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## Delirium, depression, and long-term cognitive impairment

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This study examined whether history of depression is associated with less delirium or coma free days, or worse one-year post-discharge depression severity and cognitive impairment. Secondary data analysis of the BRAIN-ICU longitudinal cohort study. A total of 821 subjects were included in analyses, with 261 (33%) pre-admission history of depression. After adjusting for covariates, pre-admission history of depression was not associated with days of delirium or coma in the ICU (OR 0.78, 95% CI, 0.59 - 1.03 p= 0.077). A prior history of depression was associated with higher BDI-II scores at 3 and 12 months (3 months OR 2.15, 95% CI, 1.42 - 3.24 p= <0.001; 12 months OR 1.89, 95% CI, 1.24 - 2.87 p=0.003). We did not observe an association between pre-admission history of depression and cognitive performance at either 3 or 12 months (3 months beta coefficient -0.04, 95% CI, -2.70 - 2.62 p=0.97; 12 months 1.5, 95% CI, -1.26 - 4.26 p= 0.28). Patients with a depression history prior to ICU stay exhibit a greater severity of depressive symptoms in the year after hospitalization. Premorbid depression was not related to post-discharge cognitive performance.

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