OR30-03: Racial Differences in Technology Use Among Type 1 Diabetes in a Safety-Net Hospital

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Objective: There is limited data regarding the use of diabetes technology such as continuous glucose monitor (CGM) and continuous subcutaneous insulin infusion (CSII) among patients with type 1 diabetes (T1D) in a minority serving and safety-net hospital. We examined racial differences in the use of CGM and CSII in this setting.

Methods: A retrospective review of 227 patients ≥ 18 years of age with T1D seen in the Endocrinology clinic at a safety-net hospital from October 2016 and September 2017 was completed. Statistical analysis assessed the likelihood of diabetes technology use among different races.

Results: The mean age was 39, 59% male, mean duration of diabetes was 21 years, 30% overweight, 22% obesity, 80% English speaking, and 50% had government insurance. In terms of the distribution of race/ethnicity, 43% were Caucasian, 25% African American (AA), 15% Hispanic, 15% defined as other, and 2% Asian. Mean HbA1c ± standard deviation (SD) of any technology (either CGM or CSII or both) and non-technology users were 8.27 ± 1.58 and 9.49 ± 2.04, respectively. Patients who had government health insurance were found to have lower odds of using technology (odds ratio [OR], 0.43; 95% confidential interval [CI], 0.25 - 0.74) compared to patients who had private health insurance. Overall, 26% of the patients used CSII with 43% of this population Caucasian, 10.5% AA and 14.2% Hispanic. The overall CGM use was 30% with 47% of users Caucasian, 14% AA and 22% Hispanic. In a multivariable logistic regression model that adjusted for insurance and language, AA or other were found to have statistically significant lower odds of using technology (AA OR 0.25 [95% CI 0.11 - 0.53] and other OR 0.33 [95% CI 0.12 - 0.89]) compared to the Caucasian group.

Conclusion: Our study showed that the use of technology in the Caucasian group was statistically significantly higher than in the non-Caucasian groups except for the Asian group. After adjusting for insurance and language, AA and other demonstrated statistically lower rates of technology use. Racial differences in diabetes technology use were observed in our study as well as the association between technology use and lowered HbA1c. Given diabetes technology is a useful tool in reducing HbA1c and hypoglycemia, the barriers to accessing diabetes technology in non-Caucasian individuals should be addressed to decrease health disparities.