

Conclusion Contrary to what is found in similar studies in SSA, where hypertension is highest in urban areas, we found that rural residence, abdominal obesity among men and generalised obesity among women were the most important predictors of hypertension. Intervention to reduce hypertension could be further targeted towards rural areas. Sensitisation campaigns should promote awareness of the risk factors, especially on the importance of maintaining a healthy weight.

OP98

REVISITING EARLY LIFE DEPRIVATION AND CARDIOVASCULAR DISEASE: AN ECOLOGICAL STUDY OF HISTORICAL TRENDS IN ECONOMIC DEVELOPMENT AND CURRENT CARDIOVASCULAR MORTALITY IN 1577 BRAZILIAN MUNICIPALITIES

PAC Mallinson*, S Kinra. *Department of Non-communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, UK*

10.1136/jech-2017-SSMAbstracts.97

Background Ecological findings from Europe in the 1970s demonstrated an interaction between deprivation during early life and adult cardiovascular disease (CVD) mortality. These findings hold renewed significance today in the context of emerging epidemics of CVD in rapidly developing countries. If generalizable to such settings, understanding of the interaction between early life deprivation and CVD mortality might improve disease projections and targeting of resources to high risk areas. To investigate this, we studied economic development rates since 1940 and current CVD mortality in Brazil.

Hypothesis Currently, higher GDP/capita is associated with higher CVD mortality at municipality level in Brazil. We hypothesised that if deprivation was a risk factor for CVD mortality during the early life period, municipalities which have undergone the greatest shifts from low to high GDP/capita in the past 50–70 years would have higher CVD mortality rates today than those with consistently high or low GDP/capita.

Methods We used municipality-level data on deaths, demographics and gross domestic product (GDP) from the Brazilian Institute of Geography and Statistics. Our primary outcome was CVD mortality rate in 2005–14, defined and adjusted according to the WHO Global Burden of Disease protocol. We compared the trajectory of municipality GDP/capita between time of birth and time of death, defined by tertiles of GDP/capita at each time point. Analyses were age-standardised and stratified by sex. Municipalities were grouped to reflect 1940s borders and excluded where this was not possible. We conducted analyses on R.

Results In 1577 included municipalities, 367 had a low-low GDP/capita trajectory, 44 had low-high and 329 had high-high. Age-adjusted CVD mortality rates for >50 year-olds, per 1 00 000 person years, in low-low, low-high and high-high trajectory municipalities, respectively, were 656.7 (95%CI: 636.2, 677.2), 758.2 (95%CI: 713.8, 802.5) and 821.9 (95%CI: 810.7, 833.2) among men (p-value trend test <0.001); and 447.0 (95%CI: 430.5, 463.4), 414.4 (95%CI: 383.5, 445.3) and 449.5 (95%CI: 442.0, 457.0) among women (p-value trend test >0.1). These findings were not substantially altered in sensitivity analyses checking for the potential effects of internal migration.

Conclusion Contrary to what we hypothesised, Brazilian municipalities which have shifted from low to high GDP/

capita did not exhibit higher rates of CVD mortality than consistently high or low municipalities. This reminds us to be cautious extrapolating evidence generated in high-income settings to rapidly developing settings where social and economic contexts surrounding CVD differ markedly. Further individual-level studies with robust designs are needed, as inference from ecological studies has limitations.

OP99

PSYCHOLOGICAL DISTRESS AND INCIDENT STROKE RISK IN THE 45 AND UP STUDY

^{1,2}CA Jackson*, ³CLM Sudlow, ²GD Mishra. ¹*Usher Institute of Population Health Sciences and Informatics, University of Edinburgh, Edinburgh, UK;* ²*School of Public Health, University of Queensland, Brisbane, Australia;* ³*Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, UK*

10.1136/jech-2017-SSMAbstracts.98

Background Few studies have reported on the association between psychological distress and stroke risk, with most investigating the effect of psychological distress on stroke mortality rather than incidence. We investigated whether psychological distress is associated with stroke incidence in a large population-based cohort study and examined whether associations differed by gender, age-group and pathological stroke type.

Methods We included 2 28 955 participants without prior stroke from the New South Wales 45 and Up Study. Baseline psychological distress was measured using the 10-item Kessler psychological distress Scale and categorised as low, medium, and high/very high. We identified incident stroke through linkage to hospital admission and mortality records. We analysed men and women separately, using cox survival analysis to obtain unadjusted and adjusted hazard ratios (HRs) with 95% confidence intervals (CIs) for the association between psychological distress and all stroke and pathological stroke types. We serially adjusted for groups of confounders, including: sociodemographic factors; lifestyle factors; clinical disease history; family history of cardio- and cerebrovascular disease; physical disease co-morbidity (Charlson comorbidity index); and (among women) menopausal status and current hormone replacement therapy and oral contraceptive use.

Results During 1,075,057 person-years of follow-up (mean follow-up time 4.7±0.98 years), we identified 2682 incident strokes among men and women. In men, medium and high/very high psychological distress was associated with a 10% and 34% increased risk of stroke compared to low psychological distress (fully adjusted HRs 1.10, 95% CI 0.95, 1.26 and 1.34, 95% CI 1.11, 1.62, respectively). Similar effect estimates were observed in women (fully adjusted HRs for medium and high/very high versus low psychological distress: 1.17, 95% CI 1.00, 1.37 and 1.44, 95% CI 1.18, 1.77). Effect estimates were similar across age-groups and pathological stroke type, in both men and women.

Conclusion Psychological distress is strongly associated with increased stroke risk, even after adjusting for a wide range of confounding factors. Further investigation is needed to establish whether this relationship is causal and to determine the underlying mechanism(s). Meanwhile, study findings support the need for renewed efforts: to encourage people with mental ill-health to seek medical help; for better screening and treatment for mental health conditions (which might itself reduce cerebrovascular and cardiovascular disease risk); and to