

**O-188****PRENATAL EXPOSURE TO DDT AND BEHAVIOR IN 7-YEAR OLD CHILDREN PARTICIPATING IN THE CHAMACOS STUDY****Authors:**

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**Background:** Dichlorodiphenyl trichlorethane (DDT) is a persistent organochlorine insecticide banned in the 1970s in most developed countries. DDT is still used for Indoor Residual Spraying (IRS) to control malaria in 23 African countries, exposing approximately 75 million people. Prenatal exposure to DDT and its breakdown product dichlorodiphenyl dichloroethylene (DDE) have been adversely associated with neurobehavior in early childhood but few studies have investigated long-term effects.

**Objectives:** Evaluate the relation between serum DDT levels and behavior in 7-year old children.

**Methods:** We measured the serum concentration of DDT and DDE by gas chromatography high-resolution mass spectrometry in 231 pregnant women and 244 children participating in the Center for the Health Assessment of Mothers and Children of Salinas (CHAMACOS). Their child's behavior was assessed at 7 years of age using the Behavioral Assessment System for Children (BASC).

**Results:** DDT and DDE serum concentrations were higher in CHAMACOS mothers and children than in the general U.S. population but were orders of magnitude lower than those reported in IRS areas. Every ten-fold increase in serum DDT concentration at 7 years of age was associated with an 80% increase among boys in odds of anxiety (OR=1.8, 95% confidence interval (95%CI): 1.1, 3.0) based on maternal ratings, and a 50% increase among both boys and girls in being at risk for anxiety (OR=1.5, 95%CI: 1.1, 2.1) based on teacher report. **Results** were similar for 7 year serum DDE concentrations, and for prenatal serum DDE concentrations.

**Conclusions:** DDT and DDE serum concentrations at 7 years of age and prenatal DDE concentrations were associated with increased risks of anxiety at seven years of age.

**Keywords:** Persistent Organic Pollutants, DDT, Behavior, neurodevelopment