Mobile phone use and early-childhood neurodevelopment at 2 years of age

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Background and aims: This study was to examine the association between prenatal and postnatal mobile phone use exposure and early-childhood neurodevelopment in two-year-old children from the general population in Taipei, Taiwan.

Methods: The study was a part of the Taiwan Birth Panel Study. A total of 150 pairs of parents and their singleton child were selected into this study. We used the Comprehensive Developmental Inventory for Infants and Toddlers (CDIIT) to assess child neurodevelopment at two years of age. The CDIIT was used to assess development in the areas of cognition, language, motor (including gross motor and fine motor), social, and self-help of children. Exposure to mobile phone was reported on a questionnaire. Regression model was used to estimate the association between mobile phone exposure and children’s neurodevelopment.

Results: In logistic regression models, there aren’t any significant associations in all the eight domains of the CDIIT. The adjusted OR was 1.1 (95% CI: 0.3-3.5) for motor during 7 months of gestation to birth, and the adjusted OR for gross motor and fine motor were 1.2 (95%CI: 0.4-3.6) and 0.7 (95%CI: 0.1-3.6), respectively in the early-childhood neurodevelopment at 2 years.

Conclusions: In this study, we didn’t find any significant association between prenatal and postnatal mobile phone use exposure and early-childhood neurodevelopment in two-year-old children. However, research on the negative effect of mobile phone use and neurodevelopment is still scanty. Therefore, the further association of mobile phone use and neurodevelopment is needed to explore.