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“Alcohol and Food Environments and Alcohol Misuse among People Living with HIV (PLWH)”

Background: Health disparities that exist within people living with HIV (PLWH) that misuse alcohol can be partially explained by differences in social determinants of health. The neighborhood and built environment is an under-researched social determinant of health regarding alcohol misuse among PLWH. Research implies that unhealthy food environments among PLWH is associated with heavy alcohol use, drug use, poor adherence of HIV medication, depression, as well as an increase of risky behaviors in order to gain food resources. We hypothesize that PLWH that live in a higher concentration of unhealthy food environments and increased number of alcohol outlets are more likely to misuse alcohol.

Methods: Data from the New Orleans Alcohol Use in HIV (NOAH) Study (n=359, PLWH) were analyzed. Food and alcohol environments were assessed using 2019 North American Industry Classification Systems (NAICS) codes. Food environments were examined as healthy outlets (farmer’s markets, grocery stores) and unhealthy outlets (fast food, convenience stores, and restaurants). Alcohol environments were examined as total alcohol outlets, on-site alcohol outlets (bars, restaurants), and off-site alcohol outlets (liquor stores, convenience stores). The participants’ home addresses were geocoded and analyzed using a buffer within 1/8-mile and rate per 1,000. The alcohol misuse outcome variables included the Alcohol Use Disorders Test (AUDIT: <8 = low risk of alcohol misuse vs. ≥8 = risk of alcohol misuse), the Timeline Followback (TLFB: >3 or 4 drinks per day for women/men in the past 30 days), and blood levels of Phosphatidylethanol (PEth: ≥250 ng/ml = alcohol misuse). Multi-level logistic regression models were used to analyze effects of food and alcohol outlets on alcohol misuse, and they were adjusted for age, race, sex, and education.

Results: Study participants were 69% Male, 84% African American, and had a mean age of 48.1 years (STD ± 10.40). Participants had an average of 52 total/on-site alcohol outlets, and 20 unhealthy food outlets within 1/8 of a mile from their home. A 5-unit increase in total and on-site alcohol outlet rate was associated with a 12% increase in odds of having a PEth value of at least 250 ng/ml (OR=1.12; 95% CI: 0.99, 1.28). Additionally, a 5-unit increase in unhealthy food outlet rate was associated with a 17% increase in odds (OR=1.17; 95% CI: 1.00, 1.37). As the count of unhealthy food outlets increased by 5, PLWH had twice the odds of misusing alcohol: (OR=2.03; 95% CI: 0.94, 4.36).

Conclusions: We found that there were some associations with unhealthy food outlets and alcohol outlets when evaluating alcohol misuse among PLWH. The results suggests that there needs to be interventions for limiting the number of unhealthy food and alcohol environments among low resourced individuals living with HIV. We plan to further explore the data and provide additional insight for observing this association including the impact of HIV stigma, additional life stress, and other measures of food insecurity.