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**Title:** Prenatal exposure to DDE and PCB153 and infant's respiratory health: A European study

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**Body:** Epidemiological data suggest adverse effects of early-life exposure to persistent organic pollutants on the immune and respiratory systems, but evidence is still limited. The aim was to study the association between prenatal exposure to DDE and PCB153 and occurrence of respiratory symptoms in children from 10 European birth cohorts. A total of 4483 children with information on exposure and at least one respiratory health outcome were included: bronchitis, wheeze and acute otitis media (<2 years) and wheeze (> 2 years). We performed random effects meta-analyses using Poisson regression models. Exposure was introduced as a continuous variable (log transformed) and comparing high versus low (tertile) categories. DDE and PCB153 exposure as continuous were associated with bronchitis [RR per log unit increase of ng/L exposure (95%CI)=1.08 (1.00,1.16) and 1.09 (1.01,1.18), respectively]. Similar results were found when comparing high versus low exposure groups. However, in this case the risk of wheeze < 2 years was increased [RR highest vs lowest tertile: 1.17 (1.03,1.33)]. There were no associations with wheeze over two years or acute otitis media. Results obtained for DDE exposure were robust to the exclusion of one cohort at the time, whereas PCB153 results were more driven by one highly exposed cohort. This meta-analysis, studying the largest number of children thus far, suggests that prenatal DDE and PCB153 exposures may be associated with respiratory health symptoms in young children. Harmonization of outcome assessment is important in order to facilitate pooling of data in further follow-ups at older ages. This would allow a better assessment of long-term effects of these exposures.