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Is alcohol consumption associated with reporting of chronic pain in individuals with stable levels of alcohol consumption/non-consumption?

Background: Observational studies have shown an association between alcohol consumption and the reporting of chronic musculoskeletal pain reporting. A “J” shaped curve is observed whereby risk is highest in non-drinkers and heavy drinkers. These patterns may arise through failure to account for changes in drinking due to ill health. This study investigated associations in those with stable patterns of alcohol consumption from a large population study.

Methods: UK Biobank recruited approximately a half million persons 40-69 year-old people across Great Britain. Participants answered health/lifestyle questions by touch screen at assessment centres. Questions included pain at regional sites or ‘all-over’ in last month, and whether pain was chronic (i.e. had lasted at least 3 months). Alcohol questions were frequency/amount, previous drinking if non-drinkers, consumption change in 10 years, and reasons for stopping/reducing consumption. Participants were classed as: ‘no change in alcohol consumption’ or ‘stopped/reduced alcohol consumption’. Those classed ‘as no change in alcohol consumption’ were categorised as: non-drinkers, special occasions-only, 1-3 times/month, or units/week if at least once/week. Relative risk reduction (RRR) was calculated for reporting any chronic pain, and chronic pain all-over for each category compared to non-drinkers. RRRs were adjusted for potential confounders (age, gender, BMI, education, deprivation, social networks, loneliness, mood, and smoking (‘partially-adjusted’)) and self-reported health (‘fully-adjusted’).

Results: In those not stopping/reducing, risk of any chronic pain was lowest in drinkers particularly those drinking 10-15 units/week (compared to non-drinkers, RRR partially-adjusted 16.1%, RRR fully-adjusted 8.2% [99% CI 5.7-10.8%]). For chronic pain all-over, reductions were greater but consistent across all consumption levels in those drinking at least once a week (at 10-15 units/week, compared to non-drinkers, RRR partially-adjusted 70.6%, RRR fully-adjusted 50.4% [99% CI 38.3-60.3%]).

Conclusions: Associations between alcohol consumption and reporting chronic pain remained even when focussing only on persons with stable consumption, suggesting association is not explained by persons with chronic pain reducing alcohol. Although it has been hypothesised that metabolites of alcohol may facilitate pain inhibitory pathways, residual confounding cannot be ruled out.

Biography

Gary J Macfarlane has been Professor of Epidemiology at The University of Aberdeen since 2005 and previously held the same post at The University of Manchester from 1999. He trained in Statistics/ Computing Science and then Medicine at The University of Glasgow before undertaking his PhD at The University of Bristol. He worked at the Division of Epidemiology and Biostatistics at the European Institute of Oncology in Milan 1991-1995 before leading a programme of chronic pain research at the Arthritis Research UK Epidemiology Unit at the University of Manchester. He leads the Epidemiology group at the University of Aberdeen which has programmes of research in Rheumatic and Musculoskeletal Diseases (RMD), Reproductive Health and Ageing. The RMD programme focuses on: musculoskeletal pain (including fibromyalgia), rheumatic fatigue and axial spondyloarthritis. It has current funding of ~£4m, it runs the British Society of Rheumatology Biologics Register in Ankylosing Spondylitis (BSRBR-AS) and is part of the Arthritis Research UK/Medical Research Council Centre for Musculoskeletal Health and Work (with University of Southampton). Professor Macfarlane is a Chartered Statistician of the Royal Statistical Society as well as a Fellow of the Faculty of Public Health Medicine.

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