



Service Priorities and Programmes
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Submitting author: Ms Barbara Chung Man CHAN

Post title: Occupational Therapist I, Prince of Wales Hospital, NTEC

Outcome evaluation of functional movement in clients attending multi-disciplinary seating clinic

Chan CMB(1), Yau KMY (1), Au LYF (1), Shum LFS (2), Lau HYA (3), Chan HLO (2), Liu KL (4), Cheng CYJ (4), WC Tam WCE(5)

(1)Occupational Therapy Dept, PWH; (2)Physiotherapy Dept, PWH; (3)Dept of Prosthetic & Orthotic, PWH; (4)Dept of O&T, PWH; (5) Interdisciplinary Division of Biomedical Engineering, HKPU.

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Introduction

Outcome measurement has become a great interest in seating service. There is little information about outcome measure on functional movement of adaptive seating for clients with neuro-motor disabilities. The Seated Postural Control Measure (SPCM) was designed to measure specific aspects of postural alignment (SPCM-A) and functional movement (SPCM-F). The Level of Sitting Scale (LSS) was designed to classify sitting ability.

Objectives

The purpose of this paper was to investigate the effectiveness of prescribed seating system in improving functional movement in clients with neuromotor disabilities in multi-disciplinary Seating Clinic.

Methodology

It was a cohort study. The clients with neuromotor disorders who referred from multi-disciplinary Seating Clinic of Prince of Wales Hospital were recruited in the study. Adaptive seating system was prescribed on individual-base by a multi-disciplinary Seating Clinic i.e. including occupational therapists, physiotherapists, prosthetic and orthotic therapists, orthopedic surgeons and rehab engineer. The SPCM-F and LSS were administered by an occupational therapist in reviewing the functional movement and level of sitting ability in two conditions: (1) adaptive seating system prescribed by multi-disciplinary Seating Clinic and (2) sitting on an ordinary chair.

Result

During January 2013 to December 2013, fifty clients were involved in the study (n=50). The mean age of the clients was 10.20 years old. They were suffered from cerebral palsy (66%), epilepsy (12%), muscular dystrophy (8%), developmental delayed (6%), spinal bifida (2%) and others. LSS showed that most all of them required support from head to pelvis (76%), some of them maintained position / shifted trunk (20%) and few

of them were unplaceable (4%). Different types of adaptive seating system were prescribed: dependent manual wheelchair (56%), tilt-in-space wheelchair (20%), independent wheelchair (10%), power wheelchair (8%) and modification of rocking chair / car-seat (6%). The total mean scores of SPCM-F (SPCM-F score: minimum 12 - maximum 48; higher raw score indicated better performance across a range of functional abilities) in condition (1) adaptive seating system prescribed by multi-disciplinary Seating Clinic and (2) ordinary chair were 24.48 (\pm SD12.91) and 19.56 (\pm SD11.84) respectively. Statistical analyses of SPCM-F ($p < .001$) showed that clients in condition (1) were significantly higher function than in condition (2) ($p < 0.001$). Clients who could maintain position / shift trunk showed significantly higher function than those who need supported from head to pelvis ($p < 0.001$). Those who understood most instructions / cooperated well had significantly higher functional score than those understood few instructions / uncooperative ($p < 0.001$; $p < 0.01$). On bivariate analysis, all sub-items of SPCM-F had a significant correlation ($p=0.00$) with total SPCM-F in condition 1 (adaptive seating system). Multi-variate analysis indicated that higher cognitive level and head up midline were significant associated with total SPCM-F score ($p=0.00$). This study showed that adaptive seating system prescribed by multi-disciplinary Seating Clinic improved functional movement in clients with neuromotor disorders. SPCM-F and LSS demonstrated promising and responsive outcome measure for clients with neuromotor disorders. This standardized measurement instrument can be used to evaluate therapeutic outcomes and facilitate service development in future.