

TRENDS AND CONTRIBUTING FACTORS OF SHORT TERM HIP FRACTURE MORTALITY IN HUNGARY

Cecilia Surján^{1,*}, Viktor Dombrádi¹, Éva Belicza¹

¹Health Services Management Training Centre, Faculty of Health and Public Administration, Semmelweis University, Budapest, Hungary, * Email: surjan.cecilia@emk.semmelweis.hu



Background

Hip fractures are frequent among the elderly, their treatment burdens healthcare systems worldwide. Hip fracture mortality in Hungary is high according to previous researches, but the causes behind the rates are unknown. The most critical period is the first 90 days following the fracture related hospital admission.

Our analysis aimed to identify the possible causes of short term (90-day) mortality and the key points for improvement in hip fracture care in Hungary.

Results

- Decreasing 90-day mortality, but the effects of the coronavirus pandemic are clearly visible in 2020-21 (fig. 1). Regional differences remained strong (fig.2).
- Rehabilitation rates: increasing but still low between 2005-15 (fig.3)
- We identified preventable (care related) and not preventable factors (e.g. age, sex and comorbidities of patient) of mortality.

Most important preventable factors of mortality:

- healthcare related complications (OR: 4.94)
- delayed surgery (OR: 1.21-1.35)
- lack of rehabilitation (OR IF rehabilitation happened: 0.35-0.16)

Methods

Observed period: 2005-2021

Data:

- Administrative data from mandatory reporting from the National Health Insurance fund
- Patient level information (age, sex, comorbidities, healthcare related information)
- Aggregated data for socio-economic analysis

Analysis:

- Trend analysis of 90-day mortality rates
- Logistic regression for the contributing factors of mortality
- Qualitative analysis: interviews with healthcare personnel involved in hip fracture care

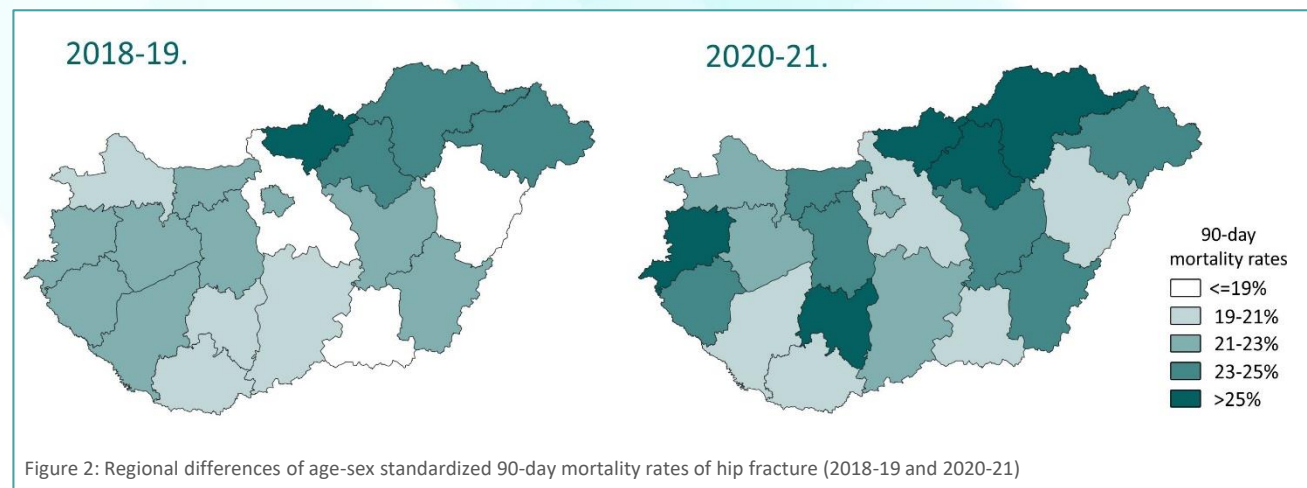
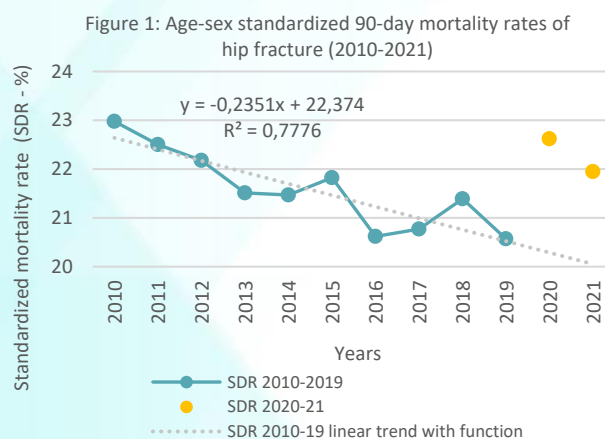


Figure 2: Regional differences of age-sex standardized 90-day mortality rates of hip fracture (2018-19 and 2020-21)

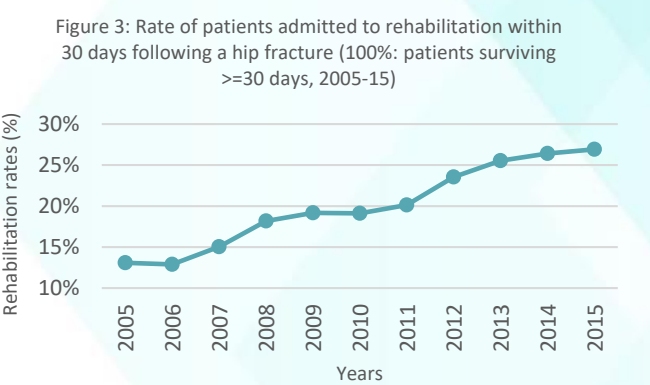


Figure 3: Rate of patients admitted to rehabilitation within 30 days following a hip fracture (100%: patients surviving >=30 days, 2005-15)

Discussion

Based on our results we have identified several points of intervention to consider:

- Improving infection control and prevention in- and outside of hospital care to minimise healthcare related infections.
- Increase inpatient rehabilitation rates.
- **Focusing on patient pathway management from the first admission, through timely surgery to the end of rehabilitation can minimise the risk of mortality.**

Follow-up researches will include: Home rehabilitation practices, their relation to inpatient rehabilitation and effect on mortality.