ment for cardiac surgery patients, and to verify its influence on 6-min walking distance, fatigue, daily activity performance, and self-efficacy on the day of hospital discharge and in the first and fourth weeks after hospital discharge.

METHOD

Study Subjects

Subjects were selected by purposive sampling under the conditions that: (1) patients had undergone coronary artery bypass surgery, the E-T tube was removed within 3 days after surgery, and they were in a stable post-surgery condition; (2) patients were older than 18 and younger than 80 years; (3) patients were willing to participate; (4) patients had no problems walking with their legs; (5) patients had no complications, such as arrhythmia (including 2~3°A-V block, VT, Vf, or frequent VPCs), shock, pulmonary embolism, uncontrollable heart failure, or severe infection; and (6) patients had stable resting vital signs (heart rate 60-110 beats/min, RR < 30/min, SBP 90~160 mmHg, DBP 60~100 mmHg, SaO_2 > 90%), and had no chest pain, chest tightness, or orthopnea. Subjects were recruited from a teaching hospital located in Taipei, Taiwan. Among the total of 25 patients, 4 dropped out of the study, 2 in both the first and the fourth weeks, respectively, because of time limitations and re-hospitalization for non-cardiac disease. Therefore, there was a total of 23 subjects contributing to the data analysis at 1 week after hospital discharge, and 21 subjects to the data analysis at 4 weeks after hospital discharge.

Study Design

This is an exploratory and correlative study design. The independent variable was participation in an inpatient rehabilitation program. Exercise training was performed using a treadmill (Universal E5625 XT-1500, USA) with speeds ranging from 1.3 to 1.9 mph and elevations ranging from 3% to 8%. To provide a safe environment during treadmill exercise, a multifunctional physiological monitor (HP Omni Care CMS, Japan) was used to monitor a subject's HR and BP. The outcome indicators included 6-min walking

distance, fatigue, daily activity performance, and self-efficacy of daily activity. Data were collected when a subject was discharged from the hospital and at 1 and 4 weeks after discharge.

Inpatient Treadmill Exercise Program

The inpatient treadmill exercise program (Appendix) was developed by the investigator according to a previous phase I cardiac rehabilitation program.[13] The program consisted of 6 levels, ranging in intensity from 1.5 to 4.5 METs. Each level increased by 0.5~1.0 METs on the basis of advancing 1 level per day, so it took at least 6 days to complete the entire program. The daily standard advanced under the following conditions: no activity had to be suspended during or after the exercise training; HR did not increase over 20 beats/min; SBP change did not exceed 20 mmHg; and DBP change did not exceed 20 mmHg.

HR, BP, SaO_2, and EKG for each subject were assessed before activities commenced. If SBP was ≥ 200 mmHg, DBP ≥ 120 mmHg, HR ≥ 110 beats/min, SaO_2 < 90%, or there was on abnormal EKG or any other

Appendix 1. Inpatient treadmill exercise program

METs	Stage	Activity contents
1.5	I	Getting out of the bed and sitting in a chair for 15 min
2.0	II	• Standing at beside for 10-15 min • Walking more than 15 m
2.5	III	• Walking on a treadmill duration: 15 min grade: 3% speed: 1.3 mph
3.0	IV	• Walking on a treadmill duration: 15 min grade: 4% speed: 1.5 mph
3.7	V	• Walking on a treadmill duration: 15 min grade: 6% speed: 1.7 mph
4.5	VI	• Walking on a treadmill duration: 15 min grade: 8% speed: 1.9 mph

METs: metabolic equivalents; 1MET = 3.5 O_2 ml/kg/min.