



Comparison of farmworker MDA levels & NHANES Mexican American Adults 1999-2000

*Unpublished results
presented:*

*Not for online
publication*



Malathion on farmworker hands: Controls vs Intervention

*Unpublished results
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Malathion levels on clothing patch & skin patch samples

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Workers who did not wear gloves and ate strawberries from the fields had higher pesticide levels

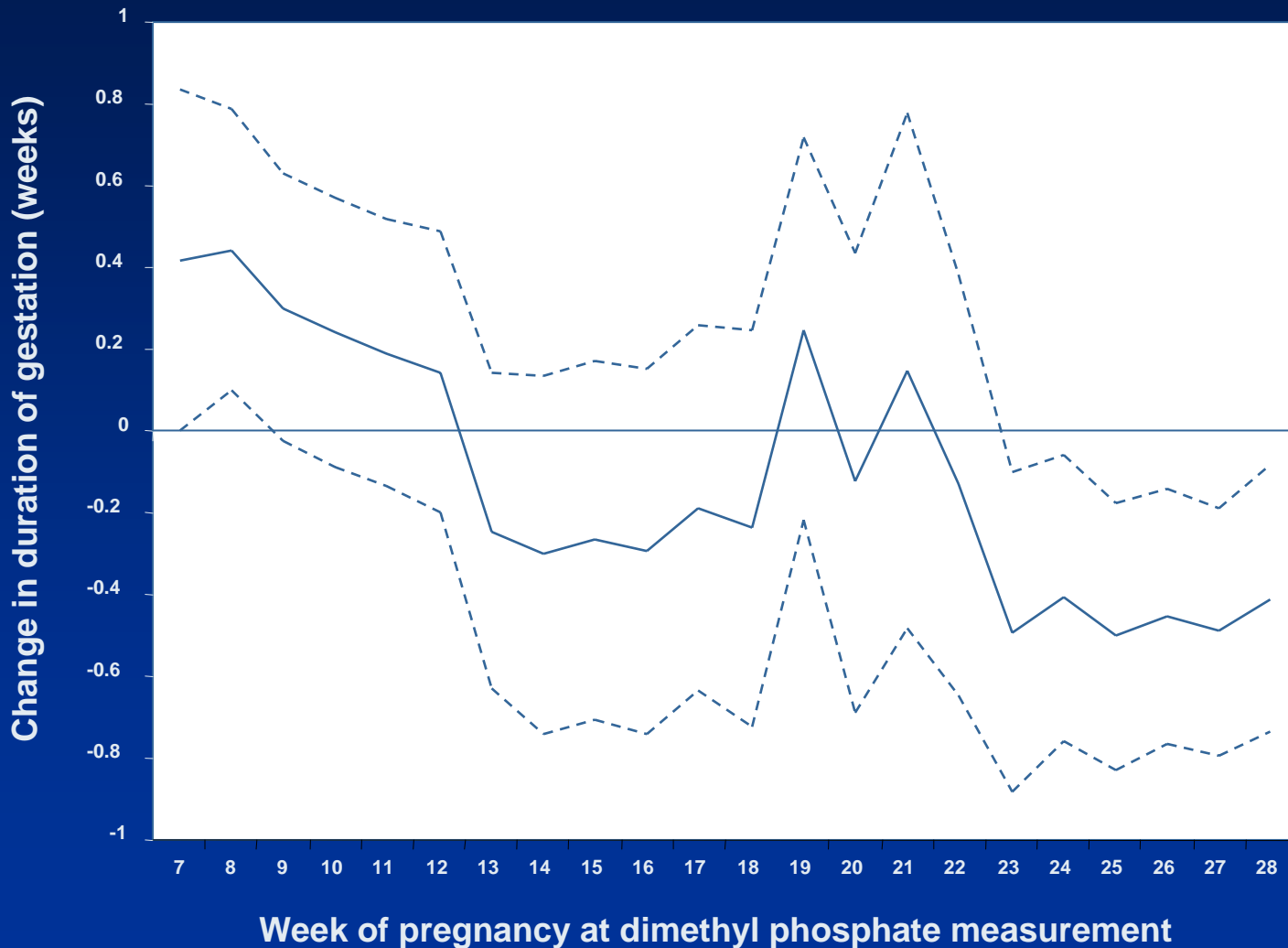
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Do these pesticide exposures affect children's health?



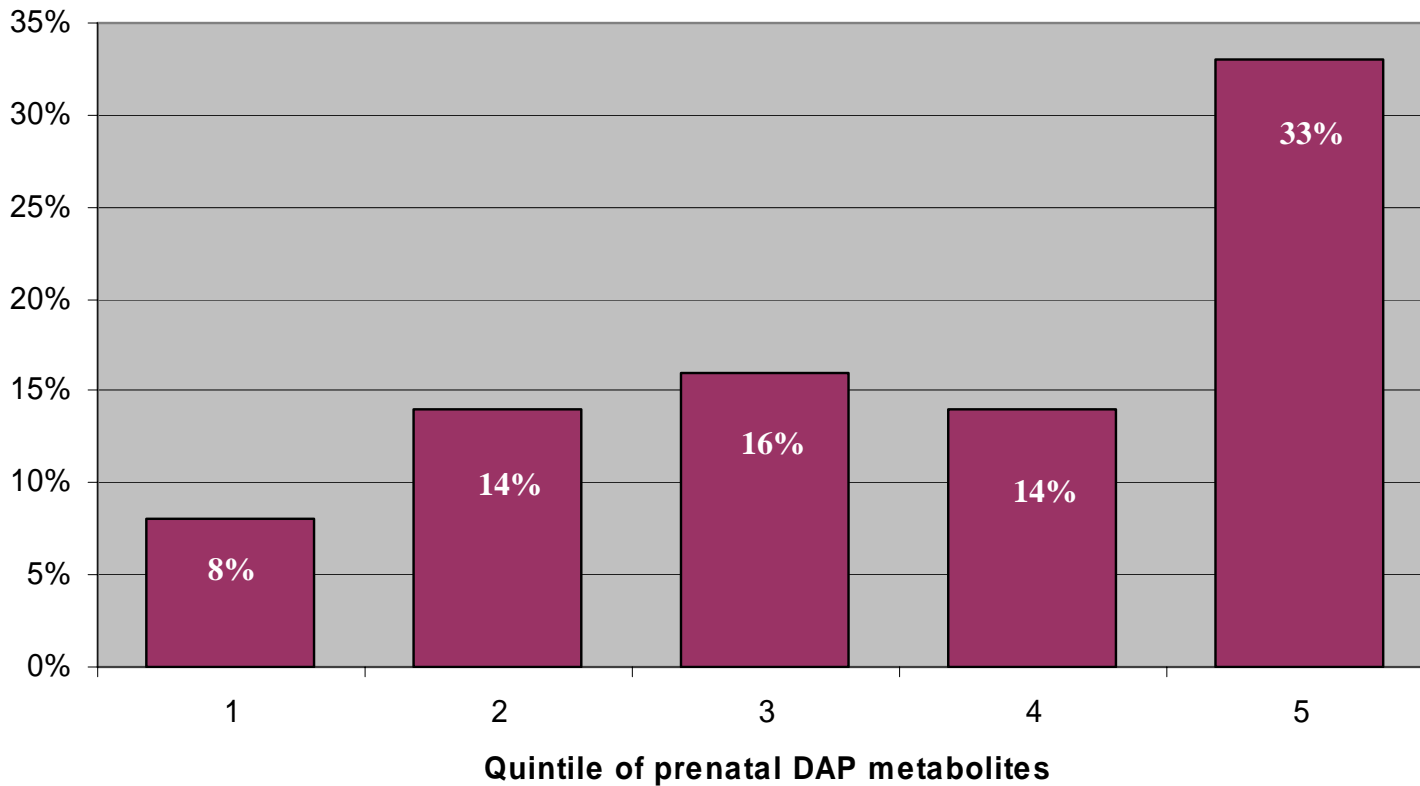
Length of Gestation is Shorter in Women with Higher Organophosphate Pesticide Exposures





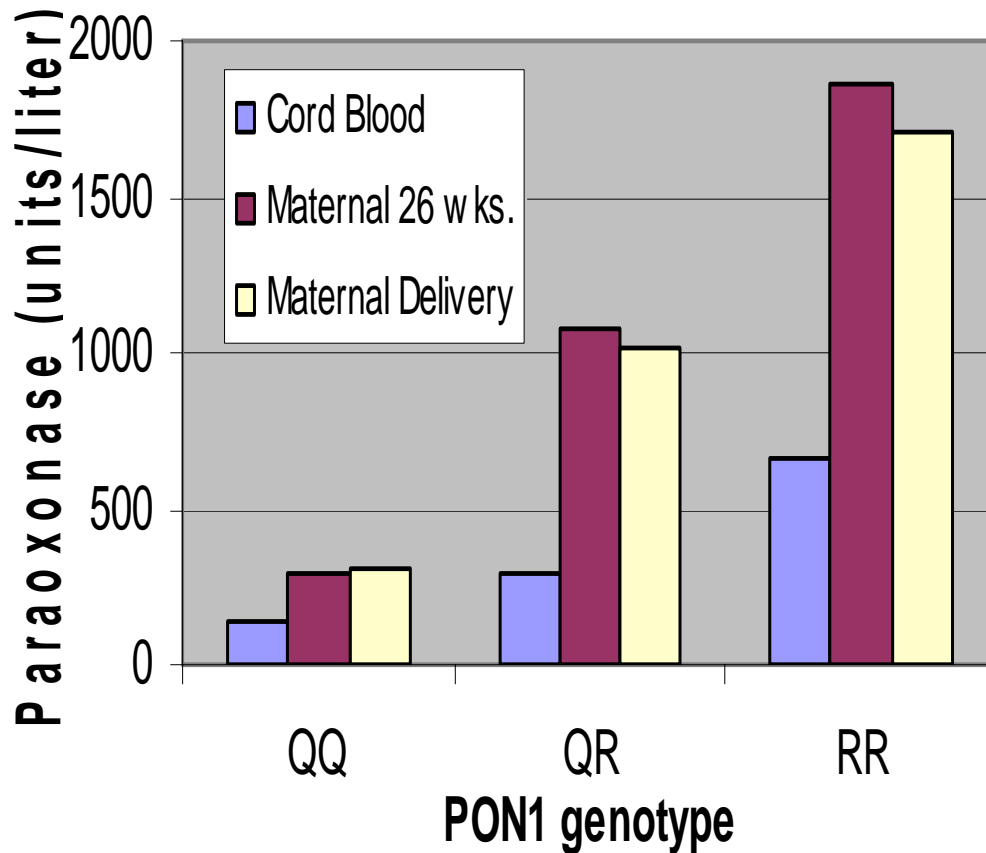
Newborns of Mothers with Higher Organophosphate Pesticide Exposures have More Abnormal Reflexes

Percentage of Neonates with >3 Abnormal Reflexes
(Brazelton Neonatal Behavior Assessment Scale)



$X^2_{\text{trend}} = 6.7$
P-value = 0.01

Individual Susceptibility to Pesticides May Vary by Age and Genotype



- PON1 newborns lower than adults;

therefore, greater susceptibility to OP's

- Children with QQ genotype have low level of enzyme;

therefore, may be at highest risk



Broad variability of PON1 levels and activity in CHAMACOS mothers and children

Variability in PON1:

Among Newborns: **25 X**

Among Mothers: **14 X**

Newborn:Mothers: **4 X**

Total Range in CHAMACOS: **65-fold**

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Background: Historical and current use of DDT for malaria control

- Banned in U.S. in 1972 and in Mexico in 2000.
- A few studies have investigated neurodevelopmental toxicity of DDE in humans, with mixed results.
- DDT associated with neurodevelopmental toxicity in animals.
- No studies of DDT and neurodevelopment in humans.

Movement to bring DDT back for malaria control in some countries



DDT/DDE levels and Maternal Characteristics

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Multivariate Analysis Results

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Maternal OCs (\log_{10} ng/g lipid) Levels and Gestational Length and Birthweight

	Adj. ^a β (95% CI)	p-value
Length of Gestation		
p,p'-DDE	-0.10 (-0.40, 0.20)	0.51
p,p'-DDT	0.04 (-0.18, 0.26)	0.72
HCB	-0.47 (-0.95, -0.002)	0.05**
Birth Weight (g)		
p,p'-DDE	-49 (-136, 38)	0.27
p,p'-DDT	-36 (-99, 27)	0.27
HCB	-20 (-154, 115)	0.77

DDT/DDE FINDINGS CONSISTENT WITH OTHER PAPERS



DDT Exposure and Bayley Mental Development Index (MDI)

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In summary...

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