Racial and Ethnic Patterns of Intentional Overdose

Alexa Camarena-Michel[1,2], Benjamin Hatten[1,2]
[1] Denver Health, Denver, CO, USA.
[2] University of Colorado, Denver, CO, USA

Background: Scant information exists evaluating patterns of pharmacologic overdose across racial and ethnic groups. Our research group recently performed a preliminary analysis on a smaller sample size in an attempt to answer the following: Are certain populations at greater risk of intentional overdose, self-harm or misuse? By expanding the sample size and analysis, we will identify populations that may be more vulnerable to intentional overdose.

Hypothesis or Research Question: Are there identifiable patterns of overdose across ethnic and racial groups?

Methods: This was a case-control study using the Toxicology Investigators Consortium (ToxIC) Registry. In this analysis, intentional overdoses from 2017 to 2018 were evaluated including Hispanics vs. non-Hispanics as well as six racial groups: American Indian/Alaska Native, Asian, Black, Caucasian, Pacific Islander, mixed/unknown. Additionally, intentional vs. unintentional overdoses and reasons for self-harm by pharmacologic agent were analyzed across various races and ethnicities. Specifically, five categories were considered: attempted self-harm, misuse, adverse effects, drug concealment, and unknown.

Results: Of the 7,577 cases evaluated, an association between racial group and intentional vs. unintentional overdose was identified (American Indian/Alaska Native 78% vs. 22%, Asian 61% vs. 39%, J. Med. Toxicol. (2019) 15:53–107 63 Black 76% vs. 24%, Caucasian 79% vs. 21%, Pacific Islander 100%, unknown/mixed 74% vs. 26%, $p < 0.01$). There was also significant correlation between race and motives of intentional self-harm ($p < 0.01$). Similar rates of death were observed when comparing Hispanics and non-Hispanics (0.95% and 1.38%, $p = 0.19$) and between the six racial categories (range 0–1.6%, $p = 0.83$).

Conclusion: A more robust analysis of data evaluating racial and ethnic characteristics of intentional overdoses reveals the need for ongoing investigation. With the inclusion of more cases, this analysis further elucidates the interplay between race, ethnicity and patterns of overdose. Ongoing analysis will help identify vulnerable patient populations and inform public health efforts.