

Impact of Comorbidities as Predictors on Hospital Length of Stay (LOS) and Mortality in Hip Fracture (HF) Patients in a Rural Community

Gabrielle Lutz¹, Thein Zhu²

¹Indiana University School of Medicine, ²Trauma Services Parkview Regional Medical Center

Purpose: Studies on HF at a rural health system area are rare. The research question is “Which demographic, preoperative variables would be independent predictors of outcomes on mortality and hospital LOS?”

Methods: The design is a community-based cross-sectional study with risk factor analyses. We ascertained HF cases from hospital trauma center registry and Epic software. We employed both descriptive and analytic approaches including multivariable regression analyses of predictors on outcomes.

Results: Of 201 HF patients, 85.6% occurred in 65 and above years (seniors). Among seniors, females consisted of 64.0% with mean age \pm SD: 83.72 \pm 7.56 years; extracapsular HF, 55.2%; specified falls, 51.7%; obesity, 15.2%; complication, 3.5%; surgery interventions, 80.8%; mortality within 1, 9.3%; 3, 11.6%; 6, 15.1%; and 12 months, 22.1% after hospital admission. Holding all other variables constant, no surgical intervention increased mortality risk within 1-month (OR=28.87, 95% CI: 4.43; 188.16), 3-months (OR=33.47; 95% CI: 5.24; 213.88), 6-months (OR=21.78; 95% CI: 3.67; 129.48), and 12-months (OR=4.17; 95% CI: 1.33;13.04) compared to surgical intervention; obesity increased 1-month mortality risk (OR=6.00; 95% CI: 1.06; 34.09) compared to no obesity; and patients transferred from community hospital compared to those who were not had an increased 1-month (OR= 8.54; 95% CI: 1.25; 58.13), 3-month (OR=15.31; 95% CI: 2.21; 106.16), 6-month (OR=21.19; 95% CI: 3.34; 134.43), and 12-month (OR=5.14; 95% CI: 1.85; 14.28) mortality risk. Hospital LOS was 3.06 days higher in obese patients than non-obese patients and 2.11 days higher in surgery greater than 48 hours when compared to surgery within 48 hours, holding all other variables constant.

Conclusions and Potential Impact: We believe that surgical intervention decreases, and obesity increases HF mortality. Obesity and delayed surgical intervention increase hospital LOS. The results of this study have the potential benefit for improving community health of rural, elderly populations in northeast Indiana.

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