

Changing Moods with Sleep and Light

By Yadira Galindo | July 02, 2015

Pregnant with her first child, Monica Bryan noticed changes in her mood and energy levels. That's when she heard about a [University of California, San Diego School of Medicine clinical study](#) [↗](#) aimed at using sleep and light therapies instead of medication to treat premenstrual, pregnancy, postpartum and menopausal depression.



Barbara Parry, MD, professor of psychiatry at UC San Diego School of Medicine, says the mood changes a woman undergoes before menstruation and during pregnancy, postpartum and menopause may result from the effect of a hormonal change on circadian rhythms. These circadian rhythm changes are akin to what occurs in jet lag when sleep and hormonal changes become “out of synch” with each other.

“The circadian rhythms of people who suffer from depression are off balance,” said Parry. “In women who develop depression during pregnancy, for example, melatonin, the hormone that anticipates the arrival of nighttime, is secreted earlier, and sleep onset occurs later, affecting the perceived quality of sleep.”

These disturbances in the body's circadian rhythms can be triggered by changes in reproductive hormones that occur during the menstrual cycle, the peripartum period and menopause, resulting in an increased vulnerability to mood disorders. The noninvasive trial uses sleep and light therapy as a way to correct these biological rhythm disturbances, and thereby, improve mood. The trial is open to women with and without depressive symptoms related to the reproductive cycle, and compensation is available.

For two weeks, Bryan completed daily and weekly mood ratings and weekly clinic visits as part of the evaluation period. This study phase was followed by monitoring of her melatonin levels at home. Her activity levels were recorded via a wrist-mounted fitness band that measures activity and light exposure to assess the relationship between melatonin and activity and rest cycles.

After all baseline information was gathered, Bryan began the one-week intervention phase, which included one night of altered and shortened sleep cycle followed by light therapy. During this time



the fitness band continued to record sleep, activity and light exposure.

Participation in the trial didn't require much effort, said Bryan. She kept a daily log of her mood ratings and how much time she spent indoors and outdoors. Beyond that, the only added requirement was spending one hour after waking sitting in front of a light box.

"I spent the hour watching television, reading or catching up on what I missed the day before on my phone," said Bryan. "There was no problem taking a little bit of time for myself in the mornings."

She said it was only on days when she needed to get out of the house early that she would need to wake sooner in order to ensure she received her prescribed time in front of the light box. Bryan even recommended the trial to friends.

"Halfway through the trial, my mood was elevated, and I found that I had consistently more energy," she said. "The light seemed to lift my spirits. I found the weekly phone call to discuss my moods was also therapeutic."

Bryan, a 36-year-old accountant, is expecting her son to arrive in early July. Because the trial also examines postpartum mood, sleep and circadian rhythm disturbances, women with and without mood symptoms can also enroll in this clinical trial after giving birth.

According to Parry, 50 to 80 percent of women experience mild postpartum dysphoria three to 10 days after birth. Another 10 to 15 percent develop a much more severe depression that may not begin until three to four months after delivery. If left untreated, it can last up to a year. Treating depression during and after pregnancy with drugs is limited by potential risks to the fetus, as well as to the baby after birth when breast feeding. Antidepressants can take six to eight weeks to take effect.

"The benefits of sleep and light therapy include they are not medicinal interventions and involve a relatively short commitment period," said Parry. "Unlike pharmaceutical treatment, shifting sleep to earlier or later times and adding light therapy in the morning or in the evening doesn't have side effects, except feeling a little sleepy in the beginning. The sleep and light treatment may improve mood within one day."

As an added benefit, Bryan said the trial gave her a new perspective on her life.

"The study helped me reflect on my life and how small things, like the amount of light I receive, can impact it," said Bryan. "By recording my activities and moods, I started to pay attention to how I feel and what changes I can make in my day-to-day life."

For more information about the sleep and light therapy clinical trials, please call 619-543-7393.

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