1. No.
   2022G028

2. Title
   Long-Term Effect of Maternal Smoking during Pregnancy and Postnatal Environmental Tobacco Smoke on Child Neurodevelopment: Evidence from a Japanese Birth Cohort

3. Period
   2022-2024

4. Summary
   This study examined the association between maternal smoking during pregnancy (SDP), prenatal, and postnatal environmental tobacco smoke (ETS) exposure with neurodevelopmental delays and the risk of neurodevelopmental disorders in children. The analysis was based on both a meta-analysis of existing literature (2022–2023) and data from the Hamamatsu Birth Cohort Study (2024).

   Findings indicated that SDP and prenatal ETS had significant negative effects on neurodevelopmental indices, specifically the Mental Development Index (MDI) and Language Development Index. Additionally, SDP and postnatal ETS were associated with increased symptoms of attention-deficit/hyperactivity disorder (ADHD), particularly hyperactivity/impulsivity, at ages 6, 9, and 13. While SDP was not linked to autism spectrum disorder (ASD) symptoms at these ages, postnatal ETS showed a significant association.

   These results suggest that maternal smoking, particularly during pregnancy, along with passive smoking exposure, has adverse effects on child neurodevelopment. Moreover, exposure to SDP and ETS may exacerbate ADHD symptoms, highlighting the potential risks of tobacco smoke exposure during critical developmental periods.