Improving sleep quality and adopt a physically active lifestyle for hepatocellular carcinoma (HCC) patients: benefits of sleep hygiene education and rehabilitation intervention


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Introduction
Several recent studies have reported the possibility of insomnia in people undergoing treatment for hepatocellular carcinoma. Bianchi et al. (2003) reported that HCC patients experienced greater sleep problems than cirrhosis patients. Sleep disturbance and fatigue are interrelated which may lead to sedentary lifestyle.

Objectives
To evaluate the usefulness of sleep hygiene education and rehabilitation program in improving the sleep efficiency and engaging patients in regular physical activity.

Methodology
First phase of the program was to conduct a survey on sleep quality of HCC patients by convenient sampling. Patients’ inclusion criteria were patients aged between 18 and 90 years old, with diagnosis of HCC admitted TMH surgical wards pending for transarterial chemo-embolization (TACE). They should have good mental functioning, and able to complete the Pittsburgh Sleep Quality Index (PSQI). Patients who failed to complete the questionnaire were excluded. Second phase of the program started from 14/1/2013, all HCC patients admitted TMH for TACE or radio-frequency ablation (RFA) will be interviewed and their sleep efficiency for the past one month was assessed. Education on sleep hygiene will be given for all patients with sleep efficiency < 85%. Patients will also be recruited to attend rehabilitation program which include health qigong Baduanjin training and education on promoting active lifestyle. Leaflet on the Baduanjin training will be given for home practice. A sleep diary was used to record their daily sleeping pattern. Patients were also asked to complete activity booklet by entering the duration of moderate intensity activity bouts in the morning, afternoon and evening before supper everyday. Pre-training and post-training assessments were performed at the baseline and after 8-weeks of rehabilitation program. Outcome measures included: symptom-limited stair climbing
test, sleep efficiency, and the average duration of moderate intensity activity per week.

**Result**
Twenty-seven HCC patients were interviewed and completed the PSQI. There were 4 female and 23 male patients, mean age of 66.6 years, range from 27 to 87 years old. Among all, only one patient failed TACE. The insomnia prevalence rate was 66.7\% (n=18) in this sample. The average sleep efficiency was 74\%. Results for the post-training assessments are under progress.