

REVIEW ARTICLE

Sleep Deprivation: A Guide to Promoting Enhanced Sleep Quality

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Abstract

Sleeping is a fundamental and extremely important activity. It has been recommended adults achieve at least seven to nine hours of sleep nightly. Many individuals worldwide fall short of achieving an adequate night of rest and quality sleep. Not getting adequate rest and sleep can be detrimental to an individual's health both mentally and physically. There are measures that can be taken to help acquire a more preferable quality and longer duration of sleep.

1. Introduction

Sleep is perhaps one of the most profound and fundamentally important activities an individual can engage in on a daily basis. "But why?", one may ask. Sleep enhances the feeling of rejuvenation both mentally and physically. Acquiring adequate sleep staves away chronic illnesses, protects your brain, contributes to the body's homeostasis abilities plus so much more. Developing a healthy sleep routine and quality is important as it can contribute to life's productivity and ultimately impose a significant benefit to an individual and their overall health.

Sleep deprivation is a common problem worldwide. It comes in the forms of insomnia ranging from acute to chronic. Sleeping issues may also have other sources lending to the inability to have a good night's sleep such as stress, anxiety, food choices indulged in prior to going to bed, obligations needing to be fulfilled, poor oxygen exchange during sleep, the utilization of electronic devices prior to going to bed, and other mental health issues. According to ResMeds 2024 Global Sleep Survey performed between 2023 and 2024, it was discovered in countries such as Japan, the United Kingdom, and France people had disruptions in sleep. While countries such as Thailand and India reported sleeping well at night. Women in countries such as Ireland and Australia suffered from sleep

deprivation due to hormonal related issues (ResMed, 2024). According to the Centers for Disease Control one-third of individuals report not getting enough sleep in the United States (National Heart, Blood and Lung Institute, 2022).

Research has shown sleep deprivation is quite a common phenomenon impacting many intricate facets of an individual suffering from the disorder. There are ways in which a good night's sleep or rest may be achieved. In this literature methods for promoting a better quality and longer duration of sleep will include exploring the following topics-stretching, hydration, tryptophan, fruits and magnesium.

1.1 Stretching

Stretching offers a myriad of benefits. Not only does it help with reducing muscle injuries, this activity enhances a feeling of relaxation. In addition, it lends to increased blood circulation. Stretching exercises do not have to be strenuous, it can be simple. Stretching can be done in the bed. It can also be apart of winding down before going off to sleep. The following are simple stretches one can engage in to promote better rest and sleep while in bed:

- *Neck stretches-* A. Gently place your hand on top of head and pull in both directions left and right counting to 5 or 10 slowly then repeat pulling the head in the opposite direction with the same

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count B. Gently hold chin down, using both hands placed on back of head pressing down as much as comfortable. Repeat.

- *Arm stretches*-Hold left/right arm up and fold behind head with forearm placed in middle of back pulling the elbow over as far as possible (stretches the back of upper arms). Repeat.
- *Back Stretch*- with legs spread apart as far as you can, lean forward as far as possible counting to 5 or 10. Repeat.
- *Leg and feet Stretch*-While sitting up in the bed, lean over grabbing the bottom of your feet holding the stretch in counts of 5 or 10. Repeat.
- *Side Stretches*- Lean over to the left/right for as long as able to be held comfortably. Repeat.
- *Child's Pose*- From your hands and knees (neutral), slowly lower your butt toward your feet (Hospital for Special Surgery, 2024)
- *Knee to Chest*- Lying on your back. Bring your right knee up and hold behind it with both hands. Pull your leg to your chest (Hospital for Special Surgery, 2024)

1.2 Hydration

The amount of fluids a person is allowed daily may depend of certain medical issues. For instance, if a person has fluid volume issues there may be certain restrictions on daily fluid volume intake. It is important to consult with the healthcare provider prior to engaging in an over exorbitant amount of fluids or the regular daily allotted amount. The normal daily intake of fluids for a woman is around 12 cups whereas for a man is 16 cups per day (Harvard Health Publishing, 2025). Maintaining hydrations plays a vital role in contributing to improved quality of sleep. The benefits of adequate hydration include:

1. Regulates body temperature
2. Reduces Headaches
3. Reducing muscle cramps (Taylor, 2022).

Make sure not to engage in over fluid consumption just prior to going to bed. Doing so can impede sleep quality inducing frequent runs to the restroom in the middle of the night.

1.3 Tryptophan

Tryptophan is a compound that promotes brain chemical, hormones, break down food, and grow and repair body tissue (Medline Plus, 2024). Tryptophan helps in the production of serotonin and melatonin. One of the functions of tryptophan is to

produce melatonin and serotonin. Melatonin is a sleep promoting hormone. Serotonin is also a sleep hormone which plays a key role in sleep regulation. Sources of serotonin complex carbohydrates such as vegetables, fruits, legumes, and whole grain. Sun light exposure can increase serotonin levels (Watson, 2023). Although unable to be produced by the human body, tryptophan must be acquired through other sources such as food. Poultry, beans, seeds, nuts, eggs, and cheese are all great contributing sources of tryptophan.

1.4 Fruit

Nature and all of its bountiful and rich resources have so much to offer. One natural resource comes in the form of fruit. Fruits are powerhouses for vital nutrients needed to maintain health acting as a pain reliever by reducing inflammation, improving glucose levels, and improving cardiovascular health. Cherries, high in antioxidants, have been cited for the ability to aid in the promotion of improved. Cherries contain a natural hormone, melatonin, which helps to regulate sleep patterns. In a study, several individuals over the age of fifty who were experiencing sleep deprivation showed that drinking two cups of tart cherry juice daily had a significant improvement in sleep (Losso, et al., 2018).

Kiwi, a deliciously tart, sweet, and fuzzy fruit is packed with vital nutrients. These nutrients include Vitamin C, Vitamin E, Vitamin K and fiber. This fruit is consumed in several different dishes including salads, sauces or simply just eaten alone. Kiwi aids in the promotion of sleep due to its serotonin and potent antioxidant properties. In a study performed at a Taiwan's Taipei Medical University over the effects of kiwi on the improvement of sleep, it was found that over a month- long study, participants ages twenty to fifty-five years old fell asleep quicker, slept longer and more soundly after eating two kiwis an hour prior to bed (Lin et al., 2011).

1.5 Magnesium

Magnesium is a mineral found in the body. Magnesium is essential for nerve conduction, bone structure and density, glucose and blood pressure control. It helps produce melatonin. This mineral can be found in certain foods including green leafy vegetables, soy products, nuts and fruits.

Magnesium Supplementation. Supplementation of magnesium appeared to improve subjective measures of insomnia such as Insomnia Severity Index scores, sleep efficiency, sleep time and sleep onset latency,

early morning awakening in older adults according to one study (Abbasi et al, 2012). Magnesium Glycinate and Magnesium L-Threonate are both popular choices of supplements used to help promote a better quality of sleep. These magnesium supplements cause relaxation and reduces anxiety.

Epsom Salts. Epsom salts also known as Magnesium Sulfate also has a powerful role in the contribution to muscle relaxation. Athletes and those with muscle aches utilize this house hold staple to decrease muscle aches and pains. In addition, some utilize this commodity to aid in sleep promotion by incorporating into warm bath waters and soaking. Thus, playing an essential role in sleep regulation.

2. Conclusion

Sleep deprivation is a common condition worldwide. The average recommended sleep time ranges from seven to nine hours for adults. Research has found that many are not getting the recommended hours of sleep for various reasons. There are measures that can be taken to help promote a longer and better quality of sleep. The measures taken can be as simple and inexpensive as incorporating certain foods within the diet, stretching, using Magnesium supplementation, and maintain adequate hydration. If sleep deprivation is an area of concern, remember tackling this issue early on may significantly improve mental and physical health conditions or eradicate them completely.

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