

Can poor sleep impact your weight loss goals?

Getting a good night's sleep may aid weight loss programs, research indicates. Maria Korneeva/Getty Images

Researchers assessed the link between sleep quality and adherence to a weight loss plan.

- They found that better sleep was linked to better adherence to a weight loss plan.
- Further studies are needed to understand the reasons behind this link.

Sleep is essential for [maintaining Trusted Source](#) key bodily functions and mental health. Sleep deprivation has multiple health consequences, [including Trusted Source heart disease](#), diabetes, and [depression](#).

Research also shows that inadequate sleep is [associated](#) with obesity. Studies also show that those with irregular sleep cycles are at a greater risk of [obesity](#)[Trusted Source](#) and [cardiometabolic risk](#).

Understanding more about how sleep affects obesity risk could aid the development of effective treatment and prevention strategies for the condition.

Recently, researchers investigated the effects of sleep quality on the compliance with a weight loss program. They found that better sleep was linked to greater adherence to a 12-month weight loss intervention.

The study was presented at the [American Heart Foundation's Epidemiology, Prevention, Lifestyle, and Cardiometabolic Health Scientific Sessions 2023](#)[Trusted Source](#).

How better sleep changes behavior

For the study, the researchers recruited 125 adults with overweight or obesity and an average age of 50 years old. Each took part in a 12-month behavioral weight loss intervention.

At the beginning of the study, after six months and after 12 months, the researchers used questionnaires and wearable devices to assess six dimensions of participants' sleep:

- regularity
- satisfaction
- alertness
- timing

- efficiency
- duration

The researchers also recorded participants' attendance to group intervention sessions, daily adherence to caloric intake via a phone app, and changes in average daily moderate-vigorous physical activity.

In the end, they found that participants with better sleep health were more likely to attend group intervention sessions, and were more likely to adhere to caloric intake goals.

They also found a statistically insignificant link between sleep quality and physical activity.

“We had hypothesized that sleep would be associated with lifestyle modification; however, we didn't expect to see an association between sleep health and all three of our measures of lifestyle modification,” says [Dr. Christopher E. Kline](#), an associate professor in the department of health and human development at the University of Pittsburgh and one of the study's authors, in a press release.

“Although we did not intervene on sleep health in this study, these results suggest that optimizing sleep may lead to better lifestyle modification adherence.”

— Dr. Christopher E. Kline, study author

Linking sleep and weight loss

“When you sleep, your body goes through specific changes that enable the type of rest that is vital to your overall health,” [Dr. David Spiegel](#), professor

and associate chair of psychiatry & behavioral sciences at Stanford University Medical Center, who was not involved in the study, told *Medical News Today*.

“Good sleep allows for the brain to repair and revise synapses, enhancing the ability to modify behavior. It also provides more energy and focus the next day, making exercise more vigorous and effective. Over the long-term, that can help them adhere to a weight loss program,” he added.

“Lack of sleep is a stressor on the body, especially on cardiometabolic health,” [Dr. Sarah-Nicole Bostan](#), director of behavior change strategy for Signos, who was not involved in the study, told *MNT*:

“[Lack of sleep] activates several physiological pathways that can result in excessive glucose in the bloodstream or increased insulin resistance over time which has been tied to increased body fat, especially around the abdominal region. Better sleep can moderate the relationship between weight loss interventions and weight loss outcomes.”

— Dr. Sarah-Nicole Bostan

Joel Totoro, director of sports science at [Thorne HealthTech](#), who was also not involved in the study, explained to *MNT* how sleep affects appetite:

“The body’s sleep and wake cycles are controlled by a natural rhythm called circadian rhythmicity. Circadian rhythm affects two hormones called ghrelin and leptin, which help regulate appetite and how much we eat.”

“When we don’t get enough sleep, the hormone that makes us hungry, ghrelin, increases, and the hormone that makes us feel full, leptin, decreases. These unwanted changes can cause us to eat more, especially when tired or stressed.”

— Joel Totoro

[Sapna Bhalsod](#), registered dietician at WellTheory, who was not involved in the study, also told *MNT* about how a lack of sleep can affect levels of cortisol, the [stress](#) hormone in our body.

“During our sleep cycle, the body is building, healing, and processing so that when you wake up, your cortisol, or stress hormone, is at its highest to kickstart the day. When we get suboptimal sleep, we miss out on the [REM](#) sleep that helps to regulate our cortisol levels,” she said.

“Cortisol is a glucocorticosteroid directly linked to our blood sugar and metabolism. When cortisol is out of rhythm, so is our blood sugar. It can lead to [fatigue](#) and sugar cravings, making it much more challenging to adhere to weight loss interventions,” she added.

Limitations

MNT asked [Dr. Dana Ellis Hunnes](#), assistant professor at UCLA Fielding School of Public Health, who was not involved in the study, about the study’s limitations.

“They don’t really dive into the reasons behind better adherence to weight loss interventions, just that there is this association between more/better sleep and adherence. It would be great to go into more of the ‘causal’ reasons behind these findings,” she said.

MNT also spoke with [Dr. Debbie Fetter](#), assistant professor of teaching nutrition at the University of California, Davis, who was not involved in the study. She noted that the researchers did not use a control group, meaning they could not compare the results between groups.

She added that a longer-term follow-up would have been useful to see if the results were maintained after six months to a year after the end of the study.

She added that the study still doesn't answer the question: "does better sleep lead to more adherence to a weight loss plan?"

"There may be something about the characteristics of the participants who had better adherence to the weight loss protocol (and thus, better sleep) that would be useful to capture through qualitative measurements to identify—perhaps these participants had better [self-monitoring skills, other forms of social support etc.]," she added.

Why sleep hygiene education is needed

[Dr. Jay Trambadia](#), licensed clinical psychologist, who was also not involved in the study, told *MNT* that the study may promote further research to help individuals focus on sleep, diet, and exercise when dealing with healthy lifestyle change.

"In addition, appropriate professionals may be added to an integrative treatment team to assess and intervene on these concerns. These may include pharmacological treatments and/or non-pharmacological interventions, such as psychoeducation for sleep hygiene, identifying maladaptive behaviors, and behavioral modification," he said.

"Overall, better sleep can help one stick with a healthy lifestyle plan by improving energy levels, mood, hunger cravings, ability to think, and reducing stress. By making sure one gets enough sleep and rest, they are set up for successfully achieving their goals."

— Dr. Jay Trambadia, clinical psychologist