A Cross-National Study of Depression in Pre-clinical Dementia: a COSMIC Collaboration

Sophie Carles 1, Isabelle Carrière 1*, Simone Reppermund 2, Annalisa Davin 3, Antonio Guaita 3, Roberta Vaccaro 3, Mary Ganguli 4,5,6, Erin P Jacobsen 7, Joanne C Beer 8, Steffi G Riedel-Heller 9, Susanne Roehr 9, Alexander Pabst 9, Mary N Haan 10, Henry Brodaty 11, Nicole A Kochan 2, Julian N Trollor 2,12, Ki Woong Kim 13 14, Ji Won Han 15, Seung Wan Suh 16, Antonio Lobo 17 18, Concepción De la Camara, 18 19 20, Elena Lobo 18 20 21, Darren M Lipnicki 2, Perminder S Sachdev 2 22, Marie-Laure Ancelin 1, Karen Ritchie 1,23, for Cohort Studies of Memory in an International Consortium (COSMIC)†

ABSTRACT

INTRODUCTION: Depression commonly accompanies Alzheimer’s disease, but the nature of this association remains uncertain.

METHODS: Longitudinal data from the COSMIC consortium were harmonized for 8 population-based cohorts from 4 continents. Incident dementia was diagnosed in 646 participants, with a median follow-up time of 5.6 years to diagnosis. The association between years to dementia diagnosis and successive depressive states was assessed using a mixed effect logistic regression model. A generic inverse variance method was used to group study results, construct forest plots, and generate heterogeneity statistics.

RESULTS: A common trajectory was observed showing an increase in the incidence of depression as the time to dementia diagnosis decreased despite cross-national variability in depression rates.

DISCUSSION: The results support the hypothesis that depression occurring in the pre-clinical phases of dementia is more likely to be attributable to dementia-related brain changes than environment or reverse causality.