



Associations between prenatal cigarette smoke exposure and externalized behaviors at school age among Inuit children exposed to environmental contaminants.

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Male
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Abstract:

Smoking during pregnancy is common among Inuit women from the Canadian Arctic. Yet prenatal cigarette smoke exposure (PCSE) is seen as a major risk factor for childhood behavior problems. Recent data also suggest that co-exposure to neurotoxic environmental contaminants can exacerbate the effects of PCSE on behavior. This study examined the association between PCSE and behavior at school age in a sample of Inuit children from Nunavik, Quebec, where co-exposure to environmental contaminants is also an important issue. Interactions with lead (Pb) and mercury (Hg), two contaminants associated with behavioral problems, were also explored.

Participants were 271 children (mean age=11.3years) involved in a prospective birth-cohort study. PCSE was assessed through maternal recall. Assessment of child behavior was obtained from the child's classroom teacher on the Teacher Report Form (TRF) and the Disruptive Behavior Disorders Rating Scale (DBD). Exposure to contaminants was assessed from umbilical cord and child blood samples. Other confounders were documented by maternal interview.

After control for contaminants and confounders, PCSE was associated with increased externalizing behaviors and attention problems on the TRF and higher prevalence of attention deficit hyperactivity disorder (ADHD) assessed on the DBD. No interactions were found with contaminants.

This study extends the existing empirical evidence linking PCSE to behavioral problems in school-aged children by reporting these effects in a population where tobacco use is normative rather than marginal. Co-exposure to Pb and Hg do not appear to exacerbate tobacco effects, suggesting that these substances act independently.

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