Spinal Cord Injury-Falls Concern Scale (SCI-FCS)

Assessment Overview

Assessment Area

ICF Domain:
Activity
Subcategory:
Participation

You Will Need

Length:
5-10 minutes, 16 items
Scoring:
Items rated 1-4. Total score (16-64) is sum of all items. Higher scores indicate greater levels of fall concern.

Summary

The Spinal Cord Injury-Falls Concern Scale (SCI-FCS) is a self-report scale assessing the level of concern about falling during common activities of daily life in people with spinal cord injuries who are dependent on manual wheelchairs. Lower scores indicated fewer fall concerns.

Availability

Worksheet: Can be found here.

Languages: English, Turkish, Brazilian Portuguese, Thai, Italian, Swedish, and Norwegian.

Assessment Interpretability

Minimal Clinically Important Difference

Not established in SCI

Statistical Error

Standard Error of Measurement:
2.6 (12%)

Minimal Detectable Change
7.1

(Roaldsen et al. 2015; n=54; 45 males, 9 females; complete and incomplete injury; 9 cervical, 18 thoracic, and 5 lumbar-sacral; median (IQR) time since injury: 13 (6-30) years; Norwegian version)

Typical Values

Median (range) score:
21 (16–64)

(Butler Forslund et al. 2016; n=87; 65 males; 45 cervical, 27 thoracic, 5 lumbar; 53 ASIA, 18 ASIA B, 9 ASIA C, 6 ASIA D; median (range) time since injury: 15 (2-52) years; Swedish version)

Measurement Properties

Validity – **Moderate**

Construct Validity:

Significant mean between-group differences were found in the following characteristics:

Level of injury, falls per year, vertical transfer, self-reported fear of falling, supported sitting ability, and unsupported sitting ability

(Boswell-Ruys et al. 2010; n=125 with SCI; 101 males; ASIA A-D; mean (SD) time since injury: 9 (12) years)

Individuals with shorter time since injury, who answered 'yes' to the question on fear of falling, reported higher values on the Hospital Anxiety and Depression Scale, Fatigue Severity Scale or Secondary Conditions Scale

(Butler Forslund et al. 2016; n=87; 65 males; 45 cervical, 27 thoracic, 5 lumbar; 53 ASIA A, 18 ASIA B, 9 ASIA C, 6 ASIA D; median (range) time since injury: 15 (2-52) years; Swedish version)

Moderate Correlation the Wheelchair Use Confidence Scale, Short Form:

r = 0.56

(Marquez et al. 2018, n=124; 100 males; mean (SD) age: 46.2 (15.0) years; 93 Paraplegia, 61 Complete Paraplegia, 31 Tetraplegia, 21 Complete Tetraplegia, 35 Acute spinal cord injury; Italian version)

High correlation with FES-I scale:

r = 0.97, p < 0.01

(Basak & Duman 2024, n=134; 95 males; 39 females; mean age 39.26, various levels of injury; Turkish version)

Number of studies reporting validity data: 4

Reliability – **High**

High Test-retest Reliability:

ICC = 0.93

(Boswell-Ruys et al. 2010; mean 3.5 days interval, N=20 with SCI, 14 males, mixed injury types, community and hospitals, mean (SD) time since injury = 15 (15) years)

ICC = 0.973

(Marquez et al. 2018, n=124; 100 males; mean (SD) age: 46.2 (15.0) years; 93 Paraplegia, 61 Complete Paraplegia, 31 Tetraplegia, 21 Complete Tetraplegia, 35 Acute spinal cord injury; Italian version)

ICC = 0.81

(Basak & Duman 2024, n=134; 95 males; 39 females; mean age 39.26, various levels of injury; Turkish version)

ICC = 0.92 (range: 0.86-0.95)

(Galante-Maia et al. 2021; n=130; Brazilian Portuguese version)

ICC = 0.99, p<0.001

(Pramodhyakui & Pramodhyakui 2020, n=52, 44 males, 10 females; 11 ASIA C, 2 ASIA D; Thai version)

High Internal Consistency:

α = 0.92

(Boswell-Ruys et al. 2010; n=125 with SCI; 101 males; ASIA A-D; mean (SD) time since injury: 9 (12) years)

α = 0.82

(Marquez et al. 2018, n=124; 100 males; mean (SD) age: 46.2 (15.0) years; 93 Paraplegia, 61 Complete Paraplegia, 31 Tetraplegia, 21 Complete Tetraplegia, 35 Acute spinal cord injury)

α = 0.97

(Basak & Duman 2024, n=134; 95 males; mean age 39.26, various levels of injury; Turkish version)

α = 0.95

(Galante-Maia et al. 2021, N = 130; Brazilian Portuguese version)

α = 0.88

(Pramodhyakui & Pramodhyakui 2020, n=52, 44 males; 11 ASIA C, 2 ASIA D; Thai version)

Number of studies reporting reliability data: 6

Responsiveness

Floor/Ceiling Effect:

13 participants (16%) scored the lowest possible (16/64), while only 1 scored the maximum (64/64)

(Butler Forslund et al. 2016; n=87; 65 males; 45 cervical, 27 thoracic, 5 lumbar; 53 ASIA A-D; Swedish version)

Standardized Response Mean:

Not established in SCI

Number of studies reporting responsiveness data: 2