



Prenatal pesticide exposure: meconium as a biomarker and impact on fetal weight

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Abstract:

Background: Detection of fetal exposure to pesticides is important because many pesticides can adversely affect fetal health. **Objectives:** The current study aimed to measure levels of pesticides in meconium obtained from infants whose mothers were exposed to pesticides and to identify the risk of maternal exposure to pesticides on the health of the fetus. **Design:** A cross-sectional study. **Subject and methods:** The study was carried out on 190 delivering women (84 rural (potentially exposed) and 106 urban (potentially non-exposed to pesticides). Nine Pesticides were detected by gas chromatography and mass spectrometry (pretilachlor, DDT, lindane, chloropyrifos, diazinon, malathion, bioallethrin, cyprmethrin and cyfluthrin). **Results:** The frequency of pesticides detection in the sample were as follows: 54.7% for pretilachlor, 57.4% for DDT, 50% for lindane, 35.8% for chloropyrifos, 53.7% for diazinon, 49.5% for malathion, 34.7% for bioallethrin, 41.1% for cyprmethrin and 21.5% for cyfluthrin. Rural residents were at increased risk of exposure to pesticides (OR=1.23, 95% CI=0.16-1.44). Those who reported prenatal exposure to pesticides were four times more likely to work in agricultural work this was statistically significant (OR=4.5, 95% CI=1.89-8.55). Those who reported prenatal exposure to pesticides were 1.6 times more likely to have babies with low birth weight and this was statistically significant (OR=1.59, 95% CI=1.23-4.57). **Conclusions:** pregnant women in our community, including those who are living in rural areas, were insignificantly more exposed to several types of pesticides and this was associated with working in an agricultural occupation and impaired fetal growth.

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