Clinical science

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

Connie M Wu, Annie M Wu, Victoria L Tseng, Fei Yu, Anne L Coleman

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.
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.

Competing interests: None declared.

Ethics approval: The study was approved by the National Center for Health Statistics Ethics Review Board (protocol #2005–06). Data from National Health and Nutrition Examination Survey are publicly available and anonymous, enabling this study to receive Institutional Review Board exemption from the University of California, Los Angeles.

Provenance and peer review: Not commissioned; externally peer reviewed.

Request permissions

If you wish to reuse any or all of this article please use the link below which will take you to the Copyright Clearance Center’s RightsLink service. You will be able to get a quick price and instant permission to reuse the content in many different ways.

Copyright information: © Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2017. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

Read the full text or download the PDF:

Buy this article
Consultant Ophthalmologist
Birmingham, West Midlands
Applications are invited for a substantive Consultant Ophthalmologist with a special interest in Neuro-Ophthalmology
Recruiter: University Hospitals Birmingham NHS Foundation Trust
Apply for this job

Consultant Ophthalmologist with a special interest in Glaucoma
Orpington (City/Town), London (Greater) | £78,923 to £105,652 per annum Inc London Weighting
Applications are invited for a full-time substantive Glaucoma Consultant at King’s College Hospital
Recruiter: King’s College Hospital NHS Foundation Trust
Apply for this job

Senior Clinical Fellowship in Uveitis
Manchester, Greater Manchester | £34,746
Applications are invited for 12-month Senior Clinical Fellowship in Uveitis at Manchester Royal Eye Hospital
Recruiter: Manchester University Hospitals NHS Foundation Trust
Apply for this job

Consultant Ophthalmic Surgeon with special interest in Medical Ophthalmology
Dublin, (IE)

Other content recommended for you

Coffee, green tea, black tea and oolong tea consumption and risk of mortality from cardiovascular disease in Japanese men and women.
Yohei Mineharu et al., J Epidemiol Community Health

Coffee consumption and coronary artery calcium in young and middle-aged asymptomatic adults.
Yuni Choi et al., Heart

The aetiology of gallstones – caffeinated coffee is associated with a reduction of symptomatic gallstones in men: data from a UK prospective cohort study (EPIC-Norfolk) using 7-day food diaries
P J R Banim et al., Gut

Coffee, including caffeinated and decaffeinated coffee, and the risk of hepatocellular carcinoma: a systematic review and dose–response meta-analysis
Frequency of a diagnosis of glaucoma in individuals who consume coffee, tea and/or s...