

## **Acute hip fracture, seasonal variation in incidence and mortality. A study using the SPOR register.**

Department of Clinical Sciences, Danderyd Hospital

Zeke Danielson

Study Program in Medicine KI Degree project 30 credits

2021-02-18

Supervisor: Jan Jakobsson

*Introduction:* Hip fractures are one of the most common fractures, and Sweden has among the highest incidences in the world. It primarily affects elderly women. The 30-day mortality rate is around 8%. Earlier studies have identified several factors affecting mortality, but the seasonal effect on mortality is still disputable. A seasonal effect on incidence has been shown.

*Aims:* The aim of this study was to assess the seasonal variations in incidence and 30-day all-cause mortality in patients surgically treated for acute hip fracture at Danderyd Hospital using register data.

*Material and Methods:* Perioperative data from the SPOR database on patients  $\geq 50$  years old treated surgically for an acute hip fracture at Danderyd hospital between 2015 and 2019 were used. Inclusion criteria were ICD-10 code S72.00-S72.20 and treatment codes NFJ and NFB. Number of eligible patients were 2 659. Number of surgeries during spring, summer, fall and winter and all-cause 30-day mortality was the primary outcome.

*Results:* Out of the 2 659 patients, 67% were females and overall mean age was 82 years (SD 9.5). Number of hip fractures was significantly higher during fall and winter compared to summer and spring, 693 and 750 cases vs. 619 and 597 respectively ( $P < 0.001$ ). The all-cause 30-day mortality for the entire cohort was 7.1%, with no significant difference between seasons.

*Conclusions:* A seasonal effect with a higher incidence of hip fractures during fall and winter, all-cause 30-day mortality did however not vary between seasons.

*Keywords:* Hip Fractures, Mortality, Seasons, Register Study, Incidence, Variation.