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moderate disease, with 29% having severe disease and 14% have critical diseases. The overall mortality was 15%. The overall hospital median length of stay (LOS) was 5 days (IQR 3-11). Patients with higher BMI were significantly more likely to require mechanical ventilation and require pressor support (P<0.0001, 95% CI 0.0013 to 0.0021) [Figure 1]. Patients with higher BMI were also significantly more likely to die (P<0.001, OR 1.031, 95% CI 1.03-1.04). This association held true even when analyzed in a multivariable regression model controlled for age and sex (p=0.0131). The hospital length of stay was inversely correlated to the BMI. Bivariate analysis demonstrated that the average length-of-stay could be approximated as 9.1 days -0.03*BMI. Presumably, this is because at higher BMIs there is higher mortality resulting in shorter LOS.

Conclusion: Patients with elevated BMI were significantly more likely to have highest disease severity, higher mortality and shorter length-of-stay in this large national cohort of patients hospitalized for COVID-19.

Results: We included 824 visits with 51% male, a mean age was 67.1 (SD 17.0) and 153 (18.6%) had AMS. There were 152 deaths for an overall mortality rate of 16.1%. Patients with AMS had in-hospital mortality of 38.2% (95% CI 30.4%-46.4%), compared to 11.1% (8.8%-13.7%) for patients without AMS (p<0.0001). After adjusting for potential confounders, visits by patients with AMS during their stay at the ED had 3.1 (95% CI, 2.1-5.9) times the odds of death compared to those without AMS.

Conclusion: Among patients with COVID-19, AMS in the ED was associated with three-fold increase in mortality compared to patients without AMS.

Background: Although the physical morbidity and mortality attributable to SARS-CoV-2 has predominantly affected adults, children remain at risk for serious complications. There has been substantial research regarding comorbid conditions, such as obesity and diabetes, and COVID-19 outcomes in adults, yet much is still unknown in the pediatric population.

Study Objective: This study sought to examine comorbid conditions as risk factors associated with severe outcomes among pediatric COVID-19 patients.

Methods: In this cross-sectional retrospective study we used data mining approaches on the Cerner multicenter dataset to retrieve an extensive list of comorbidities including pre-existing and concurrent conditions in hospitalized patients with SARS-CoV-2 (> 29 days and <21 years, hospitalized 31/6-30/20). Complications were defined as death or mechanical ventilator use. A nested mixed effects model was built on the most common comorbid conditions. All variables were assessed using the generalized variance inflation factor. Corresponding two-way statistical interactions with age were considered while controlling for patient demographics and payer type; the final model was selected using backward elimination procedures.

Results: There were 2480 encounters from 2320 patients; 17.1% required a ventilator and 0.85% died (19/21 patients who died required mechanical ventilation). 25.8% of patients were ≤2, 16% were 6-11 and 29.6% were 12-18. Male patients comprised 52.1%, and 48.3% were White/Caucasian, 21.8% were Hispanic, and 15.1% were African American/Black. Males were at 36% increased odds of complication (IOC), and Black/African American patients were found to be at 63% IOC. Patients with bacterial pneumonia and severe sepsis had 330% and 314% IOC respectively. Heart failure, 738% IOC, coagulation defect, 722% IOC, and patent ductus arteriosus (PDA), 693% IOC, were among the highest risk factors in this study. Obese patients had 246% IOC. Interestingly, the increased risk of complications in patients with obesity and acute kidney failure was age dependent. Patients with obesity ≥ 5 years were at higher odds of complication and those odds increased with age, whereas younger patients with acute kidney failure were more at risk. The highest risk factor for complication was found to be ileus. OR = 11.9. Of 40 patients with ileus, 3 died and 26 required mechanical ventilation.

Conclusions: Risk factors for complications of SARS-CoV-2 infection encompass a variety of conditions including obesity, epilepsy, PDA, bacterial pneumonia, sepsis, acute kidney failure, and ileus. Further studies are needed to explore these associations which may help elucidate why certain children suffer increased complications as well as inform treatment decisions.

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