Tailored Light Therapy Improves Sleep Quality for Breast Cancer Survivors

Customizing bright light therapy for breast cancer survivors resulted in less fatigue and better sleep.

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Both cancer and its treatments, such as chemotherapy, can disrupt the body's circadian rhythm, leading to fatigue and sleep disturbances that can negatively affect quality of life for years. In fact, as many as one third of cancer survivors experience sleep issues.

Light therapy is a well-established treatment for sleep disorders and can help people—including those in cancer treatment—reset their circadian rhythms. Indeed, a study, published in the Journal of Biological and Medical Rhythm Research, found that light therapy may improve breast cancer survivors' sleep and wake cycles, even if these have persisted for several years.

"My patients were tired during the day, but they didn't sleep well at night," study lead author Horng-Shiuann Wu, PhD, an associate professor in the College of Nursing at Michigan State University, said in an article for MSUToday, a publication of Michigan State University. "I noticed that fatigue and sleep disturbance were closely related; they negatively affect cancer patients, but we didn't have a solution for them."

The study included female survivors one to three years post-completion of chemotherapy and/or radiation for Stage I to III breast cancer. For treatment, participants were randomly chosen to receive either bright blue-green light, which has been proved to effectively reset circadian rhythms, or dim red light, as the control.

For two continuous weeks, participants in both groups received 30 minutes of light therapy daily either during the day or at night, depending on the patient's typical bedtime.

"If you are exposed to the light during the wrong time, it will make your circadian rhythm disruption worse," Wu said. "I customized the time for each patient so I can produce the effect in the right direction (going to bed earlier or later)."

Those who underwent blue-green light therapy reported better subjective sleep quality. What's more the study researchers observed positive trends in sleep duration, sleep latency (the length it takes to transition from being fully awake to asleep) and nighttime and early morning awakenings.

The researchers concluded, “These findings suggest that bright light therapy significantly improved post-treatment fatigue and subjective sleep quality in breast cancer survivors.”

To read about light therapy for people with cancer, see “Sleep Solutions”.

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