BACKGROUND

- Since the initial detection of SARS-CoV-2 in December 2019, the virus has spread across the globe.
- In March 2020, the World Health Organization officially declared the disease caused by SARS-CoV-2, COVID-19, to be a pandemic.
- As the COVID-19 pandemic has progressed, investigators have sought to elucidate the effects of patient-specific factors, such as co-morbidities and ethnic background, on the survivability of the virus.
- Three of the commonly mentioned conditions linked to adverse outcomes in the setting of COVID-19 are hypertension, diabetes, and obesity.
- While these conditions are relatively common, in relation to the ethnic groups of the United States, African Americans have a historically higher incidence of the above disease states.
- Due to this established history of disease variance, whether hereditarily or systemically-mediated, it has been shown that the African American population in the United States may bear a disproportionate burden of COVID-19-related mortality.

PURPOSE

Evaluate the correlation between African American ethnicity and incidence of COVID-19-related mortality.

METHODS

- COVID-19 fatalities, as reported by local public health departments, were recorded for Georgia (n=2,605), Missouri (n=908), and Oregon (n=187) from December 21, 2019 to June 18, 2020.
- These states were selected due to similarities in the social distancing measures implemented but differences in their African American population (32.4% Georgia, 11.8% Missouri, 2.2% Oregon).
- Data collection was stopped at June 18, 2020 due to changes in social distancing policies.
- Reported fatalities were validated using the Institute for Health Metrics and Evaluation data set.
- Cumulative fatalities were normalized using the population of each state.
- The resulting normalized cumulative fatalities were compared using Cox Proportional Hazard Regression analysis.
- Results were interpreted at the α=0.05 level.

RESULTS & DISCUSSION

- Of the reported fatalities in Georgia, Missouri, and Oregon, 43%, 30%, and 4% were in African Americans, respectively.
- This corresponds to a 1.6 to 3.2-fold increase in the risk of COVID-19-related mortality in African Americans as compared to all other ethnicities.
- The incidence of African American fatalities for the total population of each state ranged from 4.4 to 10.6 deaths per 10,000 people.
- As compared to Oregon, the risk of COVID-19-related mortality was significantly higher in Georgia (HR=5.53; p<0.001) and Missouri (HR=3.34; p<0.001).
- These findings suggest that African American ethnicity may be related to overall increased risk of COVID-19-related fatalities, potentially due to increased incidence of co-morbidities.
- Notably, a large study from the United Kingdom demonstrated a similar increased risk in COVID-19-related fatalities in Black patients (HR=1.48; 95% Confidence Interval 1.29-1.69) despite universal healthcare and uniform access to healthcare. In this UK study, the risk remained elevated for Black patients despite adjustment for co-morbidities.
- Our findings support the hypothesis of an increased incidence of COVID-19-related fatalities in the African American population in the United States.

CONCLUSION

Results show that African American ethnicity may significantly contribute to an increased incidence of COVID-19-related mortality.

REFERENCES