Response to 'Does smoking or alcohol cause early vascular damage in teenage years?'

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This commentary refers to 'Early vascular damage from smoking and alcohol in teenage years: the ALSPAC study', by M. Charakida et al., 345–353.

We thank Xin et al.[1] for their interest in our article. Recall bias could not influence our results as the Avon Longitudinal Study of Parents and Children (ALSPAC) is a prospective cohort study that recruited participants during their mother's pregnancy in the early 1990s and has followed them since then.[2] Here, we examined the associations of smoking and alcohol reported at ages 13, 15, and 17, and change in these exposures across those ages, with arterial stiffness at age 17. Both the prospective nature of the study (which provides stronger evidence than cross-sectional or retrospective report) and the fact that the participants have no knowledge of their arterial stiffness means recall bias is not possible.

While it is true that there is between-participant variation in alcohol metabolism and that can influence alcohol consumption, unless the factors that determine that variation in metabolism also independently influence arterial stiffness this would not confound our findings. Known genetic variants that have a major influence on alcohol metabolism are rare in European populations (ALSPAC participants are largely of European ethnicity).[3] However, recent Mendelian randomization analyses in a Chinese population challenges the assertion made by Xin et al. that moderate drinking is protective[4]; this has also been suggested by a Mendelian randomization study in European populations, albeit with weaker genetic instruments.[5]

Xin et al. in their final point appear to suggest that were we to explore these associations in older adults we would find associations between alcohol intake and arterial stiffness that differed between women and men, but they provide no evidence for this suggestion and we are not aware of any large well-conducted studies, with

replication, that show such effect modification by sex. The fact that circulating oestrogen may influence cardiovascular disease does not mean that there would be a sex difference in the effect of alcohol (or any other risk factor) on cardiovascular disease or related outcomes such as arterial stiffness.

Conflict of interest: none declared.

References

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