
ABSTRACT

Background
People suffering from spinal cord injury (SCI) experience devastating loss of physical function, which often results in psychological distress and strained personal relationships. These issues present enormous challenges for healthcare professionals during the inpatient rehabilitation stage. Current research demonstrates the effectiveness of medical and physiotherapy approaches used in SCI inpatient rehabilitation (i.e., exercise programmes in enhancing physical function and treatment for medical complications caused by the injury). However, the effectiveness of psychosocial care during the earlier stages of inpatient SCI rehabilitation has not been adequately established. This is an important gap in evidence because a holistic biopsychosocial model of SCI rehabilitation emphasizes dynamic interactions between physical, psychological and social factors and highlights the equal importance of psychosocial support to physical rehabilitation. Most of the available studies evaluating the effects of psychosocial care programmes for people with SCI were conducted in Western countries, and focused on patients with severe mental health problems (major depression, anxiety, and post-traumatic stress disorder), or specific co-morbidities (chronic pain and pressure ulcer). There is a paucity of SCI psychosocial intervention
studies designed and implemented for Chinese people with mild to moderate levels of psychological distress. Such psychosocial care programmes would be promising to prevent potential deterioration of mental state. Such psychosocial care programmes could also consolidate people’s psychological adjustment to SCI, promote active engagement in rehabilitation, and enhance people’s psychosocial well-being and life satisfaction at post-injury.

**Aim and Objectives**

This PhD study aimed to test the effectiveness of a psychosocial care programme entitled “Coping-oriented supportive programme (COSP)” for Chinese people with SCI during their inpatient rehabilitation stage. The objectives of this study were to examine the effectiveness of the COSP for the SCI inpatients in two rehabilitation wards on their coping abilities, self-efficacy, mood status, social support, pain and life satisfaction, when compared with those receiving didactic education in another two rehabilitation wards.

**Methods**

This was a quasi-experimental study with two parallel groups (the COSP and the comparison group) using repeated measures. Participants were people with SCI in two rehabilitation hospitals (two SCI wards in each hospital). One ward from each hospital was selected for recruiting participants of the COSP, and the other wards served as the comparison group. The sample size for the main study was calculated as 50 for each group (assuming a medium effect size $f=0.25$, power of 80% and a significance level
of 0.05). The COSP group received eight weekly group intervention sessions, and the comparison group received eight didactic education sessions. The primary outcomes were participants’ coping ability (maladaptive coping and adaptive coping), and self-efficacy. The secondary outcomes included participants’ mood status (anxiety and depression), social support (amount of social support and satisfaction of social support), and pain and life satisfaction. Outcomes were measured at baseline and immediately, one- and three months after the interventions. Both intention-to-treat (ITT) and per-protocol (PP) analysis were used. MANCOVA test followed with repeated-measures of ANCOVA was adopted for analysing the effects of the COSP on the primary outcomes and majority of the secondary outcomes. Some ordinal data of secondary outcomes were analysed using non-parametric tests (i.e., Mann Whitney U Test). Additional subgroup analyses were also performed to determine the influence of specific clinical/demographic factors (i.e., gender and injury type) on the COSP effects.

Results

Two SCI wards were allocated into the COSP and the other two SCI wards were allocated to the comparison group. A total of 99 patients with SCI were randomly selected from 161 eligible patients to participate in the study, with 50 in the COSP and 49 in the didactic education group. All 99 participants were included in the ITT analysis, and 71 participants (including those patients who had completed five or more intervention sessions and all the follow-up assessments) were included in the PP analysis. There was a statistically significant overall improvement in the majority of the psychosocial outcomes for SCI participants in the COSP. The ITT analysis of
MANCOVA tests (using participants’ marital status, time since injury and medication intake as co-variants) indicated statistically significant effects (with moderate to large effect sizes; Partial Eta-Squared ranged from 0.09 to 0.36) on participants’ maladaptive coping, anxiety, satisfaction of social support and life satisfaction at immediately after the intervention, 1- and 3-month follow-up; adaptive coping and depression at immediately after the intervention; self-efficacy at immediately after the intervention and 1-month follow-up. However, there was no statistically significant difference found in the amount of social support between the two study groups. The Mann-Whitney U tests indicated statistically significant effects of the COSP on overall life satisfaction (Q-LES-Q-SF, item 16 score) and pain (NRS score) at Times 2 and 3. Very similar results to the ITT analysis were found in the PP analysis. In addition, female participants indicated statistically higher scores on maladaptive coping in the three post-tests over three months follow-up. There were statistically significant differences found on most of the study outcomes (i.e. maladaptive coping, adaptive coping, anxiety, depression and life satisfaction) between the two injury types; participants with paraplegia indicated more adaptive psychosocial outcomes than those with tetraplegia.

**Conclusion**

This study pioneers a structured psychosocial care programme for Chinese people with SCI and filled several methodological and practical research gaps existing in the previous literature. Primarily, the study provided evidence on the effectiveness of the COSP in improving patients’ psychological adjustment during inpatient SCI rehabilitation. The significant positive effects of the COSP on enhancing people’s self-
efficacy, coping abilities, mood status and life satisfaction indicated the potential value of the integration of this psychosocial care programme into routine SCI inpatient rehabilitation. Future studies should train rehabilitation nurses to deliver the COSP during their day-to-day clinical practice and measure medium-long term patient outcomes using a multi-site cluster randomised controlled trial design.

**Keywords:** Spinal cord injury, Psychosocial care, Coping, Self-efficacy, Inpatient rehabilitation