reducing body weight and improving glucose control in obese patients. Preliminary data from some clinical trials suggest that the time of day at which a person is physically active may have a significant effect on blood glucose levels because circadian rhythms affect glucose metabolism. However, data from such studies are not always representative - often limited by methodological imperfections.

Therefore, a Spanish research team led by Antonio Clavero-Jimeno (Antonio Clavero-Jimeno) from the University of Granada studied the relationship between physical activity time and glycaemic control (i.e. average daily, daytime and nighttime glucose levels) in overweight or obese adults with metabolic disorders. To do this, she conducted a clinical trial comparing the effects of physical activity at different times of day on glucose levels.

Participants' physical activity was monitored using a triaxial accelerometer, which they wore on the wrist of their non-dominant hand. In addition, participants recorded their bedtime and wake-up time daily on a mobile app. Glucose was measured continuously for 14 days using a device to monitor blood glucose levels.

A total of 186 adults (mean age 46.8 years) with an average BMI of 32.9 kilograms per square metre participated in the study. These participants provided reliable data from accelerometers and glucose monitoring devices for an average of ten days, and 80 per cent had reliable data for eight days or more. Overall, the researchers observed participants had lower average daily, daytime and nighttime glucose levels on days with physical activity compared to days without physical activity. Moreover, the higher the activity, the greater the decrease in glucose levels.

However, the greatest reductions in daily, daytime, and nighttime glucose levels occurred on days when participants engaged in moderate physical activity in the evening (compared with inactive days). Thus, diurnal glucose levels decreased by an average of 0.28 millimoles per litre (p = 0.004), daytime glucose levels by 0.24 millimoles per litre (p = 0.02) and nighttime glucose levels by 0.47 millimoles per litre (p = 0.002). In addition, diurnal and nocturnal glucose levels were lower with physical activity in the afternoon. Participants with impaired glucose tolerance showed similar and stronger patterns.

According to the scientists, the results of this study are worth using when designing treatment plans for people with obesity and impaired glucose tolerance. Thus, doctors will be able to more reasonably recommend sports and exercise to patients in the evening to better ensure metabolic health.



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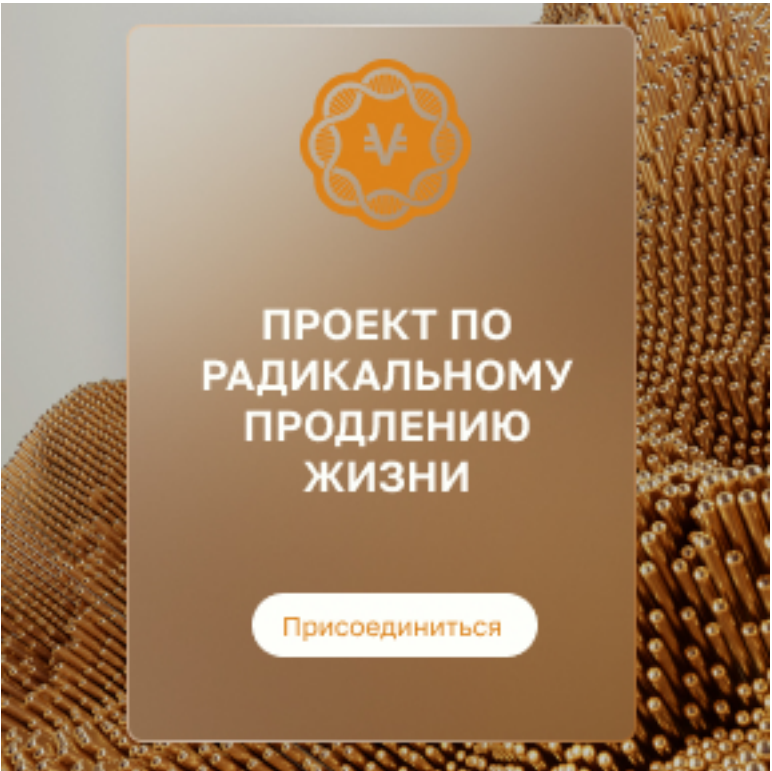
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