P53 BIRTH AND CHILDHOOD FACTORS AND LATE LIFE CEREBROVASCULAR DISEASE: AN ANALYSIS OF 3 LONGITUDINAL COHORT STUDIES

[1]EV Backhouse*, [2]SD Shenkin, [1]A McIntosh, [3]I Deary, [1]M Bastin, [4]S de Rooij, [4]T Roseboom, [1]JM Wardlaw. [1]*Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, UK*; [2]*Geriatric Medicine, University of Edinburgh, Edinburgh, UK*; [3]*Centre for Cognitive Ageing and Cognitive Epidemiology, University of Edinburgh, Edinburgh, UK*; [4]*Center for Repoductive Medicine, University of Amsterdam, Amsterdam, The Netherlands*

10.1136/jech-2017-SSMAbstracts.154

Background Cerebral small vessel disease (cSVD) is a major cause of stroke and dementia. Midlife vascular disease and adult socioeconomic status (SES) are established risk factors. Less is known about the effect of factors earlier in life. A recent meta-analysis found that lower levels of childhood IQ, childhood SES and education increased the risk of cSVD in later life but was unclear if these relationships persist after adjustment for vascular risk factors or adult SES.

Methods We analysed birth parameters including birth and placental weight (grams), measures of childhood SES such as father's occupation (manual/non-manual), toilet (outdoors; number of people sharing), childhood IQ and premorbid adult IQ using the National Adult Reading Test (NART) and education (years) from participants from 3 cohort studies: the Dutch famine birth cohort (n=118), the Lothian Birth Cohort 1936 (LBC1936,n=685) and the Simpson cohort (n=110). We analysed cSVD features individually, then summed into a total "cSVD score" (range 1–4) and imaging evidence of infarcts. Data were adjusted for vascular risk factors and adult SES, analysed separately for each cohort and meta-analysed, adjusted for vascular risk factors and adult SES.

Results Across the 3 cohorts increasing birth weight was associated with lower cSVD score (OR 0.999 95% CI 0.998–0.999,p=0.02). In the Simpson cohort increasing placental weight was associated lower cSVD score (OR 0.995 95% CI 0.991–0.999,p=0.01), fewer white matter hyperintensities (WMH) (OR 0.995 95% CI 0.99–0.999), cerebral microbleeds (CMBs) (OR 0.995 95% CI 0.991–0.999,p=0.01) and infarcts (OR 0.99 95% CI 0.98–0.998,p=0.02). Higher childhood IQ was associated with fewer lacunes (all studies; OR 0.98 95% CI 0.97–0.99 p=0.04) and infarcts (LBC36; OR 0.99 95% CI 0.97–0.99,p=0.04). Higher NART score was associated with fewer infarcts (all studies; OR 0.97 95% CI 0.95–0.99,p<0.01). Having an outdoor toilet and more people sharing a toilet in childhood were associated with more infarcts (Simpson cohort; OR 13.31 95% CI 1.52–116.38, p=0.02; OR 1.18 95% CI 1.001–1.4 p=0.049). Lower education was associated with more CMBs (all studies; OR 1.78 95% CI 1.04–3.04,p=0.04).

Discussion Birth parameters including birth and placental weight may influence risk of cSVD in later life. Childhood factors such as IQ, education and SES may influence some cSVD features and risk of infarcts but it was not possible in these data to determine whether they contribute independently to WMH or total cSVD or not. The effects sizes and potential impact of these findings suggest that larger samples are needed to robustly test these associations.

P54 CHANGES IN PHYSICAL AND MENTAL HEALTH FUNCTIONING DURING RETIREMENT TRANSITION: A REGISTER-LINKAGE FOLLOW-UP STUDY

[1]M Manty*, [2,3,4]A Kouvonen, [1,5]T Lallukka, [1]J Lahti, [1]E Lahelma, [1]O Rahkonen. [1]*Department of Public Health, University of Helsinki, Helsinki, Finland*; [2]*Department of Social Research, University of Helsinki, Helsinki, Finland*; [3]*SWPS University of Social Sciences and Humanities in Wroclaw, Wroclaw, Poland*; [4]*Centre for Public Health, Queen's University Belfast, Belfast, UK*; [5]*Finnish Institute of Occupational Health, Helsinki, Finland*

10.1136/jech-2017-SSMAbstracts.155

Background The impact of retirement on health-related functioning, an important indicator of individual´s ability to function in everyday life, is poorly understood. Thus the aim of this study was to examine the association between transition to retirement, and changes in physical and mental health functioning among Finnish municipal employees.

Methods Follow-upsurvey data were collected among ageing employees of the City of Helsinki, Finland, at three Phases: 1 (2000–2002), 2 (2007) and 3 (2012). Physical and mental health functioning were measured using the Short-Form 36 questionnaire at each Phase. Retirees between Phases 1 and 3 were identified from the national registers of the Finnish Centre for Pensions: Full-time statutory retirement (n=1464), part-time retirement not due to health reasons (n=404) and disability retirement due to health reasons (n=462). Generalised estimating equations were used to study the associations between transition to retirement and changes in health functioning. We also examined whether changes in functioning vary by gender, occupational status, or different health- and life-style factors.

Results Statutory and part-time retirement were not associated with changes in physical health functioning during retirement transition process when adjusting for gender and age (β 0.1, 95% CI −0.3 to 0.5 and −1.0,–1.8 to 0.1, respectively), whereas clear decline was observed among disability retirees (−4.3,–5.4 to −3.2). Higher occupational class before retirement and sedentary lifestyle were associated with greater decline in physical health functioning. Mental health functioning improved during the retirement transition process among statutory and part-time retirees (1.9, 1.4 to 2.4 and 2.0, 1.0 to 3.0, respectively) while no association was observed among disability retirees (−0.3,–1.7 to 1.0).

Conclusion Disability retirement was associated with decrease in physical health functioning, and statutory retirement with a slight improvement in mental health functioning. Evidence on changes in physical and mental functioning during retirement transition process may provide useful information for interventions to promote healthy ageing.

P55 PAIN AND ROUTES OF EXIT OUT OF PAID EMPLOYMENT AMONG BRITISH CIVIL SERVANTS: A FOLLOW-UP STUDY 1985–2013

[1,2]TL Lallukka*, [2]MM Mänty, [3]CC Cooper, [4]MF Fleischmann, [5,6,7]AK Kouvonen, [4]JH Head, [1]JIH Halonen. [1]*Finnish Institute of Occupational Health, Helsinki, Finland*; [2]*Department of Public Health, University of Helsinki, Helsinki, Finland*; [3]*MRC Lifecourse Epidemiology Unit, Universities of Southampton and Oxford, UK*; [4]*Institute of Epidemiology and Health, University College London, London, UK*; [5]*Department of Social Research, University of Helsinki, Helsinki, Finland*; [6]*SWPS University of Social Sciences and Humanities in Wroclaw, Wroclaw, Poland*; [7]*Administrative Data Research Centre–Northern Ireland, Centre for Public Health, Queen's University Belfast, Belfast, UK*

10.1136/jech-2017-SSMAbstracts.156