discomfort, such as angina, chest pain, or dyspnea observed, the exercise training for the day was suspended. A subject's heart rate was continuously monitored while performing the activity. If arrhythmia, an HR increase over 20~30 beats/min, a rating of perceived exhaustion exceeding 15, or any discomfort was observed, the activity was immediately stopped. The subject was not allowed to leave until the symptoms had abated. A subject's HR and BP were measured every 3 to 5 min after exercise training, and the EKG was continuously monitored until his/her HR and BP resumed a stable resting level.

Measurements

1. Six-minute walking test

Subjects were encouraged to try their best to walk to and fro in the hallway outside of the wards for 6 min. Then, the total distance they had walked was measured.

2. Fatigue

The Fatigue/Stamina (F/ST) Scale developed by Reeves et al.[14] was used to measure a subject's fatigue level. The fatigue subscale includes 10 items, with a score of between 0 and 40 points; the more points one has, the worse one's fatigue is. A Cronbach's alpha coefficient of 0.91 revealed good internal consistency.

3. Self-efficacy of daily activity and daily activity status

The Duke Activity Status Index (DASI),[15] including self-care activity, body movement capability, family activity, sexual activity, and leisure activity, developed by Hlatky et al. was revised into a Self-efficacy of Daily Activity Inventory and a Daily Activity Scale.

The Self-efficacy of Daily Activity Inventory was designed to measure a subject's confidence level in performing 12 activities. The number assigned to each item of the scale begins at 0. Subjects were asked to indicate how confident they felt (from 0 meaning "definitely cannot do" to 10 meaning "definitely can do") about performing each activity.

The Daily Activity Scale had the same 12 activities as those for the Self-efficacy of Daily Activity Inventory. Subjects had to select those items that they actually performed and then evaluated the degree of exertion they experienced performing each selected item. Zero indicated that the activity was totally effortless, while 10 points meant it was very strenuous.

With respect to the validity of the DASI, it has been reported that the DASI is highly correlated to NYHA class[16] and peak oxygen uptake.[15] In this study, a Cronbach's alpha coefficient of 0.89 revealed good internal consistency of the DASI.

Data Collection

When the selected subjects were transferred from intensive care units to regular wards after surgery, a thorough explanation of the study protocol was provided by the investigator, and informed consent was obtained from each participant. The "inpatient treadmill exercise program" was began as soon as possible if the subject's condition was stable, and was terminated when a subject completed the entire program or was discharged from the hospital.

Each activity of the rehabilitation program was conducted in the afternoon. If a subject could pass a specific level of the program, the investigator instructed the patient to do some daily activities at the relative intensity of the current stage.

On the day of hospital discharge, each subject was asked to take a 6-min walking test and fill out the Fatigue Scale and Self-Efficacy of Daily Activity Inventory. Then, at 1 and 4 weeks after hospital discharge, subjects were interviewed and were required to fill out the forms of Fatigue Scale, Daily Activity Scale, and Self-efficacy of Daily Activity Inventory and to take the 6-min walking test again.

Data Analysis

Data were analyzed using SPSS for Windows 8.0 software. Before data analysis, all data were examined for normal distribution with Fisher's measure of skewness or kurtosis. All data were examined using *t*-test, one-factor ANOVA, and Pearson correlation.

RESULTS

There was a total of 25 subjects in this study; most