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"Assessing Clinical Variables Among the First 500 COVID-19 Patients in an Urban Emergency Department"

BACKGROUND: COVID-19 proved to be an impactful and deadly virus in Louisiana, just as it was around the world. Given the ability of the virus to target multiple organ systems, many patients were hospitalized for days, or even weeks as their immune and organ systems fought the virus. In addition, certain comorbidities predisposed patients to worse health outcomes when infected with COVID-19, such as hypertension and diabetes. It was vital that emergency medicine physicians considered these factors when determining whether to discharge or admit patients at University Medical Center in New Orleans (UMCNO).

OBJECTIVES: Our study seeks to characterize which patients in the Greater New Orleans area were discharged versus admitted to our hospital by examining patient demographics, O2 requirements, ventilatory interventions, comorbidities, and paO2 values. We hypothesize older patients with lower O2 saturations, lower paO2 values, increased need for ventilatory support, and certain comorbidities and demographics were more likely to be admitted to the hospital.

METHODS: This study is a retrospective chart review of the first 500 COVID-19 patients who tested positive at the emergency department (ED) at UMCNO between March 9, 2020 – March 24, 2020. Electronic Medical Records (EMR) were queried for patients meeting qualifying criteria. Data was collected in the online data storage platform REDCap including basic demographics, comorbidities, respiratory rates, initial O2 saturations, paO2, as well as respiratory interventions with final O2 saturations. Data was labeled with a code which the research team can link to identifying information. Analysis was carried out utilizing SAS 9.4 and Microsoft Excel.

RESULTS: Data analysis indicated 56.2% of the patients were female. Regarding race demographics, 88.2% were Black, 4.8% were White, and 0.6% were biracial. 5% of the patients identified as Hispanic. 0.4% were American Indian. 73.8% of the patients were discharged home following their ED duration, and 25.2% were admitted. 0.8% died while in the ED. Most common comorbidities included hypertension (50%), diabetes (28.8%), and obesity (56.6%). The mean patient age was 48.8 years old. Most common chief complaints were flu-like symptoms (21.2%), fever (20.6%), cough (18.4%), and dyspnea (4%). The average respiration rate of admitted patients was 21.2 b/min, while the rate for discharged patients was 18 b/min.

CONCLUSION: While data analysis largely supported our hypotheses, additional analysis and exploration is still being done to further assess associations between patient demographics and their respiratory measures and ultimate disposition of either admission or dischargement.