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The association between patient insurance and severe COVID-19 outcomes

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Keywords

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Abstract

Introduction

Inequities in structural determinants of health have substantial effect on negative health outcomes. Our objective was to evaluate the association between patient insurance type, as a proxy for healthcare access and socioeconomic status, and severe COVID-19 outcomes.

Methods

We performed a retrospective cohort study of symptomatic COVID-19 patients over 18 years of age admitted to OHSU between April 15, 2020 and June 30, 2021. Patients were included if they had a positive SARS-CoV-2 PCR test up to ten days prior to admission. The primary exposure was patient insurance, categorized into private insurance (referent) and public insurance. We defined severe COVID-19 outcomes as intensive care unit admission or in-hospital mortality. We used logistic regression to estimate the crude and adjusted odds ratios and their 95% confidence intervals (CI) for the association between patient insurance and severe COVID-19 outcomes.

Results

A total of 236 patients met inclusion criteria. Median age was 54.5 years, with 28.8% (n=68) 65 years and older. The cohort was 52.1% (n=123) male and 78.0% (n=184) white. The most prevalent comorbidities were hypertension 63.6% (n=150), hyperlipidemia 43.6% (n=103), and obesity 41.5% (n=98). There were 76.6% (n=176) public insurance patients. Severe COVID-19 outcomes were observed in 40.3% (n=95) of the cohort. Among insurance groups, 31.7% (n=19) public insurance patients and 43.2% (n=76) private insurance patients had severe COVID-19 outcomes.

After adjusting for hypertension in our final multivariable analysis, public health insurance was not significantly associated with severe COVID-19 outcomes (OR=1.41, 95% CI: 0.75-2.69, p=0.28).

Conclusions

We did not find evidence of a statistically significant association between public health insurance and severe COVID-19 outcomes. The OR>1 suggests possibility of a true association, but statistical power was potentially limited by sample size, and the use of a binary insurance variable may have not accounted for differences among public insurance patients.