

# Using Aromatherapy to Improve Nighttime Comfort in Hospitalized Patients With Cancer: A Pilot Study

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**BACKGROUND:** Sleep disturbances have been shown to have negative health effects leading to inferior well-being, increased fatigue, and impaired performance. For hospitalized patients receiving oncology care, improving nighttime comfort may positively affect well-being and health outcomes, leading to decreased length of stay. Aromatherapy can improve sleep quantity and quality.

**OBJECTIVES:** This pilot study aimed to determine whether aromatherapy improves nighttime comfort, in particular well-being and sleep quality, for hospitalized patients with cancer.

**METHODS:** This quasi-experimental pilot study with a single-arm pre-/post-test design evaluated the effects of nighttime aromatherapy for hospitalized patients with cancer. Measures were the World Health Organization–Five Well-Being Index and Pittsburgh Sleep Quality Index.

**FINDINGS:** A total of 34 hospitalized patients with cancer participated. After aromatherapy, mean well-being scores improved significantly. Mean sleep quality scores also improved but did not reach significance. Of participants who submitted open-ended responses, 20 of 22 described a positive experience with aromatherapy, including better sleep, relaxation, soothing effects, and nausea relief.

## KEYWORDS

aromatherapy; symptom management; sleep improvement; oncology; well-being

## DIGITAL OBJECT IDENTIFIER

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**AROMATHERAPY, OR THE INHALATION OF ESSENTIAL OILS** containing highly concentrated natural plant substances, has been used for thousands of years (Hedao & Chandurkar, 2019). Aromatherapy helps to relieve health problems and improve quality of life in general (Lytle et al., 2014). Studies examining the benefits of essential oils have revealed positive impacts on the body and mind. The effects of essential oils are believed to be related to the proximity of the smell receptors to the parts of the brain that control emotions and long-term memory (Firenzuoli et al., 2014; Ramsey et al., 2020). Because the body absorbs oils most rapidly through inhalation, aerosolized diffusion is the easiest way to spread essential oils throughout a room. Mechanical diffusers break oil into tiny droplets that are then dispersed into the air. Clinical aromatherapy, which can be assessed by specific and measurable outcomes, is considered a controlled and therapeutic use of essential oils in a clinical setting (Johnson et al., 2016). Aromatherapy is a natural therapy that is increasingly used to manage symptoms and maintain health and well-being during a hospital stay (Johnson et al., 2016).

The molecular elements that comprise essential oils, such as esters, acids, monoterpenols, and coumarins, may antagonize neuronal receptors or bind to other receptors, which can affect nerve cell function (Lillehei & Halcón, 2014). This may produce sedative, hypnotic, or anxiolytic effects. There has been research into types of oils used for aromatherapy. In a systematic review, the most common oil used was lavender (Lillehei & Halcón, 2014). Other essential oils studied include ginger, sweet marjoram, mandarin (Johnson et al., 2016), bergamot, sandalwood, and frankincense (Dyer et al., 2016).

Sleep disturbances can lead to immediate and long-term poor health outcomes. Immediate effects can be related to deterioration of individuals' well-being combined with increased daytime sleepiness, increased fatigue, and impaired performance, resulting in reductions to the safety of self and others (Medic et al., 2017). Sleep disturbance may lead to long-lasting side effects and chronic disease, which can include glucose intolerance, obesity, inflammation, and hypertension. These conditions may lead to premature death (Lillehei & Halcón, 2014). Poor sleep quantity and quality have been associated with an increase in chronic inflammatory manifestations (Garbarino et al., 2021). Many aspects of hospital care can contribute to patients' lack of sleep. Sleep and rest become primary goals after patients are discharged from the hospital, and the effects of patient sleep disturbances may affect patient satisfaction. In two previous studies, 57.6% (N = 94) (Pai et al., 2020) and 71.5% (N = 410) (Endeshaw et al., 2022) of patients with cancer reported poor sleep quality.