

## **Epidemiological Study of Spinal Cord Injury in the Biggest National Rehabilitation Center in China: 1991-2018**

### **Abstract**

**Study design:** Retrospective epidemiological study.

**Objective:** To describe the epidemiology of spinal cord injury in China in recent decades.

**Summary of background data:** Spinal cord injury may have large socioeconomic consequences. The epidemiology may change a lot owing to increasing population age, development of economy and medical treatment. This is the first study to address the epidemiology of spinal cord injury over a large period in China.

**Methods:** Retrospectively analyzed the inpatients with spinal cord injury or cauda equina injury in China Rehabilitation Research Center from January 1991 to October 2018. Patient-, accident- and complication and comorbidity characteristics, hospitalization costs and length of stay were obtained from the inpatients' medical records.

**Results:** 8422 patients with SCI were admitted. The ratio of female to male is 1:3.20, with a median age of 36 (P25=27, P75=47). The most common injury was thoracic SCI, and most patients suffered complete injuries (67.8%). The second was cervical SCI, while most of patients (65.5%) suffered incomplete injuries. The most common cause of injury was traffic accidents (39.1%), followed by high falling accidents (23.8%). The fracture-prone vertebrae were thoracolumbar vertebrae (52.0%). The top 3 complications were neurogenic bladder (14.0%), urinary tract infection (8.8%), and pressure ulcer (6.7%). Patients with complete cervical SCI had the longest length of stay and the most hospitalization costs. The Barthel Index score of patients in 2010-2018 was increased from 28.5 on admission to 42.8 at discharge in about 97.8 days with the score increased by 0.25 per day.

**Conclusions:** A large part of spinal cord injury occurs in adults. Traffic accidents are the most common cause of injury. Spinal cord injury brings great burden to the society and the family of the patients. This study may stimulate development of policy on sanitation to prevent SCI and improve rehabilitation intervention.