scores across life with objective biomarkers of cardio-metabolic health.

Methods Analyses were undertaken among 4820 civil servants aged 59–83 years, within the prospective Whitehall II study, who answered the life-grid AUDIT-C inventory during the 2011–2012 survey and provided biological measurements (264 non-drinkers were excluded). Lifetime hazardous drinking groups were defined using a threshold of ≥ 5 , at each decade of life from age 16 to 80+. These groups were as follows; never hazardous-drinker (reference), former hazardous-drinker₁ (before age 50), former hazardous-drinker₂ (after age 50), current hazardous-drinker (past hazardous-drinker sporadically), stable hazardous-drinker (hazardous-drinker in every decade). Similar groups were created for lifetime binge-drinking categories; never/former/current/stable binge-drinker (AUDIT-3 ≥ 2). Fully-adjusted linear regression was carried out on cardio-metabolic biomarkers including: waist circumference (WC, measured in cm), body mass index (BMI, kg/m²), total cholesterol (TC, mmol/L), systolic (SBP, mmHg) and diastolic (DBP, mmHg) blood pressure, gamma-glutamyl transferase (GGT), fatty-liver index scores (FLI) and lifetime hazardous/binge drinking as exposure, using STATA15. Covariates included sex, age, socio-economic position, ethnicity, smoking status, physical activity, BMI and fruit and vegetable consumption.

Results Over half of the sample had been a hazardous-drinker at some point; Current hazardous-drinkers (21%), former hazardous-drinkers₁ (<age 50) (19%), former hazardous-drinkers₂ ($\geq$ age 50) (11%) stable hazardous-drinker (5%). After adjusting for co-variables, hazardous-drinkers had a larger WC than never hazardous-drinkers (former hazardous-drinkers₁ ($\beta=1.17$ [95% CI 0.25, 2.08]); (former hazardous-drinkers₂ (1.88 [95% CI 0.77, 2.98]); current hazardous-drinkers (2.44 [1.55, 3.34]) and stable hazardous-drinkers (3.85 [2.23, 5.47])). A similar linear association along more current and frequent hazardous-drinking was also found with BMI. Current hazardous-drinkers had higher SBP (2.44 [1.19, 3.68]), log (GGT) (22.64 [18.27, 27.02]) and FLI scores (4.05 [2.92, 5.18]) than never hazardous-drinkers, and so did stable hazardous-drinkers (sbp (2.78 [0.53, 5.04]), log(GGT) (17.94 [10.12, 25.75]), FLI (3.76, [1.75, 5.77])). Similar associations with waist, sbp, GGT, and FLI outcomes were found for lifetime binge-drinkers.

Conclusion Hazardous-drinking is common among older adults and may increase cardio-metabolic risk factors, this may be compounded by persistent hazardous-drinking across life. Population reductions in hazardous-drinking is likely to have immediate improvements in elderly, but also long lasting improvements with early intervention in the life course, particularly with weight gain. Future analyses will assess risk of lifetime hazardous-drinking and cardiovascular events and mortality.

OP24

SUBCLINICAL CARDIOVASCULAR DISEASE AND FRAILTY AMONG BRITISH OLDER MEN WITHOUT A DIAGNOSIS OF CARDIOVASCULAR DISEASE: A POPULATION-BASED STUDY

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Background Frailty is associated with incident cardiovascular disease (CVD). However, its association with subclinical CVD, which precedes the onset of a CVD event, remains uncertain. Non-invasive vascular markers provide valuable proxy indicators of CVD risk, permitting investigation of risk burden and the development of subclinical CVD. N-terminal pro brain natriuretic peptide (NT-proBNP) and cardiac troponin T (cTNT) are markers of cardiac injury and are strong risk predictors of CVD events such as heart failure and myocardial infarction respectively. Our aim was to examine the association of subclinical cardiovascular markers with frailty in men without a diagnosis of CVD.

Methods In 2010–2012, 1622 surviving men aged 71–92 years were examined and completed a questionnaire as part of a cross-sectional study from a cohort of men from 24 British towns initially recruited in 1978–1980. Using the Fried phenotype, frailty was defined by the presence of ≥ 3 of the following components: unintentional weight loss, low grip strength, low physical activity, slow walking pace and exhaustion. Carotid intima media thickness (CIMT) and carotid distensibility coefficient (DC) were measured using ultrasound. A Vicorder device was used to measure pulse wave velocity (PWV) and ankle brachial pressure index (ABPI). Fasting blood samples were analysed for NT-proBNP and cTNT. Multivariable logistic regression was used for analyses.

Results Three hundred and three participants (19%) were frail and 876 (54%) were pre-frail. In men without CVD, frail individuals were significantly more likely to be older, physically inactive, have a smoking history and co-morbidities such as peripheral vascular disease and diabetes compared to non-frail individuals ($p < 0.05$ for all associations). Multivariable analyses of baseline demographics and diabetes showed that frailty was positively and significantly associated with high NT-proBNP (odds ratio [OR]=3.48; 95% confidence interval [CI]=2.13–5.67), high cTNT (OR=3.33; 95% CI 2.03 to 5.45) and low DC (reflecting greater arterial stiffness; OR=1.79; 95% CI 1.11 to 2.88). Some subclinical vascular markers (ABPI < 0.9 or > 1.2 , PWV and CIMT) were not associated with frailty ($p > 0.05$). Pre-frailty was also associated with raised cardiac markers ($p < 0.05$ for all associations).

Conclusion Frailty is strongly associated with subclinical CVD markers (NT-proBNP, cTNT and DC), even in the absence of prevalent CVD. Further research is needed to determine whether this association is causal and to understand the underlying mechanisms. Our study findings support the need for screening older individuals with frailty, with the objective of identifying those with an underlying increased risk of CVD and its adverse outcomes.

OP25

SOCIOECONOMIC FACTORS ASSOCIATED WITH FRAILTY: RESULTS FROM TWO STUDIES OF OLDER BRITISH POPULATIONS

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Background Frailty is a state of increased vulnerability to stressors in older age, which increases risks of disability, falls and mortality. Prevalence of frailty is very high in older populations. The extent to which socioeconomic factors are