Community-based Study on Hip Fracture in a Rural Area in Northeast Indiana

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Background/Objective: There are few studies in the literature focused on rural hip fracture epidemiology, and fewer still that consider hip fractures at a specific county level or trauma center (TC) region. The aim of this study is to elucidate patterns of injury events and injury burden of hip fractures in a rural trauma center in northeast Indiana.

Patients and Measurements: We ascertained 2019 hip fracture cases that consisted of three sets of data, namely, emergency department visits (ED), hospitalizations (IP), and deaths from clinical databases. We analyzed the cases by fracture type, measured incidence rates (IRs) per 1,000 county residents and described the injury pattern of hip fractures by variables such as county of residence, age, and sex. We considered the mechanism of injury (cause) of the fractures as well as the injury burden based on the above three sets.

Results: A ratio of roughly 2:1 was found for extracapsular to intracapsular hip fractures. Injury patterns showed that the study counties had similar incidence rates with a range of 0.96 to 1.41 per 1,000 residents. Males and females ages 0-69 years had similar incidences of hip fracture. Overall, females had a 41% higher incidence rate of hip fractures than males. Injury burden indicated a similar distribution of ED to IP to mortality cases across the five study counties, and the majority (98.4%) of hip fractures with known causes of injury were due to falls.

Conclusions and Potential Impact: We elucidated the injury patterns and burden of hip fractures in a verified level II trauma center region. The results of this study have the potential benefit for the future development of hip fracture prevention programs for rural, elderly populations in northeast Indiana.