



AAN 76th ANNUAL MEETING ABSTRACT

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Abstract Title: Effects of Social Determinants of Health on Thrombolytic Therapy Among Patients with Acute Ischemic Stroke: A Retrospective Cohort Study

Press Release Title: New Study Finds Link Between Health Care Disparities and Stroke Treatment

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Objective: To determine the association between social determinants of health (SDOH) and administration of thrombolytic therapy among patients with acute ischemic stroke.

Background: SDOH are important contributors to poor stroke-related outcomes. While some studies have suggested that this association is driven by the increased incidence of stroke observed with poor SDOH, others have raised concern regarding disparities in acute stroke care.

Design/Methods: A retrospective cohort analysis was conducted using the Texas Emergency Department Public Use Data (2016-2019) including adult patients diagnosed with acute ischemic stroke. The risk ratios of administering thrombolysis based on variables representing SDOH and a collective measure (Social Vulnerability Index, SVI) were computed using the epitools package in R (4.3.1). Poisson regressions were computed to examine the effects of Charlson comorbidity index as a covariate. A Holm-Bonferroni correction was applied for multiple comparisons.

Results: Out of 63,983 patients with ischemic stroke (female 51.6%, White 66.6%, Black 17.7%, Hispanic 26.9%), 7,198 (11.2%) received thrombolytic therapy. Male (RR=0.95[0.90, 0.99]) versus female sex, age > 65 years (RR=0.47[0.44, 0.51]) versus 18-45 years, Black (RR=0.90[0.85, 0.96]) versus White race, Hispanic (RR=0.93[0.87, 0.98]) versus non-Hispanic ethnicity, Medicare/Medicaid/VA (RR=0.77[0.73, 0.81]) or uninsured (RR=0.90[0.94, 0.87]) versus private insurance and rural (RR=0.60[0.55, 0.65]) versus urban dwelling were less likely to be associated with thrombolysis. Patients in the first quartile based on SVI were more likely to be associated with thrombolysis versus 2nd-3rd quartiles (RR=1.13[1.04, 1.22]). All factors described above remained significant in a collective multivariate Poisson regression. Controlling for comorbidities did not affect the risk ratios or statistical significance.

Conclusions: This study represents a thorough examination of multiple SDOH as contributors to thrombolysis in acute ischemic stroke. While our findings are limited to Texas, our results should raise awareness and promote more studies regarding the effects of these SDOH in the national and international level