Associations between depression and mortality up to 15-years after stroke: a population-based cohort study

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Abstract

Background Limited data are available on the long-term mortality of post-stroke depression (PSD). We aim to estimate the associations between PSD and mortality up to 15-years after stroke and assess the differences by ethnicity.

Methods This is a secondary analysis of data from a prospective, population-based cohort study (the South London Stroke Register). Depression was assessed using the Hospital Anxiety and Depression Scale at 3-months after stroke (scores>7=depression). Associations between depression at 3-months and mortality up to 15 years after stroke were estimated with Cox regression models adjusted for age, sex, ethnicity, smoking, social support, stroke severity, treatment with antidepressants and comorbidities (hypertension, diabetes and heart disease).

Findings A total of 2574 survivors were assessed at 3-months after stroke and 913 (35·5%) had depression. The number of deaths was 651 within 5-years, 958 within 10-years and 1101 within 15-years after stroke. Compared to stroke survivors without depression, those with depression had higher risks of mortality (adjusted hazard ratio [aHR] 1·20 [95% confidence interval (CI) 1·01–1·42]) within 5-years after stroke, but similar risks of mortality over 10-years (aHR 1·10, 95% CI 0·95–1·26) and 15-years (aHR 1·08, 95% CI 0·95–1·24) after stroke. In White ethic group, stroke survivors with and without PSD had similar rates of mortality (aHR 1·08, 95% CI 0·95–1·24) within 5-years, while in Black ethic group, survivors with depression had greater risks of mortality (aHR 1·45, 95% CI 1·01–2·10) than patients without depression.

Interpretation PSD is associated with higher mortality within 5-years after stroke and the association was evident in Black group. Depression at 3-months is not associated with mortality beyond 5-years after stroke. Targeted interventions to depression could be facilitated on the Black ethic group within the first 5-years after stroke. These findings were limited to patients completing the depression assessment, who tended to have less severe stroke than excluded patients, so may not be generalized to all stroke survivors.

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Declaration of interests
The authors declare no conflict of interest.

Date availability
Because of the sensitive nature of the data collected for this study, requests to access the data set for academic use should be made to the South London Stroke Register (SLSR) team: https://www.kcl.ac.uk/lsm/research/divisions/hscr/research/ groups/stroke/index.aspx.

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