

Young African-American adults are less susceptible to delirium in ICU than Caucasians

14 June 2016

The first study to evaluate the relationship between race and intensive care unit delirium has found that African-American ICU patients age 18 to 50 are less susceptible to delirium than similarly aged Caucasians or than either African-American or Caucasian ICU patients age 50 or older.

Delirium is a state of confusion that comes on suddenly and is associated with longer ICU and hospital stays, increased costs of care and higher death rate. Known risk factors for developing delirium in the ICU include age, pre-existing cognitive impairment, and sedation (often used in conjunction with mechanical ventilation). Prior to the new study by researchers from the Regenstrief Institute and the Indiana University Center for Aging Research, the relationship between race and delirium had not been systematically evaluated.

"Relationship between African-American Race and Delirium in the Intensive Care Unit" is published online ahead of print in the journal *Critical Care Medicine*.

"Since African-Americans tend to have higher disease severity in the ICU, we were surprised to find that race could be a protective factor for younger African-American adults," said Regenstrief Institute investigator and IU Center for Aging Research scientist Babar A. Khan, M.D., M.S., the first author of the study.

"We now know that race should be considered among the risk factors for developing delirium for Caucasians of all ages but only for African-Americans if they are 50 or older. Clearly, different groups have different risk profiles for delirium."

A total of 2,087 adults, admitted to a medical or surgical ICU, 48 percent of whom were African-

Americans, participated in the study. The majority participated in an indigent care program or state Medicaid program and were thus considered to be of similar economic status. All had ready access to healthcare services and delivery at Eskenazi Health, a healthcare system that puts special emphasis on vulnerable populations in the metropolitan Indianapolis area. Dr. Khan is the medical director of the Eskenazi Health Critical Care Recovery Center.

Based on patient data from the Regenstrief Medical Record System, the African-Americans and Caucasians had comparable death rates, illness severity and similar rates of mechanical ventilation and dementia diagnoses, however smoking and depression diagnosis were greater among Caucasians. More drugs associated with delirium were prescribed for Caucasians than African-Americans.

The reasons why African-Americans have lower rates of delirium are unclear according to Dr. Khan and will need exploration in future studies.

"If you look at various studies, there are certain medications to which African-Americans respond better and from which they have better outcomes compared to Caucasians," Dr. Khan said. "If in the near future we are able to learn more about delirium at a basic or molecular level utilizing genetics and biomarkers, we may be able to come up with better preventive and treatment strategies based on personalization of therapy. Our findings provide the kind of information we need to conduct precision medicine."

Dr. Khan notes that even in the short run the clinical implications of the study findings should raise awareness among physicians and other healthcare providers who can provide targeted

interventions to decrease delirium burden.

Delirium presents in several ways. Individuals with delirium may be agitated and aggressive (hyperactive) or lethargic and withdrawn (hypoactive) or be both hyperactive and hypoactive. While many patients could have delirium upon admission to the ICU, some are able to communicate or follow commands when admitted. They are still at risk for developing delirium during their ICU stay, which once developed render them unable to pay attention or communicate.

According to the American Geriatrics Society approximately 7 million hospitalized Americans experience [delirium](#) every year.

Provided by Indiana University

APA citation: Young African-American adults are less susceptible to delirium in ICU than Caucasians (2016, June 14) retrieved 22 September 2019 from <https://medicalxpress.com/news/2016-06-young-african-american-adults-susceptible-delirium.html>

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