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Sleep In, Get Thin: Melatonin's Effect On the Metabolism

By Kiyan Rajabi

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A series of recent discoveries in Spain suggests that melatonin, the naturally occurring hormone found in animals that is the primary regulator of the sleep cycle, may prevent weight gain and other health complications.

In the University of Granada study published in this year's Journal of Pineal Research, scientists found that lab rats given melatonin supplements lost weight compared to the control group. Furthermore, the group of subjects that received the additional hormone not only experienced weight loss but also exhibited lower blood pressures and cholesterol levels.

In light of the results of the study, researchers have suggested that the melatonin supplements, as well as a melatonin-rich diet, may be effective in preventing obesity and its associated risks.

The link between weight loss and melatonin, as explained by UCSB psychology professor Alan Fridlund, is due to melatonin's role in controlling the body's metabolism.

"Melatonin is an important regulator of brown adipose tissue in mammals, which burns calories by ramping up the body's metabolism," Fridlund said.

In addition, human bodies naturally adjust melatonin production levels in response to changes in light. As nighttime approaches, the body naturally experiences a rise in melatonin levels, and in the morning, a reduction. While production levels are mostly affected by the amount of light in the surroundings, foods that contain melatonin precursors are preferential but not essential for sound sleep. Some natural sources of melatonin include mustard, goji berries, sunflower seeds, almonds and cherries.

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In a previous University of Chicago study published in Annals of Internal Medicine, researchers found higher levels of the hormone ghrelin which tends to cause an increase in hunger and a simultaneous decrease in the hormone leptin that suppresses hunger when the subjects were deprived of sleep. Not only were the sleep-deprived subjects hungrier on average than those who got enough sleep, but they also tended to crave high-fat, high-sugar foods.

In a 2004 press release, University of Chicago's Dr. Eve Van Cauter summarized the importance of the study's results.

"This is the first study to show that sleep is a major regulator of these two hormones and to correlate the extent of the hormonal changes with the magnitude of the hunger change," Cauter said.

Follow-up studies could aid researchers in determining the real benefits of sleep and redefining optimal sleep habits. Instead of continuing the use of our alarm clocks' snooze button every morning, Fridlund has provided sound advice for those interested in preventing weight gain: "Could melatonin be a 'magic bullet' for obesity? It's doubtful. [If] you want to lose weight and lower your blood pressure, [just] eat wisely and get regular exercise."

In sum, readers, try getting some extra Z's in addition to your normal exercise and healthy eating routine, and you may wake up to a set of washboard abs.

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