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## Effectiveness of exercise for anxiety in patients with lung cancer: A randomised controlled trial

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**Background:** Lung cancer is a highly symptomatic disease, involving symptoms such as anxiety during the treatment period and in the follow-up stage. Although exercise has been addressed as an adjuvant treatment for anxiety, few studies have evaluated the efficacy of exercise in patients with lung cancer. Walking is strongly recommended for patients with pulmonary diseases by American College of Sports Medicine; because it is involved in most activities of daily living (ADL).

**Aim:** The purpose of this study was to determine the effectiveness of a 12-week home-based walking-exercise program in managing anxiety in Taiwanese patients with lung cancer.

**Methods:** We recruited 116 patients from a medical centre in northern Taiwan, and randomly assigned them to either a walking-exercise group (n=58) or a usual-care group (n=58). We conducted a 12-week exercise program that comprised home-based, moderate-intensity walking for 40 min per day, 3 days per week, and weekly exercise counselling. The outcome measures included were measure with Hospital Anxiety and Depression Scale (HADS-anxiety subscale).

**Results:** We analysed the effects of the exercise programme on anxiety by using a generalised estimating equation method. The patients in the exercise group exhibited a significant improvement over time in their levels of anxiety (P=0.007) compared with those in the usual-care group. A cut off point of 8 was used to investigate the clinical significance of the observed changes; the walking-exercise and usual-care groups revealed similar numbers of definite and suspicious (scores  $\geq 8$ ) anxiety cases at baseline (13 vs 8, P=0.288). Although a significant difference was observed from the baseline to the 3rd month (a decrease of 4 patients in the walking-exercise group vs an increase of 9 patients in the usual-care group, P=0.014), no significant differences were observed from the baseline to the 6th month (a decrease of 8 patients in the walking-exercise group vs no decrease in the usual-care group, P=0.118). A significant interaction term (group difference  $\times$  time) in the GEE model (Wald  $\chi^2=6.04$ , P=0.049) verified that the walking exercise program effectively reduced the number of patients with anxiety over time.

**Conclusion:** The home-based walking exercise can reduce anxiety and elucidate the critical role of exercise in the rehabilitation of patients with cancer. Health care team members must comprehend and consider exercise as a supportive care intervention for lung cancer survivors.

### Biography

Hui-Mei Chen obtained her PhD from Taipei Medical University. She is working as an Assistant Professor at the National Taipei University of Nursing and Health Sciences. She has practiced clinical nursing for 10 years and been involved in nursing education and research for 18 years. She has published several papers in *Cancer Nursing* as well as in the *British Journal of Cancer* and also serving as a reviewer for a nursing journal in Taiwan.

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