

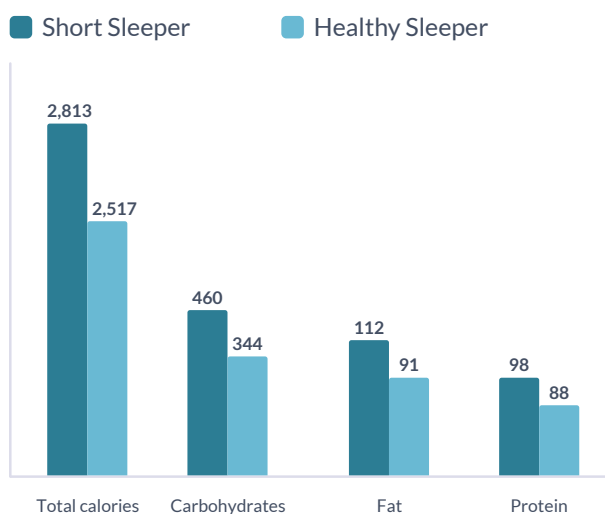


The Importance of Sleep for a Healthy Body and Mind

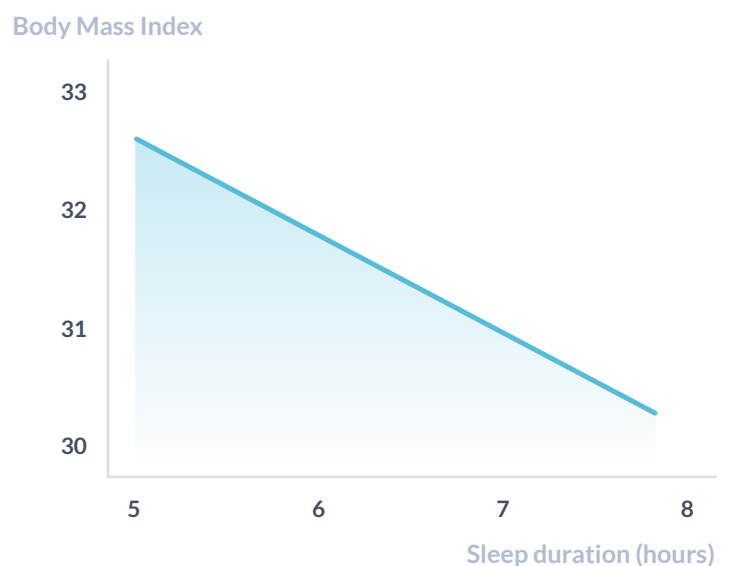
While some of us may take sleep for granted, it is considered one of the four main pillars of health, alongside nutrition, physical activity and emotional well-being. Some even say that sleep may be the overarching link among them, i.e. disturbed sleep and its side-effects will undermine the ability of the other pillars to generate optimal health outcomes.

Disturbed Sleep Leads to Unhealthy Eating Patterns and Weight Gain

To better understand the connection between sleep and unhealthy eating patterns, let's take a look at leptin and ghrelin, hormones that regulate appetite, metabolism and calorie burning. Leptin is linked to feelings of appetite satiation whereas ghrelin is linked to feelings of hunger. When we get uninterrupted, high quality sleep, body concentrations of leptin and ghrelin are high and low, respectively, messaging the brain a lack of caloric need (food). However, when we don't get enough sleep or when our sleep is disturbed, we have less leptin and more ghrelin circulating in our bodies. This misleads our brain into mistakenly believing that we are truly hungry and often leads people to unhealthy and excessive eating patterns. This was clearly proven in one study of adults whose sleep was restricted to 4-5 hours a night; participants not only ate more calories (when compared to those who received 8-9 hours of sleep), but made poorer decisions in regards to food choices, i.e. chose to eat more "junk food" (foods high in sugar and fat).¹ Not surprisingly, short sleep duration has been associated with greater Body Mass Index (BMI).²



Adapted from St-Onge et al. 2011.¹



Adapted from Taheri et al. 2004.²

Who hasn't eaten something late at night that they then regretted eating the next morning? Excessive eating during extended wakefulness is indeed very common, but what exactly is the reason for this phenomenon? It may be in part explained by an evolutionary link between sleep and hunger, i.e., during food shortages, one of the few reasons people gave up on sleep was the search for food sources. Alternatively, a lack of sleep and associated fatigue may temporarily weaken our sense of self-control and with it our ability to inhibit unhealthy, yet tempting behaviors, such as eating unhealthy foods. Whatever the underlying reason, **chronic lack of sleep leads to a hormonal imbalance which causes poor appetite control, slowed metabolism, unhealthy and excessive eating, weight gain and increased risk for obesity.**

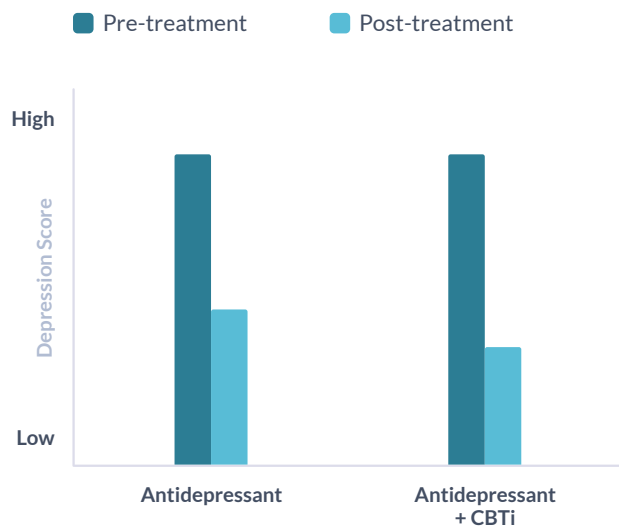
Ongoing sleep loss has also been found to increase levels of stress hormones and resistance to insulin, both of which contribute to weight gain.

Inadequate Sleep is linked to Depression and Anxiety

Who hasn't experienced those mornings when we feel lacking in energy, sluggish, and maybe even a bit irritable? Try remembering your last 'Monday morning blues'. When we get to work, this fatigue may be replaced with tension, lack of focus or motivation, down mood, frustration, and for some even withdrawal from friends and colleagues.³

Thankfully, a good night's sleep often reverses these feelings and behaviors. However, what happens when we are faced with competing needs and demands or suffer from inability to generate quality sleep, resulting in ongoing sleep loss? Studies have shown that 50-60% of Americans are not getting sufficient amount of nightly sleep. This puts many of us at risk for more profound and lasting effects on our mood and psychological well-being.

Sleep and mental health have large, complex, and independent effects on our physical health and daytime functioning. It may therefore not be surprising that the most common sleep condition, chronic insomnia (characterized by difficulties falling and staying asleep) and the most common mood disorder, clinical depression, have similar prevalence rates, ranging from 6-10% of the adult population. A large body of evidence has also shown that inadequate sleep and mood disorders are interrelated and can even amplify one another. One large longitudinal study showed that up to 50% of people suffering from insomnia for two weeks or longer will also suffer from a depressive episode or a full depression later on.⁴



Adapted from Manber et al. 2008.⁵

Moreover, in a clinical trial of adults with both depression and insomnia, untreated insomnia hindered improvement in depression, while **those receiving cognitive behavioral therapy for insomnia (CBT-I) in combination with their depression treatment showed greater alleviation of both insomnia and depression symptoms.**⁵

Passing worries and anxieties are natural and common occurrences we've all probably experienced at some point in time. However, for some people, anxiety has become excessive, overwhelming, and at times uncontrollable. Fears and anxious thoughts keep many of them up at night or result in restless sleep marked by excessive wakefulness or a general feeling of non-restorative sleep. A recent study showed that when healthy adults don't get enough sleep, there's an increase in activity in brain centers involved in emotional processing and excessive worry.⁶ These results are particularly worrisome in people who are already prone to anxiety, who may be particularly sensitive to the effects of sleep loss. In other words, when they do not get enough sleep, they may be considerably more likely to develop a full-blown anxiety disorder.

Sleep protects the Body and Mind

Sleep has been shown to affect almost every researched aspect of our brain and body functions. If sleep disruption is a main factor in a wide-array of physical and mental health conditions, then sleep treatment, via **restoration of healthy sleep, can protect against and even improve a broad range of body and mood conditions.** Therefore, investing in getting the best sleep possible, even if challenging at times, is unquestionably worth the effort.

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2. Taheri S, Lin L, Austin D, Young T, Mignot E. *PLoS Med*, 2004.

3. Ben-Simon E & Walker M. *Nature Communications*, 2018.

4. Buysse DJ, Angst J, Gamma A, Ajdacic A, Eich DO & Rössler W. *Sleep*, 2008.

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