Disparities in geriatric hip fractures for patients with Limited English Proficiency

Doriann Marie Alcaide, Anthony Louis Wilson, Robin Maria Litten, Gerald McGwin, Clay A Spitler, Joseph Johnson

INTRODUCTION: Limited English Proficiency (LEP) has been associated with disparities in healthcare access, communication, and outcomes. Previous studies have examined language-related inequities in elective orthopedic procedures, but there is limited evidence regarding urgent surgical conditions like hip fractures. The goal is to compare the time to fixation and post operative complications between patients with LEP and English Proficient (EP) with hip fractures. We hypothesize LEP patients will have longer time to fixation.

METHODS: This is a retrospective database study from the Maryland and New Jersey State Inpatient Database (2016-2022) looking at adults >65 years old with hip fractures. Patients were classified as LEP if their recorded primary language was not English. The primary outcome was time to surgical fixation. Secondary Outcomes included post operative complications such as: pulmonary embolism (PE), deep vein thrombosis (DVT), urinary tract infection (UTI), surgical site infection (SSI), sepsis, pneumonia, acute kidney injury (AKI) and mortality. Additional outcomes were length of stay (LOS), total charge, rates of readmission, and discharge disposition.

RESULTS:

A total of 67,804 patients were included, of which 4,539 (6.7%) were classified as LEP and 63,265 (93.3%) as EP. LEP patients were older (83.21 vs 82.91;p=0.0238), more likely to be female (72.8% vs 70.1%;p=0.0001), of racial minority groups (white: 36.5% vs 88.1%;p=<0.0001) and have higher CCI score (2.00 vs 1.92; p=0.0154). LEP patients had higher rates of DVT (2.1% vs 1.7%;p=0.0308), Sepsis (3.6% vs 2.8%;p=0.0054) and pneumonia (4.7% vs 3.9%;p=0.0100). There was no difference in mortality rates (p=0.6744). LEP patients had a longer time to fixation (1.34 vs 1.18 days;p=<0.0001), longer LOS (6.42 vs 5.92 days;p<0.0001) and higher costs ($109,546 vs $78,806; p<0.0001) and were more likely to have a routine discharge (8.2% vs 4.9%;p<0.0001). LEP status (β = +0.475,p<0.0001), higher CCI (β =+0.383;p<0.0001), and older age (β = –0.022, p < 0.001) were associated with increased LOS. A higher CCI was associated with an increase in time to fixation (β = +0.092, p < 0.001). EP status (OR=1.550), increasing age (OR=1.054) and CCI (OR= 1.108) all were increased risk for transfer to a facility (p<0.0001).

DISCUSSION AND CONCLUSION:

In geriatric hip fractures, limited English proficiency status is associated with postoperative complications, longer hospital stays, and a greater likelihood of discharge to home rather than a facility. Although LEP patients experienced longer times to surgical fixation, this was not independently associated with language status but rather with a higher comorbidity burden. L limited English proficiency is associated with longer length of stay and lower likelihood of discharge to a facility. The disparities noted in hip fracture management for patients with Limited English proficiency appear to be mediated by factors prior to hospital admission as related to healthcare utilization and chronic medical management.