

# The Effectiveness of Yoga on Cancer-Related Fatigue: A Systematic Review and Meta-Analysis

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**PROBLEM IDENTIFICATION:** The aim of this article is to evaluate the effectiveness of yoga on cancer-related fatigue (CRF) in patients undergoing chemotherapy and/or radiation therapy.

**LITERATURE SEARCH:** Relevant English and Chinese articles were retrieved from medical databases and included in this analysis. Standardized critical appraisal instruments from the Joanna Briggs Institute were adopted for the quality assessment.

**DATA EVALUATION:** 16 randomized controlled trials met the inclusion criteria.

**SYNTHESIS:** Yoga interventions had a positive effect in reducing CRF among patients undergoing chemotherapy and/or radiation therapy, but the adherence to yoga was low. Mixed types of yoga, in addition to supervised and self-practicing strategies, were associated with increased patient adherence and improved CRF.

**IMPLICATIONS FOR PRACTICE:** Yoga appears to be a safe and effective exercise for the management of CRF during chemotherapy and/or radiation therapy; however, additional high-quality studies are needed to define an optimal yoga intervention strategy.

**KEYWORDS** yoga; fatigue; chemotherapy; radiation therapy; meta-analysis; systematic review

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Cancer is the second leading cause of death in the world, with an estimated 9.6 million deaths occurring in 2018 (World Health Organization, 2018). According to a cancer progress report released by the American Association for Cancer Research (2018), the number of new cancer cases worldwide could increase to 24 million annually by 2035. With advancements in cancer prevention, diagnosis, and treatment, survival rates are continually increasing; however, the physical and psychological disorders associated with the occurrence, progression, and treatment of cancer, including nausea, poor appetite, fatigue, decreased immunity, anxiety, and depression, significantly affect the quality of life of cancer survivors.

Cancer-related fatigue (CRF) is one of the most common symptoms associated with cancer and is defined as “a distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with the usual function” (National Comprehensive Cancer Network, 2018, p. MS-3). Research has shown that 60% to 99% of patients undergoing chemotherapy and/or radiation therapy have reported CRF (Wu et al., 2017). Exercise has been examined as one way to reduce CRF. The American College of Sports Medicine has recommended that an overall volume of weekly activity consisting of moderate-intensity exercise for 150 minutes, vigorous-intensity exercise for 75 minutes, or an equivalent combination is appropriate for cancer survivors (Schmitz et al., 2010). However, for patients undergoing chemotherapy and/or radiation therapy, several reviews have reported that shorter exercise sessions or lower targeted exercise volume were associated with greater improvements in CRF (Carayol et al., 2015; Kessels et al., 2018; Tian et al., 2016).