

## THE IMPACT OF SECONDARY CONDITIONS ON HEALTH-RELATED QUALITY OF LIFE OF SPINAL CORD INJURY PATIENTS – DO URINARY AND SEXUAL DYSFUNCTIONS REALLY MATTER?

### Hypothesis / aims of study

A wide array of health issues ensue following traumatic spinal cord injury (SCI) which may have a negative impact on health-related quality of life (HRQL) in these patients. Our aim was to determine if urinary and sexual dysfunctions secondary to SCI had a significant impact on reported HRQL.

### Study design, materials and methods

A cross-sectional study involving traumatic SCI patients was conducted between March and December 2010. Outpatients followed either at the Urology or the Physical Medicine and Rehabilitation Departments in two Portuguese institutions were invited to participate. Patients were excluded if the traumatic lesion had occurred in the previous 12 months. The Short-Form 8-Item Health Survey (SF-8) (higher score indicating better HRQL) and the self-report Spinal Cord Injury Secondary Conditions Scale (SCI-SCS) composed of 16 items (higher score indicating a more significant problem) were administered. Demographic and clinical data were also collected. Results are presented as mean and standard deviation (SD). The relationship between urinary and sexual conditions reported on the SCI-SCS (questions 7, 9 and 10) and HRQL measured by the SF-8 (both Physical (PCS-8) and Mental (MCS-8) summary measures) was assessed using Spearman's *rho* ( $\rho$ ).

### Results

Eighty-seven patients completed the two questionnaires and had all necessary demographic and clinical data available for analysis. Briefly, 77% were male (67/87); median age at SCI event was 26 years old (IQR: 19-38); and median time elapsed from SCI and date of questionnaire completion was 12 years (IQR: 7-21). The following table depicts the prevalence and severity (rated 0 to 3) of the 16 secondary conditions evaluated by the SCI-SCS. Sexual and bladder dysfunctions and urinary tract infections are among the most significant secondary conditions reported. Correlation between SCI-SCS question 7 regarding bladder dysfunction and PCS-8 and MCS-8 were significant but weak ( $\rho = -0.41$  and  $-0.43$ , respectively). Correlation between SCI-SCS question 9 (concerning urinary tract infections) and SF-8 was only significant for PCS-8 ( $\rho = -0.28$ ) but not for MCS-8. The score for sexual dysfunction on the SCI-SCS did not correlate with either PCS-8 or MCS-8 scores.

Secondary condition	Mean (SD)	Not experienced (0)	Mild Problem (1)	Moderate problem (2)	Significant problem (3)
Muscle spasms	1.70 (1.05)	17.2%	21.8%	34.5%	26.4%
Joint and muscle pain	1.49 (1.08)	24.1%	23%	32.2%	20.7%
Sexual dysfunction	1.45 (1.17)	31%	17.2%	27.6%	24.1%
Bladder dysfunction	1.44 (1.13)	27.6%	24.1%	25.3%	23%
Urinary tract infections	1.39 (1.02)	20.7%	37.9%	23%	18.4%
Chronic pain	1.34 (1.20)	34.5%	21.8%	18.4%	25.3%
Circulatory problems	1.17 (1.10)	37.9%	21.8%	25.3%	14.9%
Contractures	1.06 (1.09)	42.5%	23%	20.7%	13.8%
Bowel dysfunction	1.02 (1.08)	42.5%	26.4%	17.2%	13.8%
Autonomic dysreflexia	0.89 (0.98)	43.7%	34.5%	11.5%	10.3%
Pressure sores	0.60 (0.95)	65.5%	16.1%	11.5%	6.9%
Respiratory problems	0.57 (0.80)	59.8%	25.3%	12.6%	2.3%
Postural hypotension	0.56 (0.80)	62.1%	20.7%	16.1%	1.1%
Injury by loss of sensation	0.56 (0.87)	64.4%	19.5%	11.5%	4.6%
Heterotopic bone ossification	0.33 (0.74)	79.3%	11.5%	5.7%	3.4%
Diabetes mellitus	0.21 (0.65)	88.5%	5.7%	2.3%	3.4%

### Interpretation of results

Urinary and sexual dysfunctions are rated among the most significant conditions secondary to SCI, but do not correlate well with HRQL as measured by a general self-report questionnaire like the SF-8. Particularly, sexual dysfunction though being reported as a moderate or significant problem in more than half of patients does not correlate with poorer Physical or Mental scores on SF-8. The relatively long time elapsed from injury together with coping mechanisms might explain these results. Also, SCI patients might report better scores when asked general open questions but only acknowledge a health problem when specifically asked about it.

### Concluding message

Urinary and sexual problems are among the most significant secondary conditions referred by SCI patients. Nevertheless, the results of general HRQL questionnaires do not reflect it as correlation between scores obtained from the SF-8 and the SCI-SCS concerning these issues is weak or absent. When evaluating the effect of interventions on these conditions associated with SCI, general HRQL scales may not be suitable.

<b><i>Specify source of funding or grant</i></b>	<b>None</b>
<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>No</b>
<b><i>This study did not require ethics committee approval because</i></b>	<b>It is based on anonymous questionnaires; confidentiality was guaranteed.</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>