

## **Fear of falling in wheelchair using individuals with spinal cord injury**

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### **Introduction and aims**

The spinal cord injury (SCI) population is getting older and falls, fall-related injuries and negative consequences of falls are a growing health concern. Fear of falling (FoF) is known to limit activity and participation in ambulating individuals and is often assessed with the Falls Efficacy Scale International (FES-I). Recently, the Spinal Cord Injury Falls Concern Scale (SCI-FCS) for wheelchair users was developed by Boswell Ruys et al (Spinal Cord 2010), based on the FES-I. The scale has now been translated and culturally adapted to Swedish.

The aims of the study were to investigate FoF in wheelchair using individuals with SCI and to investigate the relationship between FoF and age, gender, duration of SCI, ability to transfer from the ground, falls and fall-related injuries.

### **Material and methods**

A total of 48 wheelchair users with traumatic SCI (78% men), median age 47 (22-79) years, attending their regular follow-up at Rehab Station Stockholm / Spinalis SCI unit and participating in a prospective multi-center study on falls reported FoF using the SCI-FCS. Level of injury was C3-L3, AIS A-D. Excluded were individuals with injuries above C5 AIS A and B as well persons able to walk. Median time since injury was 14.5 (3-52) years. Falls and fall-related injuries in the previous year as well as the ability to get up from the ground were assessed. The variables were dichotomized and analyzed for group differences by Mann Whitney U-test.

### **Results**

Median FoF was 21 (16-64) out of 64 points indicating low falls concern on a group level. Activities with highest reported FoF were driving wheelchair on uneven surface or up/down gutters and curbs, although the median 2 corresponds to "a little concerned". Higher FoF was reported in individuals unable to get up from the ground ( $p=0.047$ ), those who had fallen the previous year ( $p=0.030$ ) and those who had their SCI for less than 14.5 years ( $p=0.025$ ).

No group differences in total SCI-FCS score were found due to different ages, genders or injurious falls.

The previous year 88 % reported falls and 48% reported fall-related injuries (including both minor injuries such as scratches, bruises, strains and severe injuries such as fractures).

### **Conclusion**

Wheelchair users with SCI reported relatively low levels of FoF in spite of a relatively high reported

frequency of falls and fall-related injuries. The reported FoF showed a relationship with previous falls, shorter duration of SCI and ability to transfer from the ground independently.

**Key words**

Fear of falling, spinal cord injury-falls concern scale, falls efficacy scale- international