Seamless Rehabilitation for patients with Spinal Cord Injury – 10 years Review

Cheung EYY(1), Chau RMW(1), Ho GMC(1), Wong EYW(1), Chan JSP(1), Wong TFY(1), Lau DMF(1), Lau PMY(2)
(1)Physiotherapy Department, KH (2)Physiotherapy Department, KCC

Keywords:
Seamless rehabilitation
Spinal Cord Injury
Spinal Cord Independence Measure
Physiotherapy

Introduction
Spinal Cord Rehabilitation Centre (SCRC) of Kowloon Hospital (KH) was established in 2002. Once discharge from in-patient, Spinal cord injury (SCI) patients will continue seamless physiotherapy care in our unique SCI out-patient (SCI.OPD). Indeed, KH-SCI.OPD is the only out-patient service specifically designed for SCI patients among the three SCRCs in Hong Kong. A smooth transition from in-patient to out-patient rehabilitation with the same team of physiotherapists and same facilities can guarantee continuation of high-quality care and analysis of functional outcomes. Cutting-edge SCI technologies and therapeutic technique are adopted including Interface Pressure Mapping System, Wheelchair Treadmill and Robotic Gait Training System.

Objectives
To evaluate the seamless rehabilitation service for SCI patients in SCRC of KH, including in-patient and out-patient phase.

Methodology
Patients of SCRC of KH with diagnosis of SCI were recruited in in-patient phase. They were evaluated with Spinal Cord Independence Measure (SCIM) on admission (T1) and at discharge (T2) by the case physiotherapist. Patients subsequently attended the SCI.OPD would be identified and SCIM was monitored at first attendance of SCI.OPD (T3), half-year follow-up (T4) and one-year follow-up (T5). One-way repeated measures ANOVA was used to investigate the overall SCIM change.

Result
177 patients (119 male, 58 female) aged 60.2±16.6 years were recruited. Upon
discharge, 76.3% patients discharged home while 23.7% discharged for institutional care or transferred back to acute hospital. This concurred with our previous study in series that SCIM_T1 is an effective tool for predicting the discharge destination with a cutoff score of 29((≥29=high-potential(HS)group;<29=low-potential(LS)group). There was significant overall time effect(p<0.01), and post-hoc analysis showed significant improvement of SCIM from 39.2±22.7(T1) to 65.0±26.5(T2)(p<0.01), 74.5±24.7(T3) to 78.5±26.0(T4)(p=0.04) and 78.5±26.0(T4) to 81.6±24.0(T5)(p<0.01) respectively. Further analysis revealed that in-patient length-of-stay(LOS) did not correlate with overall gain in SCIM(r=0.298,p=0.12). However, the relative rate of change of SCIM gain in out-patient versus in-patient phase was higher in patients with SCIM_T1≥29 than patients with SCIM_T1<29(p=0.03), indicating a greater potential for HS group to be benefited from out-patient phase rehabilitation. The comprehensive seamless rehabilitation program helps SCI patients regain functional independence and transition faster back into community. SCIM is a reliable tool for better discharge planning and progress monitoring. It is also a potential indicator for early integration to community from hospitalization.