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Accidental infant deaths in bed tripled from 1999 to 2016 in the US

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While the number of babies who die from sudden infant death syndrome (SIDS) has been on the decline, a study by researchers at Florida Atlantic University's Schmidt College of Medicine and collaborators shows that infant deaths from accidental suffocation and strangulation in bed have more than tripled between 1999 and 2016 in the United States with increases in racial inequalities.

Findings from the study, published in the *Maternal and Child Health Journal*, reveal similar risk factor profiles for non-Hispanic black infants and non-Hispanic white infants, though in every instance, non-Hispanic black rates were higher than those for non-Hispanic whites. Data from the study generate new theories about the occurrence of infant deaths in bed and racial inequalities by identifying factors that may be associated with increased as well as decreased risks.

For the study, researchers examined race, ethnicity, and sex-specific infant mortality rates by state. Findings reveal that infant mortality rates increased from 10.4 per 100,000 live births in 1999 to 45.8 per 100,000 live births in 2016 among non-Hispanic black female infants; from 15.4 to 53.8 for non-Hispanic black male infants; from 5.9 to 15.8 for non-Hispanic white female infants, and from 6.5 to 25.9 for non-Hispanic white male infants (1999 to 2016). All increases over time were statistically significant.

Between 2007 and 2016, 83 percent of all U.S. deaths in bed among non-Hispanic black and non-Hispanic white infants occurred to mothers who

lived in the Midwest and the South at the time of delivery.

The highest mortality rate occurred among non-Hispanic blacks in Michigan (126.4 per 100,000 live births) compared to 11.8 per 100,000 live births for non-Hispanic blacks in California. The highest corresponding rate for non-Hispanic whites occurred in Mississippi (45 per 100,000 live births) and the lowest rate occurred in California (6.5 per 100,000 live births).

Notably, two adjacent, low-income southern states had significantly different outcomes. Alabama had 41 deaths per 185,549 live births for non-Hispanic black infants and 46 deaths per 362,404 live births for non-Hispanic white infants. Mississippi, however, had 115 deaths per 176,825 live births for non-Hispanic black infants and 93 deaths per 206,819 live births for non-Hispanic white infants.

"Despite increased public health efforts for education about safe sleep practices, we have seen significant surges in infant deaths from accidental strangulation and suffocation," said Joanna Drowos, D.O., M.P.H., M.B.A, lead author, associate dean for faculty affairs, and associate chair, Department of Integrated Medical Science, FAU's Schmidt College of Medicine. "By gaining a deeper understanding of the epidemiology, including both risk and protective factors, public health professionals can tailor messages and programs to reach a diverse group of mothers to help reduce deaths related to this preventable tragedy."

The study also shows that mortality rates increased as live birth order increased, especially among young mothers. Non-Hispanic black infants who were the fourth live births for mothers 15 to 24 years old had the highest rate of all of the sub-groups analysed (116.7 per 100,000 live births), followed by non-Hispanic black infants from the same maternal age group who were the fifth or sixth live-born infant. Among non-Hispanic white mothers 15 to 24 years old, the death rate for infants who

were the fifth or sixth live birth was 87.1 per 100,000 live births.

In Michigan, non-Hispanic black infants who were the fourth to sixth live births for mothers 15 to 29 years old had an infant mortality rate of 259 per 100,000 live births and 78.9 per 100,000 live births for non-Hispanic white infants (2007-2016 inclusive). For non-Hispanic black infants who were the fifth or sixth live births occurring to such mothers, the rate was 301 per 100,000 live births.

According to the Centers for Disease Control and Prevention (CDC), in 2016, accidental suffocation and strangulation in bed accounted for 25 percent (900) of the approximately 3,600 sudden unexpected infant deaths in the U.S.

"We must conduct the rigorous studies to curb these alarming increases in overall deaths and racial inequalities," said Charles H. Hennekens, M.D., Dr.P.H., co-author, first Sir Richard Doll Professor and senior academic advisor in FAU's Schmidt College of Medicine. "Future areas of research might include examining family and cultural differences around sleep, local pediatrician practices, available social services, and policies to combat these alarming increases."

Provided by Florida Atlantic University

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