

collaborative process, investigators are expected to gain a deeper understanding of appropriate figure types for various data visualizations. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Creating publication-quality figures is often a time-intensive process requiring multiple iterations, between the investigator and analyst. GoFiguR enables more efficient development of figures as investigators can directly modify figures to their specification.

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From plate to pillow: The effects of ultra-processed foods (UPFs) on sleep duration and memory in adults over 60 years of age

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OBJECTIVES/GOALS: The objective of my study is to examine the relationship between ultra-processed foods, sleep duration, and memory in adults aged 60 years and older. Diet and sleep are often studied independently as modifiable risk factors for cognitive decline; a growing body of evidence suggests a unique nexus between the two with regard to cognitive outcomes. **METHODS/STUDY POPULATION:** A cross-sectional analysis will be conducted using data from the National Health and Nutrition Examination Survey (NHANES) among participants aged 60 years and older from 2011 to 2014. The NOVA system, which classifies food according to the extent of processing, ranging from whole foods to ultra-processed foods, will be used to calculate dietary intake from two 24-hour recalls. Sleep duration will be analyzed using self-reported average hours of sleep per night, and cognitive performance will be evaluated using word recall and verbal fluency tests. Food insecurity, socioeconomic status, education, and race/ethnicity will be analyzed as covariates. Descriptive and multivariable regression analysis will be used to assess statistical associations. **RESULTS/ANTICIPATED RESULTS:** As ultra-processed foods cause oxidative stress and neuroinflammation, higher consumption of these foods, which are high in fat, sodium, and sugar, is anticipated to be associated with shorter sleep duration and poor memory performance. A dose-response relationship is predicted. These associations are expected to be exacerbated in food-insecure environments, where ultra-processed foods are readily accessible, particularly among individuals with lower socioeconomic status. Data may also reveal differences based on race/ethnicity or educational attainment, highlighting important disparities in the social determinants of health. The study is expected to reveal trends in sleep inequity, where economic disadvantages and food insecurity contribute to shorter sleep durations. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This study seeks to identify modifiable behavioral risk factors for cognitive decline, particularly for older adults. By uncovering how diet and sleep interact to influence brain health, this study can guide practical interventions, such as nutrition and sleep education, to slow cognitive decline and improve quality of life for aging adults.

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Characterizing ocular adverse events in clinical trials of GLP-1 drugs using weighted and unweighted participant counts results reported on ClinicalTrials.gov

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OBJECTIVES/GOALS: Ocular adverse events (OAEs) have been associated with GLP-1 use in clinical studies. This study aims to describe the proportion and distribution of ocular adverse events by treatment arm, including serious and non-serious events, in phase 2-4 clinical trials of GLP-1 drugs using publicly available ClinicalTrials.gov data. **METHODS/STUDY POPULATION:** The ClinicalTrials.gov database was searched on 9/11/25 for interventional studies with GLP-1 as treatment (n= 1545). The search was filtered to terminated and completed studies with results (n= 349). Adverse event reports from Clinical Trials Transformation Initiative (CTTI) Aggregate Analysis of ClinicalTrials.gov (AACT) database were restricted to phase 2-4 drug studies (n= 240), of which 167 involved a GLP1-1 drug with 64 studies reporting ocular adverse events. Ocular adverse events were summarized as weighted and unweighted mean proportions by arm and seriousness, with chi-square, Fisher's exact, and Wilcoxon tests assessing significance. Study characteristics were included in statistical models to further assess differences in ocular adverse event proportions. **RESULTS/ANTICIPATED RESULTS:** Ocular adverse events ranked 10 among top organ systems affected in GLP-1 drug trials. Among 64 studies reporting ocular adverse events, serious ocular event proportions were higher in GLP-1 arms compared to placebo (weighted: $p < 0.01$; unweighted: $p = 0.02$). Most studies ($n = 51$) systemically assessed ocular events; 10 were non-systematic, and 3 did not classify reporting. The top 10 ocular events highlighted retinal detachment at significantly higher proportions in drug arms than placebo arms (weighted: 0.11% vs. 0.02%, $p = 0.04$). Cataract and diabetic retinopathy events were observed less frequently in drug arm than placebo arm (weighted: $p = 0.02$; $p = 0.03$). **DISCUSSION/SIGNIFICANCE OF IMPACT:** Serious and non-serious ocular adverse events occurred more often in GLP-1 drug arms, driven by specific conditions such as retinal detachment. Using the AACT database enables large-scale evaluation of adverse event patterns, providing broader context than single-study analyses.

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Using clinical trials transformation initiative AACT database to assess adverse events in clinical trials of GLP-1 drugs

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OBJECTIVES/GOALS: The study aims to systematically characterize the frequency and distribution of serious and non-serious