

Letter to the editor:

TEA AND COFFEE CONSUMPTION, COGNITIVE IMPAIRMENT AND PROGNOSIS IN OLDER INHABITANTS

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<http://dx.doi.org/10.17179/excli2020-2877>

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Dear Editor,

Several prospective studies have been conducted on the association between coffee/tea consumption, cognitive impairment and prognosis in older subjects. Here, I want to present the data and speculate on the inter-relationships.

Shirai et al. (2020) reported that the adjusted hazard ratios (HRs) (95 % confidence intervals [CIs]) for cognitive decline among those who consumed green tea once/day, 2–3 times/day, and ≥ 4 times/day were 0.70 (0.45–1.06), 0.71 (0.52–0.97), and 0.72 (0.54–0.98), respectively. Although there was no dose–response relationship between green tea and cognitive decline, a reduction of about 30 % in cognitive decline was observed. In contrast, coffee intake had no significant effect on cognitive decline. Cornelis et al. (2020) examined the associations of regular coffee or tea drinking and caffeine intake with cognitive function. They found that cognitive function significantly decreased with consumption of one or more cups of coffee or tea consumption. Panza et al. (2015) conducted a systematic review and found that coffee, tea, and caffeine consumption or higher plasma caffeine levels were protective against cognitive impairment/decline and dementia. However, there was a lack of a distinct dose–response association, and the preventive effect was stronger among females than males. There was also a lack of a significant association in longer follow-up studies, and the association in late-life outcomes might have disappeared. Besides, the effect of tea and coffee intake on cognitive decline remains contentious.

Regarding prognosis, Shadyab et al. (2020) conducted a follow-up study on older women aged 65 to 81 years at baseline. Caffeinated coffee, decaffeinated coffee, or caffeinated tea consumption was not significantly associated with survival to age 90 years after adjusting for confounders, regardless of smoking, body mass index, or race/ethnicity.

The levels of cognitive impairment give rise to an increased risk of mortality, which is apparent even for quite mild levels of impairment (Dewey and Saz, 2001). In addition, co-occurring cognitive and physical limitations constitute a distinct risk in older people with mortality (Grande et al., 2020). These reports suggest that lifestyle factors, such as coffee/tea consumption, might not directly contribute to subsequent mortality. Instead, physical disability and cognitive impairment might progress in combination with changes in daily life habits. Beydoun et al. (2014) reported that there are significant associations between cognitive performance and modifiable dietary factors, such as caffeine intake, alcohol intakes, and overall nutrient adequacy score. Furthermore, they found stratum-specific associations by sex and baseline age

between cognitive performance and modifiable lifestyle factors. A comprehensive survey is needed for the monitoring of sub-clinical changes in older people.

Conflict of interest

The author declares no conflict of interest.

REFERENCES

Beydoun MA, Gamaldo AA, Beydoun HA, Tanaka T, Tucker KL, Talegawkar SA, et al. Caffeine and alcohol intakes and overall nutrient adequacy are associated with longitudinal cognitive performance among U.S. adults. *J Nutr.* 2014;144:890-901.

Cornelis MC, Weintraub S, Morris MC. Caffeinated coffee and tea consumption, genetic variation and cognitive function in the UK Biobank. *J Nutr.* 2020;150:2164-74.

Dewey ME, Saz P. Dementia, cognitive impairment and mortality in persons aged 65 and over living in the community: a systematic review of the literature. *Int J Geriatr Psychiatry.* 2001;16:751-61.

Grande G, Vetrano DL, Fratiglioni L, Marseglia A, Vanacore N, Laukka EJ, et al. Disability trajectories and mortality in older adults with different cognitive and physical profiles. *Aging Clin Exp Res* 2020;32:1007-16.

Panza F, Solfrizzi V, Barulli MR, Bonfiglio C, Guerra V, Osella A, et al. Coffee, tea, and caffeine consumption and prevention of late-life cognitive decline and dementia: a systematic review. *J Nutr Health Aging.* 2015;19:313-28.

Shadyab AH, Manson JE, Luo J, Haring B, Saquib N, Snetselaar LG, et al. Associations of coffee and tea consumption with survival to age 90 years among older women. *J Am Geriatr Soc.* 2020; epub ahead of print. doi:10.1111/jgs.16467.

Shirai Y, Kuriki K, Otsuka R, Kato Y, Nishita Y, Tange C, et al. Green tea and coffee intake and risk of cognitive decline in older adults: the National Institute for Longevity Sciences, Longitudinal Study of Aging. *Public Health Nutr.* 2020;23:1049-57.