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Hypertensive Disorders In Pregnancy and Cognitive outcomes in childhood and adolescence.

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Abstract

BACKGROUND: Hypertensive disorders in pregnancy (HDP), including preeclampsia, have been linked to lower cognitive scores in offspring, but findings remain inconsistent. This study examines the relationship between maternal HDP and cognitive development in offspring aged 3–17 years.

METHODS: We conducted a cohort study using data from the UK Millennium Cohort Study (2001). Maternal HDP was examined as an exposure factor in relation to children's cognitive abilities, including verbal and visuospatial outcomes. Cognitive delay was defined as scoring >1 SD below the mean and classified as "never delayed," "delayed only once," "persistent delay," "early childhood delay," or "adolescent onset delay."

RESULTS: Among 5,994 singleton pregnancies, 460 were affected by maternal HDP. Mothers were primarily aged 30–39 years (51.6%) and predominantly Caucasian (86.2%). Adjusted odds ratios (OR) controlled for maternal characteristics (age, ethnicity, BMI, alcohol use, smoking, education, income) and offspring gender. No significant association was found between maternal HDP and verbal delay at 3 years (OR: 1.008, 95% CI: 0.783–1.297), 5 years (OR: 0.864, 95% CI: 0.659–1.133), or 7 years (OR: 1.034, 95% CI: 0.800–1.336). Similarly, visuospatial delay at 7 years (OR: 0.863, 95% CI: 0.679–1.097) and adolescence (14 years: OR: 0.871, 95% CI: 0.688–1.101; 17 years: OR: 1.069, 95% CI: 0.856–1.336) showed no significant association.

CONCLUSION: Maternal HDP does not appear to significantly impact offspring cognitive development. Further research with larger cohorts is needed.