

Association between Alcohol Consumption and Nocturia in Middle-Aged Adults: Results from the National Health and Nutrition Examination Survey

Introduction: While alcohol consumption is a frequent target of behavioral modification counseling for nocturia, empirical supporting data are limited, and existing small-scale observational studies show conflicting results. Accordingly, we aimed to characterize the relationship between alcohol intake and nocturia using a nationally representative sample of middle-aged adults in the United States.

Methods: We queried data from 7 consecutive cycles (2005/06 – 2017/18) of the National Health and Nutrition Examination Survey (NHANES) to identify adults aged 40-60 without heart failure, kidney disease, or liver disease who completed a standardized in-person 24-h dietary recall interview. Nutrient intake files were queried to ascertain 24-h alcohol consumption. Multivariate logistic regression analyses adjusting for age, gender, race, body mass index, high blood pressure, diabetes mellitus, and diuretic use were used to explore potential associations between alcohol intake status (i.e., consumers vs. non-consumers) and nocturia (≥ 2 nocturnal voids). Multivariate analyses were also performed in the subset of consumers incorporating alcohol as a continuous measure using standard scores (wherein the difference between individual intake values and mean intake was divided by the standard deviation).

Results: A total of 6,996 NHANES participants met the criteria for inclusion. On multivariate analysis, respondents who consumed alcohol had incurred a significantly lower odds of nocturia (OR 0.82 [95% CI 0.67-0.99], $p=.042$). Within the subset of alcohol consumers, increased 24-hour intake was associated with significantly greater odds of nocturia (OR 1.20 [1.02-1.42], $p=.030$).

Conclusions: Self-reported alcohol consumption was associated with lower odds of nocturia. However, amongst drinkers, there was a paradoxical dose-response relationship between the odds of nocturia and greater alcohol consumption.