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Clinical science

Frequency of a diagnosis of glaucoma in individuals who consume coffee, tea and/or soft drinks

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Connie M Wu¹, Annie M Wu¹, Victoria L Tseng^{2, 3}, Fei Yu^{2, 4}, Anne L Coleman^{2, 3, 4}

[Author affiliations](#)

Abstract

Aims To evaluate the association between consumption of coffee, tea or soft drinks, and glaucoma in the participants of the 2005–2006 National Health and Nutrition Examination Survey (NHANES).

Methods The exposures of interest of this retrospective cross-sectional study were caffeinated and decaffeinated coffee, iced tea, hot tea and soft drinks. The outcome of interest was a clinical diagnosis of glaucoma based on the Rotterdam criteria. Analysis of the correlation between the frequency of consumption of each type of beverage and glaucoma was performed using logistic regression modelling while controlling for age, body mass index, gender, ethnicity, smoking status and diabetes. Data were weighted using the multistage NHANES sampling design.

Results Among a total of 1678 survey participants, the overall prevalence of glaucoma was 5.1% (n=84). Most participants were non-Hispanic white (n=892; 53.2%). There were no statistically significant associations between consumption of caffeinated and decaffeinated coffee, iced tea and soft drinks, and glaucoma. Participants who consumed at least one cup of hot tea daily had a 74% decreased odds of having glaucoma compared with those who did not consume hot tea (adjusted OR=0.26, 95% CI 0.09 to 0.72, P=0.004 for trend); however, no statistically significant association existed for decaffeinated hot tea and glaucoma.

Conclusion In NHANES, participants who consumed hot tea daily were less likely to have glaucoma than those who did not consume hot tea. No significant associations were found between the consumption of coffee, iced tea, decaffeinated tea and soft drinks, and glaucoma risk. This study is limited by its cross-sectional design and use of multiple statistical testing, and larger prospective studies are needed to investigate the proposed association between tea consumption and decreased glaucoma risk.

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Contributors: All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in the work to take public responsibility for the content, including participation in the concept, design, analysis, writing or revision of the manuscript. Conception and design of study: CMW, AMW, VLT, FY, ALC. Acquisition of data: VLT, FY. Analysis and/or interpretation of data: CMW, AMW, VLT, FY, ALC. Drafting the manuscript: CMW, AMW. Revising the manuscript critically for important intellectual content: MCW, AMW, VLT, FY, ALC. Approval of the version of the manuscript to be published: CMW, AMW, VLT, FY, ALC.

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