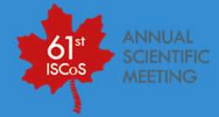


Course of participation after onset of spinal cord injury and associations between secondary health conditions at discharge and participation one year post-discharge



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Background

Participation restrictions are common among people with SCI/D. The presence of secondary health conditions (SHCs) may further hamper their participation.

Study aims

- To analyze longitudinal changes in levels of participation after onset of SCI.
- To explore the predictive value of SHCs at discharge for the level of participation in the first year post-discharge.

Methods

Multicenter prospective cohort.

Included were 270 adults inpatients with SCI/D, admitted between January 2015 and January 2020. For 134 data were complete data

Questionnaires were administered at admission (to assess pre-injury participation), at discharge (SHCs only), and at three, six and twelve months after discharge (SHCs and participation).

Instruments

Participation was measured with the Utrecht Scale for Evaluation of Rehabilitation-Participation, measuring frequency of participation, participation restrictions and satisfaction with participation.

SHCs were measured with the Spinal Cord Injury Secondary Conditions Scale.

Analyses

Hierarchical linear regression analysis

Table 1. Course of SHCs and participation (N=134)

	Pre-injury	Discharge	Three months after discharge	Six months after discharge	Twelve months after discharge
SCI-SCS- mean (SD)	-	9.4 (5.1)	8.6 (5.0)	8.5 (5.3)	9.0 (5.5)
Frequency mean (SD)	38.5 (10.9) [§]	-	30.5 (10.1) ^{***}	32.4 (10.6) ^{**}	32.0 (10.1)
Restrictions mean (SD)	-	-	64.9 (16.7)	67.9 (18.3) [*]	70.6 (18.3) [*]
Satisfaction mean (SD)	77.6 (11.8) [§]	-	58.9 (16.3) ^{***}	63.9 (16.2) ^{***}	64.3 (16.7)

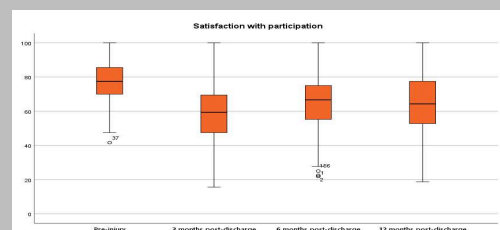
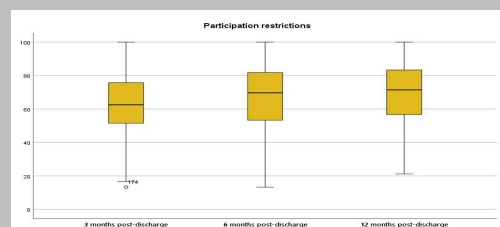
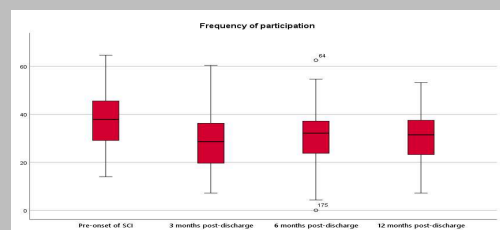
[§] p < 0.05, ^{**} p < 0.01, ^{***} p < 0.001

SCI-SCS: Spinal Cord Injury Secondary Conditions Scale; USER-P: Utrecht Scale for Evaluation of Rehabilitation-Participation.

Table 2. Hierarchical linear regression analyses (N=169-177)

	Frequency of participation			Participation restrictions			Satisfaction with participation		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Demographics									
Female sex	.07	.00	.00	-.10	-.14	-.14	-.12	-.11	-.11
Age	-.30 ^{**}	-.30 ^{**}	-.29 ^{**}	-.24 ^{**}	-.24 ^{**}	-.21 ^{**}	-.14	-.11	-.09
Born in Netherlands	-.08	-.09	-.08	-.08	-.09	-.08	-.12	-.11	-.10
Having a partner	.00	.01	.01	-.07	-.06	-.06	-.14	-.14	-.14
Higher education	.19 ^{**}	.19 ^{**}	.20 ^{**}	.10	.10	.11	.07	.07	.09
SCI characteristics									
Traumatic etiology		.09	.09		.09	.07		.06	.04
Tetraplegia	-	-.08	-.05	-	-.27 ^{**}	-.17 [*]	-	-.04	.06
Motor complete	-	-.09	-.06	-	-.19 [*]	-.10	-	.07	.16 [*]
SHCs									
SCISCS-score	-	-	-.11	-	-	-.34 ^{**}	-	-	-.34 ^{**}
Total R²	15%	16%	17%	9%	17% ^{**}	27% ^{**}	8%	9%	19% ^{**}

NA: Determinant was not significantly associated in bivariable analysis and not included in the model. USER-P: Utrecht Scale for Evaluation of Rehabilitation-Participation; SCISCS: Spinal Cord Injury Secondary Conditions Scale. * p<0.05, ** p<0.01



Results

- At admission, mean age was 56 (SD 15.2) years, 68% were men, 29% had finished college or university education and 65% had a paid job before SCI. SCI was classified as AIS A or B in 22%, tetraplegia in 54% and the mean duration of rehabilitation admission was 14 weeks.
- Levels of participation significantly increased during the first year after discharge, but remained well-below pre-injury levels.
- Regression models showed that SHCs did not predict the frequency of participation, but SHCs were the strongest independent predictor for participation restrictions and satisfaction with participation one year post-discharge.

Conclusions

The results of this study show the impact of SHCs on levels of participation restriction and satisfaction with participation, but not on the frequency of participation after onset of SCI. Treatment and prevention of SHCs is of importance to optimize prospects of participating in society for individuals with SCI.