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Disparities in COVID-19 Mortality in Hispanic and Non-Hispanic Patients with Metabolic Syndrome in a Community-Based Hospital

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In Hispanic populations, rates of metabolic comorbidities such as obesity are higher than that of non-Hispanic White in the United States. Despite having higher co-morbidity rates, Hispanic populations have a lower total

risk of mortality compared to non-Hispanic counterparts. In this study, we explore whether this paradox exists for COVID-19 related deaths in Hispanic patients with Metabolic Syndrome (MetS). MetS is defined by the WHO as having at least 3 of the following 5 criteria: obesity, hypertension, diabetes, hypertriglyceridemia, and low levels of HDL. A retrospective study was conducted of patients hospitalized for COVID-19 between January 1, 2020 and May 1, 2021 at a regional county hospital in Southern California. In this cohort of 269 patients, 55.4% were male, mean age was 58.4 (IQR, 48-68) years, 63.9% had obesity, 42.4% had hypertension, 40.1% had diabetes, 18.2% had hypertriglyceridemia, and 32.3% had low HDL levels, and 30.9% fit the criteria for MetS. The racial demographic of this cohort was 78.8% Hispanic, 6.32% African American, 4.46% White and 3.72% Asian. Odds ratios and confidence intervals for the relationship between MetS and mortality were calculated separately among patients who were either Hispanic or non-Hispanic. Multivariable logistic regressions accounting for interactions between MetS and Hispanic patients were assessed. In our cohort, 49 (18.2%) patients died of COVID-19. Hispanic patients had a lower probability of mortality (16.0%; 95% CI 11.1-21.0) than non-Hispanic patients (26.3%; 95% Cl 14.9-37.7). Hispanic patients with MetS had a higher risk of mortality from COVID-19 ([OR] 1.57; 95% Cl 0.74-3.33) compared to Hispanic patients without MetS. Non-Hispanic patients with MetS also had a higher risk of mortality from COVID-19 ([OR] 4.38; 95% Cl 1.19-16.03) compared to non-Hispanic patients without MetS. The MetS effect on mortality in Hispanic was 64% lower than that in non-Hispanic patients, although this result did not reach statistical significance (p value=0.18.) Our data suggests that MetS is a risk factor for COVID-19 mortality and MetS may have a lower impact on COVID-19 related death in the Hispanic population than non-Hispanic counterparts. Studies with larger sample sizes will be required to confirm these relationships.

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