

# Acupuncture and Moxibustion for Insomnia Relief in Cancer Patients

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Acupuncture and moxibustion, which are sometimes used together, have shown promise in reducing insomnia in patients with cancer. *Source: Getty Images*

Approximately 50% of patients with cancer struggle with persistent insomnia, with a predominance of cases observed among women.<sup>1</sup> Along with its negative effect on sleep, cancer-related insomnia is associated with reduced compliance with anticancer treatments, impaired functional status and quality of life, and increased financial difficulties.<sup>1</sup>

Complementary and integrative therapies represent an attractive treatment option for cancer-related insomnia because of the lower risk of side effects compared with pharmacologic treatments. Acupuncture and moxibustion, which are sometimes used together, are 2 such approaches that have shown promise in reducing insomnia in patients with cancer.<sup>1</sup>

In acupuncture, thin needles are inserted into the skin to stimulate specific bodily sites depending on the desired effect, while moxibustion involves burning ground leaves of the mugwort plant near these sites to provide a warming effect.<sup>2,3</sup> In electroacupuncture, an electric current is applied to the acupuncture needles for additional stimulation.

“When performed under experienced hands, these therapies are generally safe and effective in treating patients with cancer-related insomnia,” including for patients undergoing multiple types of cancer treatments, said [Christina Tian, DACM, CMD, MAOM, LAc, DiplOM](#), founder of Bethesda Acupuncture & Wellness Medicine in Bethesda, Maryland. In 2020, Dr Tian completed a 5-year tenure as chief acupuncturist at Sibley Memorial Hospital at Johns Hopkins Medicine in Washington, DC. “Some studies suggest that these therapies are just as effective, if not more effective, than conventional medicine, and they also recommend these therapies over conventional medicine because there are no reported long-term adverse effects.”

Dr Tian told *Oncology Nurse Advisor* that she and her colleagues have observed patient benefits with acupuncture and electroacupuncture for the relief of cancer-related insomnia as well as cancer-related pain, neuropathy, fatigue, hot flashes, nausea, depression, and anxiety. Most patients report lasting improvements in sleep quantity and quality, increased daytime energy, and improved cognitive function after treatment with these interventions.

### Supporting Evidence

In a 2022 systematic review and meta-analysis published in *Palliative Care and Social Practice*, Wang and colleagues examined 14 randomized controlled trials with a total of 1187 participants with various cancers to evaluate the safety and efficacy of acupuncture and moxibustion in the treatment of cancer-related insomnia.<sup>1</sup>

Overall, the randomized controlled trials consistently demonstrated the superior efficacy of moxibustion, acupuncture with or without moxibustion, and electroacupuncture compared to conventional medicine in the treatment of cancer-related insomnia.

A 2017 study, for example, compared electroacupuncture to gabapentin in 58 breast cancer survivors with sleep disturbances associated with hot flashes.<sup>4</sup> After an 8-week treatment period, the electroacupuncture group showed a greater mean reduction in Pittsburgh Sleep Quality Index (PSQI) scores compared with the gabapentin group (-2.6 vs -0.8;  $P = .044$ ), as well as improved sleep latency (-0.5 vs 0.1;  $P = .041$ ) and sleep efficiency (-0.6 vs 0.0,  $P = .05$ ).

Another trial demonstrated improvement in PSQI scores in patients receiving moxibustion as an add-on to conventional care compared with those receiving conventional care only ( $P < .05$ ).<sup>1</sup>

In their meta-analysis of 12 studies (997 patients) that used PSQI scores to evaluate outcomes, Wang and colleagues observed greater efficacy of moxibustion and/or acupuncture compared with conventional medicine and sham treatment in the management of cancer-related insomnia (mean difference, -1.84; 95% CI, -2.75 to -0.94;  $P < .01$ ).<sup>1</sup>

Of the 4 studies reporting adverse events, the most common of these were mild and moderate soreness, itchiness, and pain at the needling site, which affected 9 patients.<sup>1</sup>

In contrast to the findings by Wang and colleagues, another systematic review and meta-analysis published in 2022 found no evidence supporting short-term or long-term effects of acupuncture on sleep impairment in cancer survivors.<sup>5</sup> The authors stated that these results are inconsistent with other research and underscore the need for larger, more well-designed studies in this area.

### Potential Mechanisms

“According to Traditional Chinese Medicine, points are located along a network that connects different organ systems and parts of the body, and symptoms of disease arise when there are disruptions, deficiencies, or surges in these areas,” Dr Tian explained. “Acupuncture and moxibustion can alleviate these issues.”

She also cites increasing evidence from magnetic resonance imaging (MRI) studies indicating that acupuncture may “activate and regulate several brain regions related to sleep,” including the temporal lobe, prefrontal lobe, parietal lobule, anterior cingulate, precuneus, and supramarginal gyrus. In addition, findings suggest that acupuncture may help to regulate cerebral blood flow and neurotransmitter levels in the brain.<sup>6</sup>

Some evidence indicates “the fascia is involved, such that when the needles are inserted and twisted, the local fascia ‘grabs’ the needle, and this does not happen at sham sites,” adds [Lorenzo G. Cohen, PhD](#), the Richard E. Haynes Distinguished Professor in Clinical Cancer Prevention and director of the Integrative Medicine Program at The University of Texas MD Anderson Cancer Center in Houston.<sup>7</sup> “As the fascia is all interconnected, this may be how the signals are transmitted to the brain.”

While there is scant data regarding the effects of acupuncture on insomnia specifically, Dr Cohen told *Oncology Nurse Advisor* that acupuncture may lead to less nighttime arousal via reduction in stress hormones including cortisol and norepinephrine. Acupuncture “has also been associated with modulation of melatonin and gamma-aminobutyric acid (GABA), both of which are associated with sleep onset and maintenance.” Additionally, acupuncture may influence factors such as pain, hot flashes, and anxiety that could contribute to insomnia.

### Implications for Patient Care

Dr Cohen notes that evidence supporting acupuncture for the treatment of sleep disturbances in oncology is not currently as robust as the evidence regarding acupuncture for cancer-related pain or nausea, and he advises that patients first try gold-standard treatments for insomnia such as cognitive behavioral therapy for insomnia (CBT-I).<sup>8,9</sup> “But there are few risks associated with acupuncture if provided by an appropriately trained therapist, and it is worth trying if other approaches are not working,” he said.

While acupuncture and moxibustion are appropriate for most patients, Dr Tian says timely intervention is key, as chronic cases are generally more challenging to treat. For this reason, clinicians should refer patients for an acupuncture evaluation as soon as symptoms become apparent.

She emphasized the need to refer patients to adequately trained practitioners with expertise in safely and effectively addressing cancer-related concerns. Licensure requirements vary across states, and a license or certification to practice acupuncture does not guarantee high-quality care or relevant experience.

Dr Tian further advised that clinicians refer to highly experienced practitioners with advanced training “to avoid serious side effects including infections, punctured organs, collapsed lungs, burns, needling of tumors, and injury to the central nervous system.” To that end, she recommends referring to providers who work full-time, have at least 10 years of clinical experience and advanced oncology training, and see 20 or more cancer-related patients per week.

### Remaining Needs

Ongoing challenges in study of acupuncture and moxibustion include heterogeneity in the acupuncture points used, the frequency and duration of treatments, and other techniques used in combination with these interventions, according to Dr Tian. There is a need for high-quality research models and funding to accommodate these variables.

For now, as the “evidence remains mixed, better quality, larger, randomized clinical trials are needed before acupuncture can be considered the standard of care for insomnia in cancer, as it is now for pain and nausea,” Dr Cohen stated.

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