Effectiveness of Non-pharmacological Based Fatigue Management with Chinese Acupoints Stimulation for Patients with End Stage Renal Disease

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Introduction
Fatigue is a distressing and disabling symptom commonly encountered by patients with end stage renal disease (ESRD). The impact of fatigue is far-reaching. It affects patients’ mobility, exhausts patients, reduces social interactions and induces depressed or anxiety mood. Chinese acupoints stimulation provides relaxation, stimulates balance of life energy, promotes health and improves circulation around the body to reduce fatigue.

Objectives
To evaluate the effectiveness of a non-pharmacological based fatigue management with Chinese acupoints stimulation.

Methodology
All patients with end stage renal failure were recruited from the Medical Palliative Medicine (MPM) clinic. Patients were assessed on the level of tiredness using Edmonton Symptom Assessment Scale (ESAS) and the Palliative Performance Scale (PPS) before and after the fatigue management program. In the ESAS, tiredness was measured with scale from 0 (no tiredness) to 10 (worse possible tiredness). Patient with tiredness level 4 or above were enrolled for fatigue management. Patients received mobility exercise regime, fall prevention training, caregivers’ empowerment and fatigue management by applying specific Chinese acupoints including KI1, SP6, ST36 and PC6 with monochromatic infrared energy through infrared light emitting diodes. The radiation was a commonly used electrotherapy modality by physiotherapists for promoting circulation and relieving pain. Four pairs of electrical pads were placed on Chinese acupoints on limbs for 40 minutes. The renal function,
electrolytes and haemoglobin level were closely monitored by physician, and standardized interventions for electrolyte disturbance and anaemia related to ESRD were offered during the intervention period. Self-efficacy level, a rating for caregivers' confidence on their capabilities to take care patients, was rated with 1 (poor), 2 (fair), 3 (good) or 4 (full confidence) by caregivers.

Result
Results From Jan 2012 to Dec 2014, thirty-one patients including 16 male and 15 female were recruited. Mean age was 77.5 ± 10.5 years old (ranged from 47 to 94). Thirty-one caregivers were also recruited. They received an average of 9 ± 12 sessions of physiotherapy treatment in the study period. Tiredness level significantly improved from 6.1 ± 1.5 to 2.6 ± 1.9 (p<0.001). PPS significantly improved from 48.4 ± 12.1 to 59.0 ± 13.5 (p<0.001). Self-efficacy of caregivers’ also significantly improved from 1.7 ± 0.65 to 3.2 ± 0.7 (p<0.001). There was no significant difference on haemoglobin level which changed from 9.24 ± 1.17 to 9.00 ± 1.23 (p=0.004). Creatinine level was insignificantly increased from 499.9 ± 243.6 to 626.1 ± 345.9 (p=0.309) with a deteriorating trend. Discussion Although the renal function indicated deteriorating trend during intervention period, patients showed improvement in fatigue level. The non-pharmacological based fatigue management with Chinese acupoints stimulation using monochromatic infrared radiation for patients with end stage renal disease showed to improve mobility, the patients' quality of life and their self-control throughout the disease process. Patients and caregivers were more confident in coping with the illness.