The Efficacy of Home-Based Walking Exercise on Sleep in Cancer Survivors: A Meta-Analysis of Randomized Controlled Trials
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Background
Disturbed sleep is common among cancer patients. Previous studies have reported conflicting findings with regard to the effects of walking exercise on sleep among cancer patients and survivors.

Purpose
To examine the effects of home-based walking exercise on sleep in cancer patients and survivors by conducting a meta-analysis of randomized controlled trials (RCTs).

Methods
• We searched the EMBASE, PubMed, PsychINFO, Web of Science, and CINAHL electronic databases.
• Only RCTs that examined the effects of walking exercise on sleep in cancer patients and cancer survivors relative to a control group were included.
• The data were analyzed using the Comprehensive Meta Analysis software 2.0.
• The moderator analysis and meta regression were used to examine moderating effects while the heterogeneity exist among the included studies.

Results
• Nine RCTs that included 599 patients were selected.
• Moderate-intensity home-based walking exercise yielded an effect size of -0.52 (95% CI = -0.79 to -0.25).
• Home-based walking exercise alone and walking exercise combined with other form of exercise yield comparable effects on sleep improvement (P = 0.22).
• The effect size of studies including participants who were undergoing cancer treatment and that of studies including patients before, during, or after cancer treatments were similar (P = 0.94).
• The moderating effects of intervention components, methodological features and subject characteristics on the relationship between MBIs and sleep were not found (all P>.05).

Conclusion
Moderate-intensity home-based walking exercise is effective for reducing sleep disturbance in cancer patients and survivors. Our findings support the inclusion of walking exercise in multimodal approaches to managing sleep in cancer patients.