Tulane research finds high BMI linked to COVID-19 severity in African Americans

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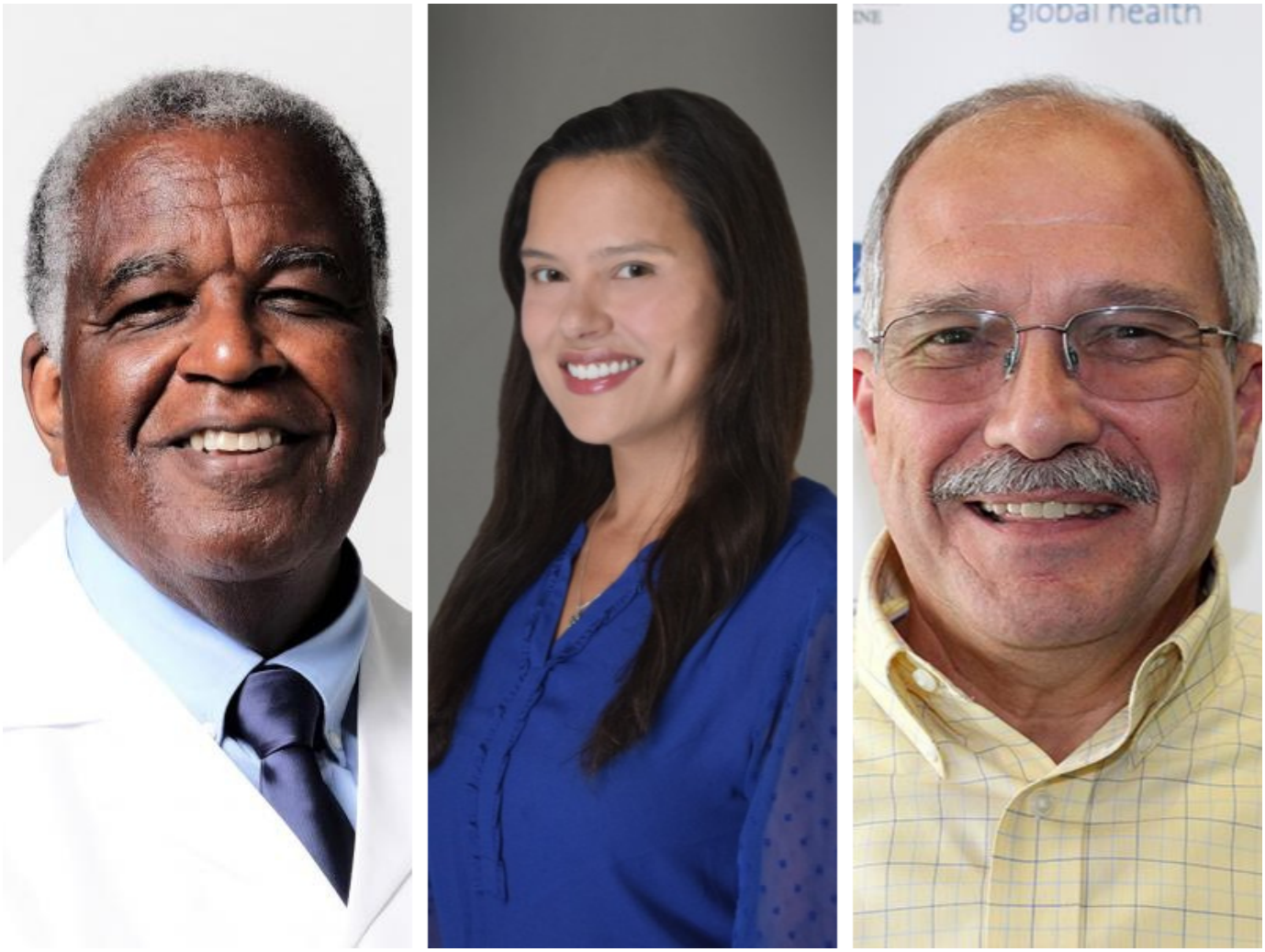

Photo of Drs. Keith Ferdinand, Christine Bojanowski, and John Lefante, just some of the Tulane authors of this study

Body mass index (BMI) is associated with the development of severe coronavirus disease 2019 (COVID-19) and admission to intensive care units (ICU) in African Americans, according to a single-center, retrospective cross-sectional study published online in Obesity, the flagship journal of The Obesity Society.

Age and comorbidities such as hypertension and diabetes have been well identified as risk factors for the development of severe disease. Obesity is also emerging as a risk factor for severe disease development. However, this study adds further evidence supporting the association that body mass index is connected with disease severity in the African-American population.

"This is the first COVID-19 study that focuses on the risk factors specific to the African American community, a population that has been disproportionately impacted by this disease. It demonstrates the negative association BMI, age, and the presence of obstructive lung disease have on the severity of the disease," says John Lefante, PhD, the chair of the Biostatistics and Data Science Department at the Tulane School of Public Health and Tropical Medicine. His role in the study was to assist in data analysis, in particular, performing multivariable logistic regression analysis to examine the association between BMI and critical illness in COVID-19 patients.

"It is of tremendous importance that we identify risk factors and those individuals who may be at increased risk for severe COVID-19 infection so that we are able to dedicate efforts towards supporting those most affected and in need," said Christine Bojanowski, MD, assistant professor in the Department of Medicine, Section of Pulmonary Diseases, Critical Care and Environmental Medicine at Tulane University School of Medicine. Bojanowski is the corresponding author of the study.

Bojanowski added "this study is of particular interest in response to emerging reports revealing the disproportionate impact of COVID-19 on the African American community in our country. Further inclusive research aimed at optimizing clinical care relevant to the African-American population is critical to ensure an equitable response to COVID-19."

Researchers included 158 confirmed COVID-19 positive African-American patients who presented to Tulane Medical Center between March 12 and April 9, 2020 in their study. Participants were identified through reported laboratory testing during the aforementioned time period. Researchers obtained individual patient data through

retrospective, electronic medical record review.

The results confirmed that obesity is a significant determinant of disease severity in the African-American population. Researchers propose that a lower threshold be considered for BMI than the current Centers for Disease Control and Prevention recommendations that describe individuals with BMI greater than 40 as "high risk" for severe illnesses in COVID-19.

> "Instead of stigmatization of Black adults with obesity, this pandemic, a hopefully once-in-a-century health crisis, is a clarion call to decrease and eventually eliminate long-standing health disparities and underlying adverse societal structural factors," said Keith C. Ferdinand, MD, FACC, FAHA, FASPC, FNLA, FASPC, professor of medicine, Gerald S. Berenson Endowed chair in Preventive Cardiology, Tulane University School of Medicine, in a commentary about the study.

Other authors of the study include Ala Alkhatib, Jerry Zifodya, Mohammad Tahboub, Joshua Denson, and Joseph Lasky of the Department of Medicine, Section of Pulmonary Diseases, Critical Care and Environmental Medicine at Tulane University Health Science Center in New Orleans, La. Other co-authors include Jonah Kreniske of the Department of Medicine, Tulane University School of Medicine; Vivian Fonseca and Joanna Khatib, Department of Medicine, Section of Endocrinology and Metabolism, Tulane University Health Science Center.

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