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TRAJECTORIES OF DEPRESSIVE EPISODES AND HYPERTENSION OVER 24 YEARS: THE WHITEHALL II PROSPECTIVE COHORT STUDY

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Introduction: Prospective data on depressive symptoms and blood pressure (BP) are scarce, and the impact of age on this association is poorly understood.

Objectives: The present study examines longitudinal trajectories of depressive episodes and the probability of hypertension associated with these trajectories over time.

Methods: Participants were 6,889 men and 3,413 women London based civil servants followed for 24 years between 1985 and 2009. The age of participants over the follow-up ranged from 35 to 80 years. Depressive episode (defined as scoring 4 or more on the General Health Questionnaire-Depression subscale or using prescribed antidepressant medication) and hypertension (systolic/diastolic blood pressure $\geq 140/90$ mm Hg or use of antihypertensive medication) were assessed concurrently at five medical examinations.

Results: In longitudinal logistic regression analyses based on Generalized-Estimating-Equation using age as the time scale, participants with depression trajectory characterised by increasing depressive episodes overtime had a greater increase in the likelihood for hypertension with advancing age; an adjusted-excess increase of 7% (95% CI 3-12, $p < 0.001$) for each five-year increase in age compared to those with a low/stable depression trajectory. In a model adjusted for relevant confounders, a higher risk of hypertension in the first group of participants did not become evident before age 55. A similar pattern of association was observed in men and women although the association was stronger in men.

Conclusions: This study suggests that the risk of hypertension increases with repeated experience of depressive episodes over time and materializes in later adulthood.