



Employment following spinal cord injury – a British multicentre study

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Aim: To assess changes in employment status after spinal cord injury (SCI) in relation to pre-injury period and to explore potential predictors of post-injury employment.

Method: A postal questionnaire was sent to 1748 patients of the three participating British spinal centres who fulfilled study criteria (SCI at level C5 or below, wheelchair dependent, aged 18 -50 at the time of injury, injured at least 1 year prior to the study, UK resident).

Results: 985 questionnaires were returned (56.4% response rate).

Demographic and SCI characteristics: The sample was 81% male, the mean age time of study was 48.1 years (SD 12.7), at injury 28.6 years (SD = 9.20) and time since injury 19.5 years (SD = 12.7). All subjects were wheelchair dependent (AIS grade A, B or C), 34.8% had tetraplegia and 65.2% paraplegia.

Employment, education and financial status: The employment rate decreased from 86.5% (81.8% full-time) before injury to 37.2% (28.1% full-time) after injury (p<0.05). At the same time 30% of the study participants improved their education level after injury (p<0.05). 45.5% of the participants assessed their total household income as lower than before injury, and 19.5% described it as half of their pre-injury income.

Tables 1 & 2: Employment and education before and after SCI (p<0.05)

Employment status	Before SCI (%)	After SCI (%)
Student	7.7	3.7
Full time employment	81.8	28.1
Part time employment	4.7	9.1
Homemaking / parenting	1.8	5.7
Unemployed	3.9	44.3
Retired	0	9.2

Education level	Before SCI (%)	After SCI (%)
Primary school	3.5	2.2
Secondary school	52.5	36.6
College	33.4	40.6
University	8.8	15.2
Higher	1.9	5.4

Post-injury employment was significantly associated with male gender, younger age at injury, longer duration of injury, lower level of SCI, fewer hours of personal care assistance, higher education, higher recreational and sport engagement, higher quality of life, lower levels of anxiety and depression, and with the UK geographical region (p<0.05).

Tables 3 & 4: Variables significantly associated with post-injury employment (p<0.05)

Employment status post-SCI	Gender (%)		Injury level (%)		Education pre-SCI (%)		Education post-SCI (%)		UK geographical region (%)		
	Male	Female	Para	Tetra	School	Higher	School	Higher	Stoke	Sheffield	Glasgow
Employed	39.4	27.5	40.2	31.4	28.7	48.6	22.3	47.0	41.2	30.4	33.8
Unemployed	52.3	59.3	48.3	63.7	59.4	46.9	62.1	48.7	46.9	63.4	66.2
Retired	8.2	13.2	11.5	4.8	11.8	4.6	15.5	4.3	11.9	6.3	0

Employment status post-SCI	Age at injury (years)	Age at study (years)	Years post injury	Daily hours of personal care	Life satisfaction score (1-6)	Anxiety scale score (0-21)	Depression scale score (0-21)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Employed	26.78 (7.50)	45.91 (11.00)	19.12 (11.21)	3.66 (6.33)	4.21 (0.93)	6.29 (3.81)	4.94 (3.63)
Unemployed	28.89 (9.59)	45.92 (11.25)	17.03 (11.01)	7.55 (8.78)	3.78 (0.97)	7.37 (4.37)	5.92 (3.75)
Retired	34.42 (10.31)	70.18 (5.02)	35.76 (11.67)	8.00 (8.66)	3.81 (1.04)	6.56 (4.24)	5.48 (3.76)

In the final multinomial logistic regression model, increased odds of post-injury employment were significantly associated with: male gender, lower level of injury, younger age at injury and higher education level both before and after injury (p<0.05).

The most frequently stated reasons for post-injury unemployment were: lack of accessible work places (48%), reluctance of employers (28%), lack of accessible transport (24%), inadequate training (24%), chronic pain (23%), personal care needs (20%) and lack of desire (20%).

Conclusions: After spinal cord injury the employment rate decreased dramatically from 87% to 37%. The strongest predictors of post-injury employment were age, gender, level of injury and education.

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