

Psychometric Properties of the Swedish version of the Moorong Self-Efficacy scale

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INTRODUCTION

Self-efficacy (SE) is an important indicator of adjustment after spinal cord injury (SCI) and it is commonly assessed with Moorong Self-Efficacy Scale (MSES). MSES comprises 16 items, each rated on a 7-point Likert scale (range:16-112), divided in 3-subcales: personal SE (PSE), general SE (GSE) and social SE (SSE). This study explored the psychometric properties of the newly translated Swedish version of the MSES (s-MSES).

METHODS

The translation process was based on guidelines and involved experts and consumers. Within the INTERnational Project for the Evaluation of “Active Rehabilitation” (Inter-PEER) a total of 134 persons (92 participants/42 peer mentors) with SCI completed the online survey (median age 47/38yrs; 37%/26% female; 48%/76% paraplegics; median time-since-injury: 1/10yrs). Internal consistency was assessed with Cronbach’s alpha coefficient, and test-retest reliability using the Interclass Correlation coefficient (ICC). Convergent validity was assessed by correlating s-MSES with Life Satisfaction Questionnaire (LiSat) and Connor-Davidson Resilience Scale (CD-RISC), and discriminant validity by correlating s-MSES with Hospital Anxiety and Depression Scale (HADS) through Spearman coefficient.

RESULTS

91% answered all items and obtained a total score. Median score for participants was 90 (PSE:23;GSE:22;SSE:30) and for peer mentors 104 (PSE:27;GSE:26;SSE:35). Cronbach’s alpha for the total-scale/subscales was 0.92/0.74-0.83. ICC was excellent for total and subscale scores (0.78-0.91). The s-MSES scores were positively correlated with LiSat ($r=0.72$) and CD-RISC ($r=0.76$), and negatively correlated with HADS ($r=-0.58$).

CONCLUSION

The s-MSES has excellent internal consistency, moderate discriminant validity and high convergent validity. It is therefore suitable to assess SE in persons with SCI in community-rehabilitation settings.

A holistic approach on shoulder pain in active wheelchair users

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INTRODUCTION

It is well known that shoulder pain and dysfunction is common among active wheelchair users and can substantially affect daily life. The cause of shoulder dysfunction is complex and often the holistic perspective regarding the daily routines is missing. Many physiotherapists have great experience in the field of shoulder rehabilitation, but the treatment of active wheelchair users may differ from regular procedures. The aim was to create a brief guide on shoulder pain management regarding the weight-bearing shoulder in active wheelchair users suitable for colleagues working in the field with different levels of knowledge and prerequisites.

METHODS

Based on current literature and clinical experience a group of physiotherapists from 3 centres in Sweden have created a stepwise brief guide on management of shoulder dysfunction in the SCI-population. It has been reviewed by stakeholders such as physiotherapists and occupational therapist in different parts of the country and with different expertise in both specialised centres as well as outpatient care facilities.

RESULTS

The guide contains background information, anatomy, and SCI specific assessment of the shoulder. Further, wheelchair ergonomics and propulsion techniques, transfers, and environmental factors are addressed. The importance of a holistic approach including different professionals is emphasised in order to gain optimal results.

CONCLUSION

We hope this brief guide will help promoting a holistic management of shoulder pain and dysfunction in wheelchair users with SCI. Also, we hope to contribute to the discussion of shoulder management for active wheelchair users in both specialised centres and outpatient facilities.

Motor dual-task effect in adults with spina bifida

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INTRODUCTION

Adults with Spina Bifida (SB) often have reduced ambulatory function and cognitive challenges to various extent. Daily activities include simultaneous motor and cognitive activity “dual-tasking”. Difficulties with dual task (DT) can have serious consequences such as falls. DT ability of adults with SB has not been reported.

The aim was to explore DT effects (DTE) during gait with a concurrent cognitive task (auditory Stroop) in adults with SB.

METHODS

A regional cohort of adults with SB (18-65 years) enrolled at Spinalis outpatient clinic, Aleris Rehab Station. 41 persons 20 (49%) women; mean age 37 years, (SD 12) with muscular impairments and ambulatory function in daily life were included. Sensory and motor function were assessed by international standards, and functional ambulation according to Hoffer. Spatial and temporal gait characteristics were registered with a sensor-based motion analysis system (APDM). Participants walked first in single task condition and secondly with an auditory stroop test added. DTE was calculated as the percentage change between single task and DT. Descriptive statistics was used.

RESULTS

For 7 persons data was missing from the APDM system, 34 persons were included in the DTE analysis, 50% women, mean age 38 years (SD 12). Twenty-three (68%) were community and 11 (32%) were household ambulators. The DT effect was -4.3% for gait speed, -3.4% for stride length and 2.94% for double support phase.

CONCLUSION

Adults in this cohort with SB seems to have a low DT cost for gait parameters when performing a cognitive task while walking.

Evidence on Treatment and Prevention of Shoulder Pain in People with Spinal Cord Injury who use Manual Wheelchairs: A Systematic Review and Meta-analysis

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INTRODUCTION

We aimed to estimate the efficacy of active physiotherapy interventions and prevention strategies on shoulder pain, physical function and quality of life in people with spinal cord injury (SCI).

METHODS

A systematic literature search was conducted in MEDLINE, CENTRAL, EMBASE and CINAHL. Randomised controlled trials (RCTs) investigating the effect of active physiotherapy interventions on shoulder pain, physical function, and quality of life were included. Prospective cohort studies investigating effects of active physiotherapy interventions in prevention of shoulder pain and reduced physical function were also eligible for inclusion. Mean difference (MD) for pain (0 to 100 scale) and standardised mean difference (SMD) for physical function in a random effects meta-analysis were calculated.

RESULTS

Four RCTs including 167 participants on treatment and no studies on prevention were included. Clinically meaningful improvements in shoulder pain (MD 19.06, 95% CI 5.72 to 32.40; I₂ = 65%) and physical function (SMD 0.61, 95% CI 0.27 to 0.94; I₂ = 0%) were found for active physiotherapy interventions. Only one study measured the effect on quality of life, precluding meta-analysis.

CONCLUSION

Evidence from a sparse number of studies support active physiotherapy interventions to decrease shoulder pain and increase physical function in people with SCI using a manual wheelchair. No studies on prevention were identified, highlighting the need for research investigating the effects of active physiotherapy interventions on prevention of shoulder pain, decreased physical function and quality of life. We encourage future studies to include interventions described according to FITT-principles (Frequency, Intensity, Type, Time) to ease replication.

Tetraplegia Upper Limb Activity Questionnaire, TUAQ — development and initial psychometrics

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INTRODUCTION

SCI-specific ADL instruments are not specific enough to capture changes in Upper limb and ADL instruments specifically for hand injuries include items that are not relevant to people with SCI. A questionnaire of daily activities dependent on upper limb relevant for people with tetraplegia is therefore needed.

METHODS

The Tetraplegia Upper Limb Activity Questionnaire (TUAQ) was developed in a collaboration between Sweden, Australia and New Zealand. The development and psychometric testing involved item generation, pilot testing of items and scoring system and psychometric testing (internal consistency and dimensionality, construct validity, reliability and responsiveness). Persons with stable C5-C8 SCI were recruited. Data were evaluated using exploratory factor analysis and Rasch analysis.

RESULTS

Items were generated from 708 identified activities by COPM assessments the 12 most common and relevant activities were chosen. The pilot testing defined recommended scale. Rasch analysis showed no misfitting items or persons however a number of items demonstrated local dependence. Three items were subsequently removed. Due to a number of disordered thresholds response the scale were decreased from a 10 to a 5-point scale. Following this, TUAQ demonstrated a good fit to the Rasch model. TUAQ is unidimensional and well targeted, demonstrates good reliability and validity, is well targeted regardless of age, gender, spasticity or time post injury and effective in detecting change in upper limb activities in people with tetraplegia.

CONCLUSION

TUAQ has the potential to be an important patient reported outcome measure used for clinical and research purposes in this population.

Translation and psychometric evaluation of an upper limb spasticity specific questionnaire targeting active and passive functions in daily life

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INTRODUCTION

The original English version of Arm Activity Measure (ArMA) questionnaire is shown to be valid and reliable for assessing passive (section A) and active (B) real-life arm function in patients with disabling spasticity. The aim with this study was to translate and evaluate the psychometric properties of the Swedish version of ArMA (ArMA-S).

METHODS

ArMA was translated and cross-culturally adapted according to established guidelines. The Swedish version was subjected to validity and reliability assessments in patients with disabling upper limb spasticity due to central nervous system injuries (spinal cord injury: n=31, stroke: n=25, other: n=10). Internal consistency reliability was assessed with Cronbach's alpha and test-retest reliability with quadratic weighted kappa, with a special focus on individuals with SCI. Sensitivity was assessed by calculating the change in score as a result of spasticity-correcting surgery.

RESULTS

ArMA-S was shown to have good face and content validity and no floor or ceiling effects. Internal consistency of ArMA-S was good and equal to that of ArMA (kappa values=0.94 and 0.93 for section A and B, respectively). In the SCI-group test-retest reliability was good with weighted Cohen's kappa coefficient of 0.92 (95% confidence interval [CI], 0.85–0.99) for section A and 0.79 (95% CI, 0.51–1.07) for section B. Sensitivity analysis showed significant increases in both section A and B of ArMA-S.

CONCLUSION

ArMA-S is a valid, reliable and sensitive measure for use in clinic and research to capture changes in upper limb function in patients with disabling spasticity, including patients with SCI.