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Melatonin for women

WOMEN'S WORLD By Dr NOR ASHIKIN MOKHTAK

Melatonin is a hormone produced by the body that regulates many physiological processes.

MELATONIN supplementation is a controversial issue and I hope to help readers understand the facts so that they are not misled by wild claims.

Melatonin is a hormone produced by the pineal gland, which is situated at the base of the brain. Although this hormone is best known for regulating the sleep and wake cycles, it also plays many other important roles in the body, including maintaining a healthy immune system, serving as an antioxidant, and regulating the menstrual cycle.

Functions of melatonin

Let's look at the functions of melatonin in greater detail. Like all hormones, melatonin sends chemical messages to various parts of the body and tells the different organs or tissues to produce more hormones or carry out certain tasks. Without melatonin, other hormonal activity in the body would be interrupted.

Production of melatonin is stimulated by darkness and inhibited by light. This is what makes the pineal gland our "internal clock", as it controls our body's circadian rhythm – our body's own 24-hour time-keeping system that plays an important role in when we fall asleep and when we wake up.

It may sound like a simple function, but if this internal clock is disrupted, many other neuroendocrine functions go haywire. The body's internal functions, as well as mental well-being, can be adversely affected. For example, you may find yourself unable to think clearly, and forget key facts if your melatonin production is upset.

Children and healthy young adults have higher levels of melatonin. As they advance beyond middle-age, the amount of melatonin produced by the body decreases. This may explain why elderly adults tend to have difficulty sleeping at night.

The level of melatonin in the blood appears to trigger the adrenal glands to increase or suppress the secretion of male and female sex hormones. In this respect, it controls the timing and release of reproductive hormones in a woman's body. It is instrumental in determining when menstruation begins, how long the cycle lasts, and when menopause occurs.

Melatonin also affects the production of pituitary gland hormones, including human growth hormone. This hormone plays a role in muscle and bone growth, as well as energy metabolism, among other essential functions.

Finally, it is believed that the immune system can be strengthened by melatonin. This is because melatonin is recognised as a strong antioxidant, which is a substance that protects your cells from the effects of free radicals. Free radicals are molecules produced when your body breaks down food, or are generated through environmental exposure to tobacco smoke and radiation.

Free radicals can damage cells, and may play a role in heart disease, cancer, and other diseases.

There is a theory that melatonin levels in the population are decreasing because of light "pollution". This phenomenon, also called urban sky glow, is where the sky is unnaturally bright at night due to artificial lighting from highways, streets, malls, stadiums and homes.

A study published in 2007 in the *Journal of Pineal Research* stated that exposure to low-level incandescent lightning for

only 39 minutes can suppress melatonin levels by up to 50%.

Benefits of melatonin

Sleep is as important as food and air, and the quantity and quality an individual gets is also extremely important. According to data from the Cancer Prevention Study II, individuals who average seven hours of sleep each night have a lower mortality rate than do those who sleep eight hours or more.

Interestingly, research shows that sleeping more than eight hours may have deleterious effects, although the reasons for this are less clear.

A paper recently published in *Neuroendocrinology Letters* says that disruption of the circadian rhythms caused by over-exposure to light at night – because of both night work and as a personal choice and lifestyle – has been associated with cancer in humans. And there's evidence of increased breast and colon cancer risk in shift workers.

Melatonin is most popularly known in its supplement form, which is touted for all sorts of conditions, ranging from sleep disturbance to anti-cancer and anti-ageing effects.

There is still a lot of debate within medical and health circles about the safety and efficacy of melatonin supplements. As melatonin is a hormone, you should be very cautious about taking such supplements.

Below, I will describe some of the common claims made by proponents of melatonin supplements. Many are still not validated by indisputable scientific evidence, so be sure to always ask your doctor's advice first.

Sleep disturbance is the most common reason why people seek out melatonin supplements. In many cases, it is due to external factors, such as jet lag or shift work. Jet lag occurs when you cross time zones during long-distance travel, so night becomes day and day becomes night for you.

Shift workers also have trouble regulating their circadian rhythms because they go to sleep in the daytime, but the bright daylight disrupts their melatonin production.

Some people suffer from insomnia, which is the inability to fall asleep or remain asleep for a reasonable period during the night. Melatonin supplements are believed to be able to induce sleep in these people who either have low melatonin levels or have had their internal clocks disrupted.

Melatonin supplements are also claimed to be powerful antioxidants that help protect us from infection, inflammation, and act as immune enhancers because the immune system works less efficiently as we age.

Melatonin has also been shown to be beneficial for Alzheimer's disease, especially for coping with the period called "sundowning", when patients become agitated during late afternoon and early evening; gastric ulcers; hot flashes in menopausal women because melatonin suppresses luteinizing hormone (LH) in postmenopausal women; cardiovascular disease, since melatonin helps regulate nitric oxide production, which plays a vital role in ensuring proper cardiovascular function; and also for attention deficit disorder and insomnia in children.

Some small studies have looked at the use of melatonin to reduce high blood pressure, enhance the efficacy of cancer treatment, and reduce radiation-induced side effects in cancer treatment.

And in studies done on animals, it has been shown to improve immunity and extend lifespan by 20%.

Practise caution

Melatonin supplementation is not to be taken without care. Aside from the fact that there is no conclusive scientific evidence to support its long-term use, it can also have unpleasant side effects for some people.

Some people have reported vivid dreams or nightmares when they take melatonin. Its sleep-inducing effects may also extend into the daytime and cause drowsiness during the day. It is best to avoid driving or operating machinery if you are taking melatonin.

You should also be aware of other side effects, such as stomach cramps, dizziness, headache, irritability, decreased libido, as well as breast enlargement and decreased sperm count in men.

A word of caution for women: melatonin could interfere with fertility. It also should not be taken by pregnant or breastfeeding women, who are already producing abundant melatonin in their bodies.

Children and teenagers also have ample melatonin in their bodies, so supplementation could lead to overdose.

If you take certain antidepressants, such as Prozac or Nardil, do not take melatonin supplements, as both medications could interact to cause a stroke or heart attack.

Going natural

Before deciding to take melatonin supplements, you can try to look for natural sources of melatonin to increase the level of the hormone in your body.

Melatonin is found in some foods, although in small amounts. Oats, sweet corn and rice are rich in melatonin, as are ginger, tomatoes, bananas and barley.

If, like many other people, you resort to melatonin supplementation for sleep problems, then you could try the following methods first to regulate your sleep cycle:

- Get eight to nine hours sleep per night.
- Get to bed by 10:30pm each night.
- Sleep in a comfortable bed – make sure the mattress is not too saggy, too hard, or creaky.
- Make your sleep and wake times the same each day, even on weekends.
- Avoid exposure to bright lights, directly before and during sleep.
- Avoid TV and reading before bed, as both stimulate the brain.
- Make your room completely dark, especially if you are a shift worker who sleeps in the daytime. Use dark curtains to block out sunlight.
- Avoid taking stimulants, like coffee, cigarettes or alcohol, before bed.
- Keep the bedroom at a comfortable temperature, not too warm or too cold.
- Avoid electromagnetic fields in the bedroom, such as TVs, clocks, radios and lights. If you must have them in the room, move them far away from the bed.
- Avoid eating before sleep.
- Move the clock out of sight and avoid loud alarm clocks.
- Try keeping a journal – write down your thoughts before sleeping, so that they are not racing through your mind.
- Limit drug use – some prescription and over-the-counter medications can inhibit sleep.

- Exercising can release stress and help you sleep better at night – but don't exercise too close to bedtime as the body needs time to relax.
- Take a hot bath or shower before bed.
- Keep your work out of the bedroom, so that your body doesn't recognise it as a stressful environment.

Many people will claim that melatonin supplements are safe because they are “natural”. However, everything carries potential risks and side effects, especially if you do not know whether the manufacturers are to be trusted.

Whether you need help sleeping through the night, feeling good while traveling across time zones, or just want to boost your immunity, and possibly add some years to your life, always check with your doctor before taking melatonin supplements. Tell her about your other health conditions and medications, so that you can avoid any adverse complications.

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