



EMBARGOED UNTIL: 2:15 p.m. ET, Tuesday, May 23, 2023

THE SEVERITY OF SLEEP APNEA MAY BE UNDERESTIMATED IN BLACK PATIENTS

Session: C110, Advanced Signal Analysis: New Diagnostics and Physiologic Insights for SDB (sleep-disordered breathing)

Date and Time: 2:15 p.m. ET, Tuesday, May 23, 2023

Location: WEWCC, Room 144 A-C (Street Level)

ATS 2023, Washington, DC – [Obstructive sleep apnea](#) (OSA) tests may underestimate the severity of OSA in Black patients, according to research published at the [ATS 2023 International Conference](#).

Recent research with ICU patients during the COVID-19 pandemic showed that pulse oximeters—clip-like devices that are attached to a fingertip to measure blood oxygen levels—may be less accurate in Black than in white patients.

“While skin pigmentation seems to affect the results of oximetry, we did not know whether the same would be true during tests for OSA,” said corresponding author Ali Azarbarzin, PhD, assistant professor of medicine, Harvard Medical School. “We hypothesized that this would be the case.”

One of the most common and serious sleep conditions is obstructive sleep apnea, which is diagnosed by identifying breathing pauses that result in drops in oxygen levels.

Examining results for 1,955 patients of varying races and ethnicities who underwent overnight home sleep studies as part of the Multi-Ethnic Study of Atherosclerosis (MESA) Exam 5, Dr. Azarbarzin and colleagues compared participants’ average change in oxygen levels after each breathing pause. Equipment used in the study included oximeters.

They found that, in comparison with whites, Blacks had a smaller decrease in oxygen saturation (blood oxygen level) for each breathing pause after accounting for other factors that may influence blood oxygen levels such as age, sex, body mass index (BMI) and smoking status.

Dr. Azarbarzin stated: “Our findings suggest that these measurement problems may lead to underestimation of the severity of OSA in Black individuals. However, whether this underestimation of oxygen drops should lead to important differences in diagnosing and managing OSA in Black and other individuals with dark skin is unclear.”

“Nonetheless, these findings highlight the need to rigorously test the accuracy of oximeters across diverse populations and also to consider whether factors other than the oximeter’s characteristics could explain differences in oxygen patterns with breathing pauses,” he added.

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