

DEMENTIA AND LOWER BLOOD PRESSURE IN SEVEN LOW AND MIDDLE INCOME COUNTRIES: THE 10/66 CROSS-SECTIONAL SURVEYS

R. Stewart¹, F.L. Lombardo², E. Albanese³

¹Health Service and Population Research Department, King's College London (Institute of Psychiatry), London, UK, ²National Centre of Epidemiology, Italian National Institute of Health, Rome, Italy, ³National Institute on Aging, National Institutes of Health, Bethesda, MD, USA

Introduction: A relative decline in systolic blood pressure has been found to occur prior to and around the clinical onset of dementia but the reasons for this remain unclear.

Aims and objectives: In a large series of surveys carried out using identical methodology in populations with relatively low mean blood pressures we investigated the consistency of the association between dementia, dementia severity and resting blood pressure.

Methods: The analysed sample comprised 15,022 participants from eleven cross-sectional surveys carried out in seven low and middle income countries (Cuba, Dominican Republic, Peru, Venezuela, Mexico, China and India). Associations between dementia status (ascertained through a detailed assessment with extensive cross-cultural validation) and resting blood pressure were described for each sample and then compared in meta-analyses.

Results: In age- and sex-adjusted linear regression analyses, there was a high level of between-site heterogeneity in these associations (I-squared 60.2% for dementia and SBP). The only site with significant and consistent associations was Cuba (n=2944), the sample with highest mean systolic blood pressure, where dementia was associated with 7.9mmHg lower systolic blood pressure (95% CI 4.7-11.1) and 2.6mmHg lower diastolic blood pressure (95% CI 0.9-4.2). In general, associations between dementia and lower blood pressure were weak or absent in these surveys.

Conclusions: The association between dementia and low blood pressure, generally observed in Western settings was not observed in these populations with lower hypertension prevalence. These findings do not support a hypothesis that lower blood pressure in dementia is purely secondary to underlying neurodegeneration.