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"Demographic and Epidemiological Factors Associated with Death of Presumptive Positive COVID-19 Patients Evaluated in an Urban Emergency Department"

OBJECTIVE: We aim to identify demographics, chief complaints, and comorbidities among patients who tested positive for COVID-19 in the University Medical Center New Orleans (UMCNO) ED and to identify which variables are associated with death.

BACKGROUND: On March 9, 2020, the novel coronavirus (COVID-19) breached Louisiana state lines, spreading to all 64 parishes within a month with New Orleans as the epicenter. Louisiana Department of Health data reveal that Black and elderly patients are disproportionately affected by the virus. Despite these findings, it is still largely unknown what other patient characteristics are associated with COVID-19 outcomes in the Louisiana population.

METHODS: A retrospective chart review of the first 500 patients >/= 18 years old testing positive for COVID-19 at UMCNO-ED was conducted. We queried for patient characteristics, clinical care practices, and hospital courses. Data was stored in RedCap. Descriptive and multivariate analyses were conducted using de-identified patient data in Microsoft Excel and SAS 9.4. Logistic regression was used for associations with death. Reported odds ratios are unadjusted as no confounding variables were identified.

RESULTS: The 500-patient sample was predominantly female (56%) and Black (88%). The leading range for BMI was >35 (35%) and for age was 50-59 years (25%, mean=49). Of the 23 patients who died, 83% were black, and the leading age range was 60-69 (36%, mean=63). Pre-existing health conditions in descending order of frequency included: obesity, hypertension, and diabetes for the entire cohort (n=500), and diabetes, hypertension, and obesity for patients who expired (n=23). Common chief complaints in descending order of frequency were fever, flu-like symptoms, and cough for the entire cohort, and shortness of breath, fever, and cough for those who expired. The following patient characteristics were found to be associated with death: age > 65 (OR, 4.9; 95% CI, 2.1; p=0.0002), shortness of breath (OR, 2.9; 95% CI, 1.2; p=0.02), and history of diabetes (OR, 6.2; 95% CI, 2.5; p=0.0001).

CONCLUSIONS: Our study described the predominant demographics, pre-existing health conditions, and chief complaints of the first 500 patients to test positive for COVID-19 at UMCNO-ED. The factors associated with a higher likelihood of COVID-19-related death were identified. Further investigation into the health disparities experienced between patient populations is warranted, as they may be associated with higher incidences of COVID-19 infection and mortality.