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Effects of a home-based exercise program on aerobic endurance and quality of life in lung cancer survivors

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Background: With appropriate treatment, lung cancer patients can be a long-term survivor. However, many patients suffered from post-operative pulmonary complications, limited activity tolerance, and poor quality of life. Nurses in a great position to provide individualized health education regarding exercise for these patients; therefore to develop and test cost-effective nurses-lead lung rehabilitation exercise education programs deserve further scientific efforts. The purpose of the study is to test the effects of a home exercise program for lung cancer survivors to improve their exercise tolerance and quality of life during the rehabilitation phase.

Methods: The study uses an experimental design. Ninety lung cancer survivors, who were diagnosed with lung cancer within one year and have completed their initial cancer treatment, were recruited and randomized to the control or intervention group. After pre-test, the intervention participants received a 60 minutes of teaching regarding the home rehabilitation exercise program, with a printed exercise manual. The intervention participants also received a weekly phone call from the interventionist to enhance their exercise adherence and helping to overcome exercise barriers. The outcomes on exercise tolerance, muscle endurance in upper and lower extremities, fatigue, physical function, health-related quality of life were assessed on the baseline, 1th month, 3th month, and 6th month. The study outcomes were evaluated by six-minute walk test and the Functional Assessment of Cancer Therapy-Lung (FACT-L) questionnaire.

Results: The patients' demographics and baseline measures were equivalent between groups. Results of GEE showed a significant group by time interaction effect on six-minute walk test. As for the parameter estimates, from baseline to 6th month, the six-minute walk distance improvement in the intervention group was 37.23 meters (Wald $X^2 = 9.33$, $p = 0.002$) more than in the control group. Results of GEE also showed a significant group by time interaction effect on FACT-L. As for the parameter estimates, from baseline to 6th month, the six-minute walk distance improvement in the intervention group was 11.11 (Wald $X^2 = 12.34$, $p < 0.001$) more than in the control group

Conclusion: The study results support the effects of the home-based exercise program on improving aerobic endurance and quality of life in lung cancer survivors during the rehabilitation phase.

Biography

Tsae-Jyy Wang has completed his PhD at the age of 40 years from University of Washington. She is a professor of School of Nursing, National Taipei University of Nursing and Health Science. She has published more than 35 papers in reputed journals and has been serving as an editorial board member of reputed.

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