

JOINT EVENT

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Walking as an exercise intervention for pediatric cancer patients: A longitudinal pilot study**Hsiu Lan Su**

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Introduction: Advances in cancer treatments have increased the survival rates of cancer patients and have also had a significant impact on the physical and mental health of patients to affect quality of life (QOL). In adult cancer patients, exercise has been found to improve both mental and physical health.

Objective: To evaluate the feasibility of walking exercise for pediatric cancer patients undergoing therapy and its effect on fatigue, quality of sleep, and QOL.

Methods: A longitudinal study was conducted in hematological and oncological wards and in clinics of a medical center hospital in Taiwan between January 2016 and June 2016. For six weeks, 18 participants walked at least five times week and the intensity and duration of each day's exercise was based on the patients' tolerance. A six-minute walking test, physiological indices (respiration rate, heart rate, blood pressure, and O₂ saturation), fatigue, sleep quality, and QOL were measured at seven time points (at baseline and then weekly).

Results: The rate of exercise implementation was 55.5%. Exercise distance began to significantly improve at week 2 and continued to improve up to week 6. Blood oxygen saturation (SPO₂) during the exercise periods was maintained above 95%. There were no significant differences in physiological indicators (heart rate, respiratory rate, blood pressure, SPO₂) for the patients that completed the exercise regimen with and without resting for 1 min after exercise. Fatigue level was significantly reduced by week 3 of the exercise intervention and quality of life (QOL) significantly improved by week 5. However, the exercise intervention did not have a significant impact on sleep quality.

Conclusions: Walking exercise is a positive, feasible, tolerable, and safe intervention for pediatric cancer patients. Walking exercise can be promoted during hospitalization and at home for pediatric cancer patients to alleviate fatigue and improve QOL.

Implications: Walking exercise is not limited to the hospital environment and is appropriate for pediatric cancer patients older than 3 years. Health providers should inform and teach pediatric patients and their families about the benefits of walking exercise.