

WEB MATERIAL

Associations of Maternal Exposure to Dichlorodiphenyltrichloroethane and Pyrethroids With Birth Outcomes Among Participants in the Venda Health Examination of Mothers, Babies and Their Environment Study Residing in an Area Sprayed for Malaria Control

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Web Table 1. Covariates included in the Super Learner algorithm to estimate propensity scores and stabilized weights

Covariates	Form
Maternal variables	
Age	Continuous (years)
Education	Categorical (<Grade 12, Grade 12, >Grade 12)
Marital status	Categorical (Married/living as married, Not married)
Post-delivery weight	Continuous (kg)
Post-delivery body mass index	Continuous (kg/m ²)
Parity	Continuous (n)
Daily energy intake	Continuous (kJ)
Daily fat intake	Continuous (g)
Fruit consumption (eaten with skin)	Continuous (frequency/month)
Vegetable consumption (not growing in soil)	Continuous (frequency/month)
Food security	Categorical (High, Low, Very low)
HIV status	Categorical (Positive, Negative)
Smoking	Categorical (Yes, No)
Exposure to environmental tobacco smoke	Categorical (Any, None)
Total PCB serum concentrations	Continuous (ng/g lipid)
Alcohol consumption	Categorical (Any, None)
Stress	Continuous (Score)
Household variables	
Income	Continuous (Rands per capita)
Assets	Continuous (First principal component)
Child variables	
Sex	Categorical (Female/Male)
Season of birth	Categorical (Rainy/Harvest/Gardening)
Mode of delivery	Categorical (vaginal/caesarean section)

Web Table 2. Correlations between maternal peripartum serum DDT/E (ng/g lipids) and urinary pyrethroid metabolites ($\mu\text{g/L}$, specific gravity-adjusted) concentrations among VHEMBE study participants

	<i>p,p'</i> -DDT	<i>p,p'</i> -DDE	<i>o,p'</i> -DDT	<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA
<i>p,p'</i> -DDT						
<i>p,p'</i> -DDE	0.85 ^a (n=751)					
<i>o,p'</i> -DDT	0.78 ^a (n=751)	0.69 ^a (n=751)				
<i>cis</i> -DBCA	0.01 (n=738)	-0.03 (n=738)	0.08 ^a (n=738)			
<i>cis</i> -DCCA	0.03 (n=738)	0.02 (n=738)	0.04 (n=738)	0.46 ^a (n=738)		
<i>trans</i> -DCCA	0.01 (n=738)	0.00 (n=738)	0.02 (n=738)	0.47 ^a (n=738)	0.90 ^a (n=738)	
3PBA	0.03 (n=737)	0.01 (n=737)	0.05 (n=737)	0.62 ^a (n=737)	0.88 ^a (n=737)	0.87 ^a (n=737)

^a $P < 0.05$.

Web Table 3. Association between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on standard multivariable regression models^a

		N	<i>p,p'</i> -DDT β/OR (95% CI)	<i>p,p'</i> -DDE β/OR (95% CI)	<i>o,p'</i> -DDT β/OR (95% CI)
Birth weight (g) ^b	All	750	18.8 (−19.4, 56.9)	24.2 (−21.2, 69.6)	19.3 (−27.7, 66.3)
	Boys	387	−14.3 (−66.6, 38.1)	−11.2 (−74.6, 52.2)	−27.6 (−92.6, 37.3)
	Girls	363	54.9 (0.2, 109.6) ^d	60.9 (−3.5, 125.4)	69.5 (2.4, 136.6) ^d
	<i>p</i> _{int}		0.071	0.116	0.041
Length (cm) ^b	All	745	0.19 (0.00, 0.39) ^d	0.24 (0.02, 0.47) ^d	0.23 (0.00, 0.47)
	Boys	383	0.08 (−0.19, 0.34)	0.10 (−0.22, 0.41)	0.04 (−0.29, 0.37)
	Girls	362	0.33 (0.05, 0.60) ^d	0.39 (0.07, 0.72) ^d	0.44 (0.10, 0.77) ^d
	<i>p</i> _{int}		0.192	0.196	0.092
Head circumference (cm) ^b	All	745	0.11 (−0.02, 0.23)	0.06 (−0.09, 0.21)	0.12 (−0.03, 0.27)
	Boys	383	−0.02 (−0.19, 0.15)	−0.08 (−0.29, 0.12)	−0.04 (−0.26, 0.17)
	Girls	362	0.25 (0.07, 0.43) ^d	0.21 (0.00, 0.42)	0.29 (0.07, 0.51) ^d
	<i>p</i> _{int}		0.030	0.049	0.032
Gestational age (weeks) ^b	All	751	0.01 (−0.19, 0.22)	−0.07 (−0.31, 0.17)	0.00 (−0.25, 0.25)
	Boys	387	−0.15 (−0.43, 0.13)	−0.24 (−0.58, 0.10)	−0.12 (−0.47, 0.23)
	Girls	364	0.19 (−0.10, 0.48)	0.11 (−0.24, 0.45)	0.13 (−0.23, 0.49)
	<i>p</i> _{int}		0.095	0.156	0.338
Low birth weight ^c	All	750	0.82 (0.61, 1.10)	0.74 (0.50, 1.09)	0.87 (0.58, 1.31)
	Boys	387	1.03 (0.66, 1.61)	0.89 (0.51, 1.56)	1.05 (0.54, 2.05)
	Girls	363	0.70 (0.46, 1.05)	0.65 (0.38, 1.10)	0.76 (0.46, 1.27)
	<i>p</i> _{int}		0.199	0.417	0.455
Preterm birth ^c	All	751	0.98 (0.76, 1.25)	1.01 (0.75, 1.36)	1.07 (0.79, 1.45)
	Boys	387	1.16 (0.83, 1.61)	1.20 (0.80, 1.80)	1.27 (0.82, 1.97)
	Girls	364	0.81 (0.56, 1.17)	0.83 (0.54, 1.30)	0.88 (0.58, 1.35)
	<i>p</i> _{int}		0.157	0.233	0.244
Small for gestational age ^c	All	750	0.95 (0.77, 1.17)	0.88 (0.67, 1.14)	0.93 (0.71, 1.21)
	Boys	387	0.92 (0.70, 1.21)	0.92 (0.65, 1.29)	0.93 (0.67, 1.31)
	Girls	363	0.99 (0.72, 1.37)	0.81 (0.54, 1.22)	0.91 (0.60, 1.40)
	<i>p</i> _{int}		0.699	0.644	0.937
Large for gestational age ^c	All	750	1.09 (0.71, 1.66)	1.24 (0.79, 1.95)	1.07 (0.63, 1.82)
	Boys	387	0.96 (0.57, 1.62)	1.17 (0.66, 2.09)	0.76 (0.35, 1.63)
	Girls	363	1.25 (0.62, 2.52)	1.32 (0.63, 2.73)	1.58 (0.80, 3.10)
	<i>p</i> _{int}		0.572	0.814	0.160

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 4. Associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on standard multivariable regression models^a

		N	<i>cis</i> -DBCA β/OR (95% CI)	<i>cis</i> -DCCA β/OR (95% CI)	<i>trans</i> -DCCA β/OR (95% CI)	3-PBA β/OR (95% CI)
Birth weight (g) ^b	All	738	18.2 (-41.0, 77.4)	-9.6 (-77.6, 58.4)	-5.3 (-64.6, 53.9)	5.3 (-66.2, 76.8)
	Boys	383	-10.9 (-94.0, 72.2)	-36.1 (-128.0, 55.7)	-35.8 (-114.9, 43.4)	-39.5 (-134.2, 55.1)
	Girls	355	48.1 (-36.1, 132.3)	21.5 (-77.9, 120.9)	32.5 (-55.7, 120.7)	62.9 (-44.2, 170.0)
	<i>p</i> _{int}		0.328	0.399	0.256	0.157
Length (cm) ^b	All	733	0.11 (-0.18, 0.41)	0.04 (-0.30, 0.38)	0.02 (-0.28, 0.31)	0.15 (-0.20, 0.51)
	Boys	379	0.06 (-0.36, 0.48)	-0.16 (-0.61, 0.30)	-0.20 (-0.60, 0.19)	-0.04 (-0.51, 0.43)
	Girls	354	0.17 (-0.25, 0.59)	0.28 (-0.22, 0.78)	0.29 (-0.15, 0.73)	0.40 (-0.13, 0.93)
	<i>p</i> _{int}		0.712	0.201	0.100	0.223
Head circumference (cm) ^b	All	733	0.07 (-0.12, 0.27)	0.01 (-0.21, 0.23)	-0.02 (-0.21, 0.18)	-0.02 (-0.26, 0.21)
	Boys	379	-0.05 (-0.32, 0.22)	-0.12 (-0.42, 0.18)	-0.05 (-0.30, 0.21)	-0.14 (-0.45, 0.17)
	Girls	354	0.20 (-0.08, 0.47)	0.17 (-0.16, 0.49)	0.02 (-0.26, 0.31)	0.13 (-0.22, 0.47)
	<i>p</i> _{int}		0.205	0.192	0.715	0.252
Gestational age (weeks) ^b	All	738	0.06 (-0.26, 0.37)	0.06 (-0.31, 0.42)	0.02 (-0.30, 0.34)	-0.03 (-0.41, 0.35)
	Boys	383	0.04 (-0.40, 0.49)	0.05 (-0.44, 0.54)	-0.02 (-0.44, 0.40)	-0.06 (-0.57, 0.44)
	Girls	355	0.07 (-0.38, 0.52)	0.07 (-0.46, 0.59)	0.07 (-0.40, 0.54)	0.01 (-0.56, 0.59)
	<i>p</i> _{int}		0.929	0.959	0.776	0.838
Low birth weight ^c	All	738	0.79 (0.48, 1.30)	0.74 (0.47, 1.18)	0.83 (0.55, 1.25)	0.68 (0.41, 1.15)
	Boys	383	0.74 (0.34, 1.61)	0.96 (0.47, 1.97)	1.03 (0.57, 1.85)	1.00 (0.46, 2.19)
	Girls	355	0.82 (0.43, 1.56)	0.61 (0.34, 1.10)	0.69 (0.40, 1.21)	0.49 (0.25, 0.98) ^d
	<i>p</i> _{int}		0.846	0.337	0.339	0.177
Preterm birth ^c	All	738	0.98 (0.67, 1.44)	0.87 (0.59, 1.28)	1.01 (0.72, 1.41)	1.03 (0.68, 1.55)
	Boys	383	1.09 (0.63, 1.87)	1.01 (0.61, 1.68)	1.16 (0.76, 1.77)	1.16 (0.68, 1.97)
	Girls	355	0.88 (0.50, 1.55)	0.71 (0.39, 1.30)	0.83 (0.48, 1.44)	0.88 (0.46, 1.66)
	<i>p</i> _{int}		0.593	0.380	0.343	0.507
Small for gestational age ^c	All	738	1.03 (0.74, 1.44)	0.97 (0.68, 1.39)	1.02 (0.75, 1.39)	1.04 (0.72, 1.52)
	Boys	383	1.36 (0.88, 2.09)	1.25 (0.80, 1.94)	1.24 (0.84, 1.82)	1.33 (0.85, 2.10)
	Girls	355	0.68 (0.38, 1.22)	0.64 (0.35, 1.18)	0.73 (0.42, 1.25)	0.68 (0.35, 1.30)
	<i>p</i> _{int}		0.060	0.086	0.118	0.097
Large for gestational age ^c	All	738	0.70 (0.38, 1.28)	0.93 (0.48, 1.81)	0.96 (0.53, 1.76)	0.94 (0.46, 1.95)
	Boys	383	0.71 (0.30, 1.68)	1.21 (0.51, 2.87)	1.20 (0.53, 2.72)	1.08 (0.40, 2.95)
	Girls	355	0.69 (0.28, 1.67)	0.66 (0.25, 1.73)	0.71 (0.31, 1.62)	0.79 (0.30, 2.10)
	<i>p</i> _{int}		0.958	0.361	0.375	0.657

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

Web Table 5. Associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on propensity score models^a

		N	<i>p,p'</i> -DDT β/OR (95% CI)	<i>p,p'</i> -DDE β/OR (95% CI)	<i>o,p'</i> -DDT β/OR (95% CI)
Birth weight (g) ^b	All	750	15.8 (-24.0, 55.6)	11.6 (-36.8, 60.0)	12.6 (-37.5, 62.6)
	Boys	387	-26.2 (-80.4, 27.9)	-28.7 (-95.0, 37.7)	-39.4 (-107.2, 28.4)
	Girls	363	69.0 (11.4, 126.7) ^d	59.8 (-9.3, 128.9)	79.0 (6.9, 151.1) ^d
	<i>p</i> _{int}		0.018	0.068	0.018
Length (cm) ^b	All	745	0.20 (0.00, 0.39)	0.21 (-0.03, 0.45)	0.22 (-0.03, 0.47)
	Boys	383	0.04 (-0.22, 0.31)	0.05 (-0.28, 0.37)	0.01 (-0.33, 0.35)
	Girls	362	0.42 (0.14, 0.70) ^d	0.42 (0.08, 0.76) ^d	0.50 (0.15, 0.86) ^d
	<i>p</i> _{int}		0.056	0.116	0.045
Head circumference (cm) ^b	All	745	0.10 (-0.04, 0.23)	0.02 (-0.14, 0.18)	0.09 (-0.08, 0.26)
	Boys	383	-0.04 (-0.22, 0.13)	-0.13 (-0.35, 0.08)	-0.07 (-0.29, 0.15)
	Girls	362	0.31 (0.12, 0.49) ^d	0.22 (-0.01, 0.44)	0.32 (0.09, 0.56) ^d
	<i>p</i> _{int}		0.007	0.026	0.016
Gestational age (weeks) ^b	All	751	0.03 (-0.18, 0.23)	-0.08 (-0.33, 0.17)	0.00 (-0.26, 0.26)
	Boys	387	-0.17 (-0.45, 0.11)	-0.27 (-0.61, 0.08)	-0.14 (-0.49, 0.21)
	Girls	364	0.26 (-0.04, 0.56)	0.12 (-0.24, 0.47)	0.16 (-0.21, 0.53)
	<i>p</i> _{int}		0.036	0.122	0.237
Low birth weight ^c	All	750	0.84 (0.60, 1.20)	0.77 (0.52, 1.13)	0.90 (0.60, 1.34)
	Boys	387	1.12 (0.65, 1.93)	0.91 (0.50, 1.67)	1.06 (0.57, 1.98)
	Girls	363	0.66 (0.41, 1.05)	0.67 (0.40, 1.10)	0.76 (0.44, 1.28)
	<i>p</i> _{int}		0.153	0.438	0.417
Preterm birth ^c	All	751	0.96 (0.74, 1.24)	1.06 (0.77, 1.44)	1.08 (0.77, 1.52)
	Boys	387	1.17 (0.83, 1.66)	1.28 (0.83, 1.96)	1.33 (0.84, 2.10)
	Girls	364	0.76 (0.52, 1.11)	0.86 (0.55, 1.35)	0.86 (0.52, 1.41)
	<i>p</i> _{int}		0.100	0.207	0.197
Small for gestational age ^c	All	750	0.93 (0.75, 1.14)	0.85 (0.67, 1.08)	0.90 (0.70, 1.16)
	Boys	387	0.94 (0.72, 1.23)	0.92 (0.67, 1.25)	0.95 (0.68, 1.31)
	Girls	363	0.97 (0.69, 1.35)	0.79 (0.54, 1.16)	0.90 (0.60, 1.36)
	<i>p</i> _{int}		0.908	0.557	0.857
Large for gestational age ^c	All	750	1.01 (0.71, 1.45)	1.20 (0.73, 1.96)	0.96 (0.60, 1.52)
	Boys	387	0.94 (0.57, 1.53)	1.08 (0.56, 2.08)	0.68 (0.35, 1.32)
	Girls	363	1.12 (0.65, 1.91)	1.36 (0.66, 2.83)	1.45 (0.71, 2.98)
	<i>p</i> _{int}		0.636	0.636	0.137

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E or pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 6. Associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on propensity score models^a

			<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA	3-PBA
	N		β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)
Birth weight (g) ^b	All	738	24.4 (-38.3, 87.2)	4.0 (-67.3, 75.2)	-5.0 (-67.9, 57.8)	19.9 (-54.0, 93.8)
	Boys	383	-19.6 (-105.9, 66.6)	-7.0 (-102.8, 88.9)	-27.4 (-111.4, 56.6)	-24.4 (-122.3, 73.4)
	Girls	355	70.0 (-20.7, 160.7)	17.6 (-86.9, 122.0)	21.2 (-71.2, 113.7)	74.3 (-37.5, 186.1)
	p _{int}		0.160	0.732	0.441	0.192
Length (cm) ^b	All	733	0.04 (-0.27, 0.36)	0.02 (-0.33, 0.38)	-0.05 (-0.36, 0.26)	0.13 (-0.23, 0.50)
	Boys	379	-0.09 (-0.52, 0.34)	-0.15 (-0.62, 0.32)	-0.25 (-0.66, 0.16)	-0.09 (-0.57, 0.38)
	Girls	354	0.16 (-0.29, 0.60)	0.24 (-0.28, 0.75)	0.18 (-0.27, 0.63)	0.39 (-0.15, 0.94)
	p _{int}		0.427	0.277	0.160	0.187
Head circumference (cm) ^b	All	733	0.02 (-0.19, 0.23)	-0.02 (-0.25, 0.22)	-0.07 (-0.28, 0.13)	-0.03 (-0.27, 0.21)
	Boys	379	-0.17 (-0.45, 0.11)	-0.11 (-0.42, 0.20)	-0.10 (-0.38, 0.17)	-0.17 (-0.49, 0.14)
	Girls	354	0.19 (-0.10, 0.49)	0.10 (-0.24, 0.44)	-0.04 (-0.34, 0.26)	0.12 (-0.24, 0.49)
	p _{int}		0.079	0.360	0.757	0.226
Gestational age (weeks) ^b	All	738	-0.04 (-0.36, 0.28)	0.13 (-0.24, 0.49)	0.06 (-0.26, 0.38)	0.00 (-0.38, 0.37)
	Boys	383	-0.10 (-0.54, 0.34)	0.14 (-0.35, 0.63)	0.04 (-0.39, 0.47)	-0.06 (-0.56, 0.44)
	Girls	355	0.01 (-0.45, 0.48)	0.11 (-0.42, 0.64)	0.08 (-0.39, 0.56)	0.07 (-0.50, 0.64)
	p _{int}		0.735	0.933	0.888	0.726
Low birth weight ^c	All	738	0.75 (0.45, 1.26)	0.63 (0.30, 1.30)	0.80 (0.43, 1.48)	0.62 (0.32, 1.22)
	Boys	383	0.81 (0.36, 1.80)	0.84 (0.28, 2.53)	1.12 (0.43, 2.93)	1.05 (0.38, 2.88)
	Girls	355	0.72 (0.37, 1.41)	0.51 (0.20, 1.33)	0.63 (0.27, 1.43)	0.42 (0.17, 1.06)
	p _{int}		0.828	0.503	0.373	0.198
Preterm birth ^c	All	738	1.07 (0.69, 1.66)	0.82 (0.50, 1.36)	1.01 (0.65, 1.58)	1.03 (0.62, 1.73)
	Boys	383	1.27 (0.69, 2.34)	0.99 (0.51, 1.94)	1.25 (0.69, 2.26)	1.28 (0.64, 2.54)
	Girls	355	0.88 (0.47, 1.68)	0.66 (0.31, 1.39)	0.78 (0.40, 1.52)	0.79 (0.36, 1.72)
	p _{int}		0.419	0.420	0.302	0.364
Small for gestational age ^c	All	738	1.01 (0.74, 1.38)	1.02 (0.70, 1.49)	1.09 (0.78, 1.51)	1.09 (0.74, 1.61)
	Boys	383	1.30 (0.86, 1.96)	1.25 (0.78, 2.02)	1.29 (0.85, 1.95)	1.33 (0.81, 2.18)
	Girls	355	0.67 (0.40, 1.11)	0.71 (0.38, 1.35)	0.82 (0.47, 1.41)	0.72 (0.37, 1.41)
	p _{int}		0.045	0.165	0.195	0.147
Large for gestational age ^c	All	738	0.83 (0.43, 1.60)	0.86 (0.43, 1.72)	0.90 (0.50, 1.64)	0.97 (0.49, 1.94)
	Boys	383	0.82 (0.34, 2.00)	1.18 (0.47, 2.97)	1.15 (0.52, 2.56)	1.16 (0.46, 2.90)
	Girls	355	0.84 (0.32, 2.21)	0.56 (0.19, 1.67)	0.65 (0.26, 1.66)	0.76 (0.26, 2.23)
	p _{int}		0.969	0.310	0.364	0.561

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

Web Table 7. Direct, indirect (mediated by duration of gestation) and total effects of DDT/E on birth size based on the Baron and Kenny approach among girls participating in the VHEMBE study, Limpopo, South Africa^a

		Direct ^b	Indirect ^b	Total ^b
Birth weight (g) (n=363)	<i>p,p'</i> -DDT	42.1 (-11.1, 95.2)	12.8 (-6.3, 32.0)	54.9 (-0.6, 110.4)
	<i>p,p'</i> -DDE	53.6 (-5.7, 113.0)	7.3 (-16.8, 31.4)	60.9 (-4.1, 126.0)
	<i>o,p'</i> -DDT	61.0 (-2.1, 124.1)	8.5 (-15.3, 32.2)	69.5 (3.1, 135.8) ^c
Length (cm) (n=362)	<i>p,p'</i> -DDT	0.27 (0.00, 0.54)	0.06 (-0.03, 0.14)	0.33 (0.04, 0.61) ^c
	<i>p,p'</i> -DDE	0.36 (0.07, 0.66) ^c	0.03 (-0.07, 0.14)	0.39 (0.08, 0.71) ^c
	<i>o,p'</i> -DDT	0.40 (0.07, 0.74) ^c	0.04 (-0.07, 0.14)	0.44 (0.08, 0.79) ^c
Head circumference (cm) (n=362)	<i>p,p'</i> -DDT	0.22 (0.05, 0.38) ^c	0.03 (-0.02, 0.08)	0.25 (0.08, 0.42) ^c
	<i>p,p'</i> -DDE	0.19 (0.01, 0.37) ^c	0.02 (-0.04, 0.08)	0.21 (0.02, 0.40) ^c
	<i>o,p'</i> -DDT	0.27 (0.08, 0.46) ^c	0.02 (-0.04, 0.08)	0.29 (0.10, 0.48) ^c

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c $P < 0.05$.

Web Table 8. Direct, indirect (mediated by duration of gestation) and total effects of DDT/E on birth size based on the counterfactual framework approach among girls participating in the VHEMBE study, Limpopo, South Africa^a

		Controlled Direct Effect ^b	Natural Direct Effect ^b	Natural Indirect Effect ^b	Total Effect ^b	P _{int} ^c
Birth weight (g) (n=363)	<i>p,p'</i> -DDT	43.2 (-10.1, 95.0)	40.7 (-11.2, 92.3)	12.6 (-8.1, 39.2)	53.3 (2.7, 108.6) ^d	0.555
	<i>p,p'</i> -DDE	57.5 (0.5, 117.3) ^d	54.8 (-2.5, 111.9)	7.1 (-21.3, 37.4)	61.9 (-5.7, 126.6)	0.530
	<i>o,p'</i> -DDT	75.0 (6.5, 136.9) ^d	68.0 (-0.4, 130.4)	6.3 (-14.4, 29.0)	74.3 (2.0, 139.7) ^d	0.326
Length (cm) (n=362)	<i>p,p'</i> -DDT	0.30 (0.01, 0.57) ^d	0.28 (0.00, 0.55)	0.05 (-0.03, 0.18)	0.33 (0.04, 0.62) ^d	0.501
	<i>p,p'</i> -DDE	0.39 (0.09, 0.69) ^d	0.37 (0.07, 0.66) ^d	0.03 (-0.08, 0.17)	0.40 (0.07, 0.72) ^d	0.435
	<i>o,p'</i> -DDT	0.51 (0.13, 0.86) ^d	0.47 (0.10, 0.81) ^d	0.02 (-0.05, 0.12)	0.49 (0.11, 0.86) ^d	0.311
Head circumference (cm) (n=362)	<i>p,p'</i> -DDT	0.25 (0.08, 0.41) ^d	0.24 (0.08, 0.40) ^d	0.03 (-0.02, 0.10)	0.27 (0.10, 0.44) ^d	0.663
	<i>p,p'</i> -DDE	0.21 (0.02, 0.41) ^d	0.20 (0.02, 0.39) ^d	0.02 (-0.05, 0.10)	0.22 (0.02, 0.42) ^d	0.641
	<i>o,p'</i> -DDT	0.32 (0.12, 0.53) ^d	0.31 (0.11, 0.51) ^d	0.01 (-0.04, 0.07)	0.32 (0.11, 0.53) ^d	0.369

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c *P* value for exposure/mediator interaction.

^d *P* < 0.05.

Web Table 9. Interactions by household poverty status for associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on marginal structural models^a

		N	p, p' -DDT β/OR (95% CI)	p, p' -DDE β/OR (95% CI)	o, p' -DDT β/OR (95% CI)
Birth weight (g) ^b	All	750	12.2 (-24.5, 49.7)	10.5 (-36.9, 58.1)	11.4 (-36.0, 60.6)
	Poor	459	32.0 (-16.7, 82.6)	41.5 (-17.6, 98.3)	19.7 (-41.8, 83.3)
	Not Poor	291	-14.7 (-74.2, 42.7)	-49.2 (-125.4, 25.2)	-3.1 (-80.7, 73.2)
	p_{int}		0.194	0.066	0.606
Length (cm) ^b	All	745	0.16 (-0.04, 0.36)	0.20 (-0.04, 0.44)	0.20 (-0.05, 0.45)
	Poor	458	0.19 (-0.01, 0.42)	0.23 (-0.05, 0.48)	0.23 (-0.04, 0.50)
	Not Poor	287	0.09 (-0.21, 0.47)	0.15 (-0.28, 0.60)	0.08 (-0.36, 0.55)
	p_{int}		0.640	0.758	0.606
Head circumference (cm) ^b	All	745	0.07 (-0.05, 0.19)	0.02 (-0.12, 0.16)	0.09 (-0.05, 0.24)
	Poor	458	0.06 (-0.10, 0.21)	0.00 (-0.18, 0.18)	0.06 (-0.11, 0.25)
	Not Poor	287	0.10 (-0.08, 0.29)	0.06 (-0.17, 0.31)	0.14 (-0.11, 0.41)
	p_{int}		0.750	0.652	0.624
Gestational age (weeks) ^b	All	751	-0.02 (-0.21, 0.18)	-0.08 (-0.34, 0.15)	-0.04 (-0.29, 0.20)
	Poor	460	-0.03 (-0.29, 0.23)	-0.11 (-0.40, 0.18)	-0.08 (-0.40, 0.21)
	Not Poor	291	-0.03 (-0.30, 0.27)	-0.04 (-0.46, 0.36)	0.06 (-0.36, 0.50)
	p_{int}		1.000	0.826	0.614
Low birth weight ^c	All	750	0.81 (0.60, 1.08)	0.78 (0.53, 1.16)	0.90 (0.62, 1.32)
	Poor	459	0.75 (0.51, 1.08)	0.72 (0.44, 1.12)	0.85 (0.55, 1.32)
	Not Poor	291	0.88 (0.49, 1.53)	0.97 (0.50, 1.88)	0.99 (0.48, 2.06)
	p_{int}		0.598	0.480	0.640
Preterm birth ^c	All	751	0.97 (0.74, 1.27)	1.04 (0.75, 1.41)	1.06 (0.77, 1.48)
	Poor	460	1.02 (0.71, 1.46)	1.01 (0.69, 1.48)	1.10 (0.72, 1.66)
	Not Poor	291	0.94 (0.61, 1.41)	1.08 (0.62, 1.82)	1.01 (0.60, 1.72)
	p_{int}		0.786	0.838	0.832
Small for gestational age ^c	All	750	0.92 (0.73, 1.16)	0.87 (0.66, 1.10)	0.89 (0.68, 1.16)
	Poor	459	0.87 (0.66, 1.13)	0.73 (0.53, 0.98) ^d	0.89 (0.63, 1.21)
	Not Poor	291	0.95 (0.59, 1.56)	1.28 (0.83, 2.07)	0.86 (0.52, 1.47)
	p_{int}		0.632	0.030	0.964
Large for gestational age ^c	All	750	1.02 (0.69, 1.51)	1.13 (0.72, 1.80)	0.94 (0.54, 1.57)
	Poor	459	1.28 (0.74, 2.23)	1.33 (0.73, 2.68)	1.14 (0.56, 2.27)
	Not Poor	291	0.80 (0.46, 1.36)	0.83 (0.41, 1.61)	0.69 (0.33, 1.40)
	p_{int}		0.222	0.322	0.320

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 10. Interactions by household poverty status for associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on marginal structural models^a

			<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA	3-PBA
		N	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)
Birth weight (g) ^b	All	738	4.8 (−65.4, 79.8)	15.8 (−52.9, 83.4)	5.2 (−57.0, 65.1)	7.5 (−83.3, 99.8)
	Poor	450	15.3 (−71.8, 113.0)	26.7 (−65.0, 118.4)	21.7 (−56.8, 98.1)	1.5 (−114.9, 122.3)
	Not Poor	288	−11.1 (−120.3, 96.9)	2.8 (−99.8, 95.6)	−25.9 (−120.8, 53.2)	26.1 (−96.0, 147.7)
	p _{int}		0.670	0.676	0.380	0.768
Length (cm) ^b	All	733	0.03 (−0.26, 0.33)	0.11 (−0.18, 0.37)	0.02 (−0.24, 0.26)	0.12 (−0.20, 0.45)
	Poor	449	−0.01 (−0.35, 0.35)	0.08 (−0.26, 0.39)	0.04 (−0.26, 0.32)	0.05 (−0.36, 0.46)
	Not Poor	284	0.11 (−0.43, 0.67)	0.16 (−0.35, 0.63)	−0.02 (−0.51, 0.40)	0.29 (−0.26, 0.85)
	p _{int}		0.728	0.774	0.856	0.506
Head circumference (cm) ^b	All	733	0.04 (−0.20, 0.27)	0.06 (−0.20, 0.28)	−0.02 (−0.25, 0.18)	−0.01 (−0.30, 0.27)
	Poor	449	0.07 (−0.20, 0.34)	0.06 (−0.19, 0.30)	−0.01 (−0.24, 0.21)	−0.03 (−0.35, 0.29)
	Not Poor	284	0.01 (−0.41, 0.38)	0.08 (−0.41, 0.49)	−0.02 (−0.53, 0.39)	0.05 (−0.55, 0.52)
	p _{int}		0.824	0.920	0.980	0.834
Gestational age (weeks) ^b	All	738	−0.11 (−0.49, 0.27)	0.07 (−0.26, 0.39)	0.01 (−0.27, 0.29)	−0.11 (−0.56, 0.29)
	Poor	450	−0.16 (−0.64, 0.32)	0.08 (−0.36, 0.49)	−0.03 (−0.42, 0.33)	−0.09 (−0.66, 0.48)
	Not Poor	288	0.03 (−0.49, 0.54)	0.07 (−0.42, 0.56)	0.09 (−0.37, 0.55)	−0.11 (−0.66, 0.45)
	p _{int}		0.666	0.962	0.672	0.954
Low birth weight ^c	All	738	0.97 (0.45, 2.01)	0.70 (0.41, 1.12)	0.81 (0.51, 1.22)	0.73 (0.36, 1.56)
	Poor	450	1.02 (0.40, 2.22)	0.84 (0.43, 1.53)	0.85 (0.49, 1.35)	0.87 (0.35, 2.19)
	Not Poor	288	0.82 (0.25, 2.32)	0.42 (0.18, 0.82) ^d	0.71 (0.29, 1.51)	0.40 (0.16, 0.89) ^d
	p _{int}		0.742	0.150	0.676	0.212
Preterm birth ^c	All	738	1.11 (0.69, 1.82)	0.83 (0.52, 1.27)	0.98 (0.67, 1.44)	1.12 (0.66, 1.99)
	Poor	450	1.11 (0.56, 2.04)	0.80 (0.43, 1.47)	1.07 (0.65, 1.75)	1.10 (0.47, 2.32)
	Not Poor	288	1.04 (0.59, 1.91)	0.86 (0.44, 1.54)	0.84 (0.47, 1.42)	1.10 (0.57, 2.10)
	p _{int}		0.942	0.858	0.498	0.984
Small for gestational age ^c	All	738	0.97 (0.70, 1.33)	0.91 (0.65, 1.32)	0.99 (0.72, 1.36)	1.01 (0.71, 1.49)
	Poor	450	0.84 (0.57, 1.23)	0.87 (0.57, 1.41)	0.94 (0.66, 1.39)	1.00 (0.65, 1.59)
	Not Poor	288	1.45 (0.75, 2.75)	1.01 (0.55, 1.90)	1.12 (0.63, 2.03)	1.04 (0.51, 2.16)
	p _{int}		0.164	0.664	0.620	0.986
Large for gestational age ^c	All	738	0.78 (0.47, 1.34)	0.91 (0.45, 1.70)	0.91 (0.49, 1.61)	0.88 (0.39, 1.84)
	Poor	450	0.71 (0.34, 1.48)	0.60 (0.26, 1.41)	0.84 (0.39, 1.71)	0.67 (0.26, 1.68)
	Not Poor	288	0.89 (0.37, 1.86)	1.63 (0.50, 4.70)	1.06 (0.30, 2.83)	1.58 (0.33, 6.35)
	p _{int}		0.630	0.156	0.794	0.384

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^d $P < 0.05$.

Web Table 11. Interactions by household poverty status for associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on standard multivariable regression models^a

		N	<i>p,p'</i> -DDT β/OR (95% CI)	<i>p,p'</i> -DDE β/OR (95% CI)	<i>o,p'</i> -DDT β/OR (95% CI)
Birth weight (g) ^b	All	750	18.8 (-19.4, 56.9)	24.2 (-21.2, 69.6)	19.3 (-27.7, 66.3)
	Poor	459	45.2 (-3.4, 93.8)	57.5 (1.6, 113.3) ^d	30.3 (-27.3, 87.8)
	Not Poor	291	-23.5 (-83.9, 36.9)	-40.0 (-117.0, 36.9)	-3.4 (-84.1, 77.3)
	<i>p</i> _{int}		0.080	0.044	0.502
Length (cm) ^b	All	745	0.19 (0.00, 0.39) ^d	0.24 (0.02, 0.47) ^d	0.23 (0.00, 0.47)
	Poor	458	0.26 (0.02, 0.50) ^d	0.32 (0.04, 0.60) ^d	0.30 (0.01, 0.59) ^d
	Not Poor	287	0.08 (-0.22, 0.38)	0.09 (-0.30, 0.47)	0.10 (-0.31, 0.50)
	<i>p</i> _{int}		0.362	0.332	0.425
Head circumference (cm) ^b	All	745	0.11 (-0.02, 0.23)	0.06 (-0.09, 0.21)	0.12 (-0.03, 0.27)
	Poor	458	0.11 (-0.04, 0.27)	0.07 (-0.11, 0.26)	0.10 (-0.09, 0.29)
	Not Poor	287	0.10 (-0.10, 0.30)	0.03 (-0.22, 0.28)	0.16 (-0.10, 0.43)
	<i>p</i> _{int}		0.925	0.795	0.701
Gestational age (weeks) ^b	All	751	0.01 (-0.19, 0.22)	-0.07 (-0.31, 0.17)	0.00 (-0.25, 0.25)
	Poor	460	0.05 (-0.21, 0.31)	-0.06 (-0.36, 0.24)	0.00 (-0.30, 0.31)
	Not Poor	291	-0.05 (-0.37, 0.28)	-0.09 (-0.50, 0.33)	0.00 (-0.44, 0.43)
	<i>p</i> _{int}		0.647	0.911	0.976
Low birth weight ^c	All	750	0.82 (0.61, 1.10)	0.74 (0.50, 1.09)	0.87 (0.58, 1.31)
	Poor	459	0.75 (0.51, 1.09)	0.65 (0.41, 1.04)	0.82 (0.51, 1.32)
	Not Poor	291	0.95 (0.59, 1.54)	0.98 (0.53, 1.82)	1.02 (0.48, 2.13)
	<i>p</i> _{int}		0.416	0.285	0.631
Preterm birth ^c	All	751	0.98 (0.76, 1.25)	1.01 (0.75, 1.36)	1.07 (0.79, 1.45)
	Poor	460	0.98 (0.71, 1.35)	0.96 (0.67, 1.38)	1.08 (0.73, 1.58)
	Not Poor	291	0.99 (0.68, 1.43)	1.11 (0.68, 1.81)	1.07 (0.66, 1.74)
	<i>p</i> _{int}		0.959	0.631	0.989
Small for gestational age ^c	All	750	0.95 (0.77, 1.17)	0.88 (0.67, 1.14)	0.93 (0.71, 1.21)
	Poor	459	0.87 (0.67, 1.14)	0.76 (0.55, 1.04)	0.92 (0.67, 1.26)
	Not Poor	291	1.06 (0.74, 1.52)	1.20 (0.77, 1.87)	0.90 (0.54, 1.48)
	<i>p</i> _{int}		0.388	0.098	0.930
Large for gestational age ^c	All	750	1.09 (0.71, 1.66)	1.24 (0.79, 1.95)	1.07 (0.63, 1.82)
	Poor	459	1.35 (0.74, 2.47)	1.40 (0.77, 2.55)	1.23 (0.62, 2.44)
	Not Poor	291	0.74 (0.40, 1.35)	0.94 (0.47, 1.91)	0.77 (0.35, 1.66)
	<i>p</i> _{int}		0.169	0.403	0.363

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 12. Interactions by household poverty status for associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on standard multivariable regression models^a

			<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA	3-PBA
		N	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)
Birth weight (g) ^b	All	738	18.2 (-41.0, 77.4)	-9.6 (-77.6, 58.4)	-5.3 (-64.6, 53.9)	5.3 (-66.2, 76.8)
	Poor	450	38.5 (-35.5, 112.6)	13.9 (-72.0, 99.8)	21.0 (-51.5, 93.5)	14.1 (-74.0, 102.2)
	Not Poor	288	-16.2 (-114.8, 82.5)	-49.2 (-158.8, 60.3)	-59.0 (-160.6, 42.7)	-12.1 (-132.6, 108.4)
	<i>p</i> _{int}		0.384	0.370	0.207	0.728
Length (cm) ^b	All	733	0.11 (-0.18, 0.41)	0.04 (-0.30, 0.38)	0.02 (-0.28, 0.31)	0.15 (-0.20, 0.51)
	Poor	449	0.19 (-0.18, 0.56)	0.10 (-0.33, 0.52)	0.10 (-0.26, 0.47)	0.18 (-0.26, 0.62)
	Not Poor	284	0.00 (-0.50, 0.50)	-0.05 (-0.60, 0.50)	-0.17 (-0.68, 0.34)	0.09 (-0.51, 0.69)
	<i>p</i> _{int}		0.560	0.680	0.395	0.804
Head circumference (cm) ^b	All	733	0.07 (-0.12, 0.27)	0.01 (-0.21, 0.23)	-0.02 (-0.21, 0.18)	-0.02 (-0.26, 0.21)
	Poor	449	0.18 (-0.06, 0.42)	0.06 (-0.21, 0.34)	0.03 (-0.20, 0.27)	0.05 (-0.24, 0.33)
	Not Poor	284	-0.13 (-0.45, 0.20)	-0.08 (-0.43, 0.28)	-0.11 (-0.44, 0.23)	-0.16 (-0.55, 0.23)
	<i>p</i> _{int}		0.131	0.539	0.506	0.390
Gestational age (weeks) ^b	All	738	0.06 (-0.26, 0.37)	0.06 (-0.31, 0.42)	0.02 (-0.30, 0.34)	-0.03 (-0.41, 0.35)
	Poor	450	0.04 (-0.35, 0.44)	0.09 (-0.37, 0.54)	0.01 (-0.37, 0.40)	0.06 (-0.41, 0.53)
	Not Poor	288	0.09 (-0.44, 0.61)	0.00 (-0.58, 0.59)	0.03 (-0.51, 0.58)	-0.19 (-0.83, 0.45)
	<i>p</i> _{int}		0.899	0.823	0.948	0.534
Low birth weight ^c	All	738	0.79 (0.48, 1.30)	0.74 (0.47, 1.18)	0.83 (0.55, 1.25)	0.68 (0.41, 1.15)
	Poor	450	0.79 (0.45, 1.37)	0.86 (0.49, 1.49)	0.83 (0.52, 1.32)	0.77 (0.42, 1.40)
	Not Poor	288	0.81 (0.28, 2.33)	0.47 (0.22, 1.00) ^d	0.79 (0.35, 1.82)	0.46 (0.19, 1.15)
	<i>p</i> _{int}		0.966	0.205	0.922	0.357
Preterm birth ^c	All	738	0.98 (0.67, 1.44)	0.87 (0.59, 1.28)	1.01 (0.72, 1.41)	1.03 (0.68, 1.55)
	Poor	450	0.92 (0.56, 1.52)	0.85 (0.51, 1.41)	1.08 (0.70, 1.67)	0.99 (0.58, 1.69)
	Not Poor	288	1.08 (0.60, 1.97)	0.91 (0.50, 1.65)	0.89 (0.50, 1.56)	1.12 (0.60, 2.07)
	<i>p</i> _{int}		0.681	0.864	0.577	0.767
Small for gestational age ^c	All	738	1.03 (0.74, 1.44)	0.97 (0.68, 1.39)	1.02 (0.75, 1.39)	1.04 (0.72, 1.52)
	Poor	450	0.91 (0.62, 1.35)	0.92 (0.59, 1.43)	0.96 (0.66, 1.39)	1.08 (0.69, 1.68)
	Not Poor	288	1.44 (0.74, 2.80)	1.03 (0.56, 1.90)	1.12 (0.63, 2.00)	0.95 (0.48, 1.87)
	<i>p</i> _{int}		0.250	0.758	0.657	0.761
Large for gestational age ^c	All	738	0.70 (0.38, 1.28)	0.93 (0.48, 1.81)	0.96 (0.53, 1.76)	0.94 (0.46, 1.95)
	Poor	450	0.60 (0.26, 1.38)	0.64 (0.30, 1.39)	0.91 (0.47, 1.76)	0.75 (0.35, 1.57)
	Not Poor	288	0.89 (0.39, 2.00)	1.62 (0.58, 4.48)	1.07 (0.33, 3.47)	1.45 (0.36, 5.76)
	<i>p</i> _{int}		0.502	0.157	0.816	0.397

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^d $P < 0.05$.

Web Table 13. Interactions by household poverty status for associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on propensity score models^a

		N	p, p^l -DDT β /OR (95% CI)	p, p^l -DDE β /OR (95% CI)	o, p^l -DDT β /OR (95% CI)
Birth weight (g) ^b	All	750	15.8 (-24.0, 55.6)	11.6 (-36.8, 60.0)	12.6 (-37.5, 62.6)
	Poor	459	36.7 (-14.6, 87.9)	41.5 (-17.5, 100.5)	21.5 (-39.9, 82.8)
	Not Poor	291	-13.2 (-76.1, 49.7)	-46.6 (-128.5, 35.3)	-3.3 (-88.3, 81.7)
	p_{int}		0.226	0.084	0.640
Length (cm) ^b	All	745	0.20 (0.00, 0.39)	0.21 (-0.03, 0.45)	0.22 (-0.03, 0.47)
	Poor	458	0.21 (-0.04, 0.46)	0.23 (-0.06, 0.52)	0.25 (-0.05, 0.56)
	Not Poor	287	0.17 (-0.14, 0.48)	0.17 (-0.24, 0.57)	0.14 (-0.28, 0.56)
	p_{int}		0.851	0.808	0.665
Head circumference (cm) ^b	All	745	0.10 (-0.04, 0.23)	0.02 (-0.14, 0.18)	0.09 (-0.08, 0.26)
	Poor	458	0.07 (-0.10, 0.24)	-0.01 (-0.20, 0.19)	0.05 (-0.15, 0.25)
	Not Poor	287	0.14 (-0.07, 0.35)	0.07 (-0.21, 0.34)	0.16 (-0.12, 0.45)
	p_{int}		0.621	0.657	0.515
Gestational age (weeks) ^b	All	751	0.03 (-0.18, 0.23)	-0.08 (-0.33, 0.17)	0.00 (-0.26, 0.26)
	Poor	460	0.03 (-0.24, 0.29)	-0.12 (-0.42, 0.19)	-0.04 (-0.35, 0.27)
	Not Poor	291	0.04 (-0.29, 0.36)	-0.02 (-0.44, 0.40)	0.08 (-0.36, 0.51)
	p_{int}		0.961	0.703	0.660
Low birth weight ^c	All	750	0.84 (0.60, 1.20)	0.77 (0.52, 1.13)	0.90 (0.60, 1.34)
	Poor	459	0.80 (0.53, 1.23)	0.70 (0.44, 1.11)	0.86 (0.54, 1.37)
	Not Poor	291	0.88 (0.47, 1.65)	0.98 (0.47, 2.03)	0.98 (0.45, 2.11)
	p_{int}		0.809	0.451	0.777
Preterm birth ^c	All	751	0.96 (0.74, 1.24)	1.06 (0.77, 1.44)	1.08 (0.77, 1.52)
	Poor	460	1.00 (0.72, 1.40)	1.03 (0.70, 1.52)	1.14 (0.75, 1.74)
	Not Poor	291	0.91 (0.61, 1.35)	1.10 (0.66, 1.84)	0.99 (0.57, 1.74)
	p_{int}		0.709	0.855	0.687
Small for gestational age ^c	All	750	0.93 (0.75, 1.14)	0.85 (0.67, 1.08)	0.90 (0.70, 1.16)
	Poor	459	0.85 (0.66, 1.09)	0.72 (0.54, 0.97) ^d	0.89 (0.66, 1.20)
	Not Poor	291	1.04 (0.73, 1.47)	1.23 (0.79, 1.92)	0.88 (0.55, 1.42)
	p_{int}		0.362	0.049	0.983
Large for gestational age ^c	All	750	1.01 (0.71, 1.45)	1.20 (0.73, 1.96)	0.96 (0.60, 1.52)
	Poor	459	1.29 (0.78, 2.12)	1.44 (0.77, 2.70)	1.19 (0.66, 2.14)
	Not Poor	291	0.71 (0.38, 1.30)	0.86 (0.38, 1.95)	0.63 (0.27, 1.45)
	p_{int}		0.147	0.316	0.226

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E or pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 14. Interactions by household poverty status for associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on propensity score models^a

		N	<i>cis</i> -DBCA β/OR (95% CI)	<i>cis</i> -DCCA β/OR (95% CI)	<i>trans</i> -DCCA β/OR (95% CI)	3-PBA β/OR (95% CI)
Birth weight (g) ^b	All	738	24.4 (-38.3, 87.2)	4.0 (-67.3, 75.2)	-5.0 (-67.9, 57.8)	19.9 (-54.0, 93.8)
	Poor	450	39.0 (-40.1, 118.2)	14.9 (-75.6, 105.5)	9.2 (-68.0, 86.3)	17.0 (-75.1, 109.1)
	Not Poor	288	-1.8 (-105.6, 102.0)	-14.2 (-128.3, 99.9)	-32.9 (-139.0, 73.2)	24.2 (-100.2, 148.6)
	p _{int}		0.540	0.693	0.526	0.927
Length (cm) ^b	All	733	0.04 (-0.27, 0.36)	0.02 (-0.33, 0.38)	-0.05 (-0.36, 0.26)	0.13 (-0.23, 0.50)
	Poor	449	0.07 (-0.32, 0.46)	0.01 (-0.44, 0.46)	-0.03 (-0.41, 0.35)	0.08 (-0.37, 0.53)
	Not Poor	284	0.01 (-0.51, 0.53)	0.05 (-0.51, 0.62)	-0.10 (-0.62, 0.43)	0.23 (-0.38, 0.84)
	p _{int}		0.856	0.909	0.833	0.703
Head circumference (cm) ^b	All	733	0.02 (-0.19, 0.23)	-0.02 (-0.25, 0.22)	-0.07 (-0.28, 0.13)	-0.03 (-0.27, 0.21)
	Poor	449	0.12 (-0.14, 0.38)	0.00 (-0.30, 0.30)	-0.07 (-0.32, 0.19)	0.00 (-0.31, 0.30)
	Not Poor	284	-0.15 (-0.49, 0.20)	-0.05 (-0.42, 0.33)	-0.09 (-0.44, 0.26)	-0.08 (-0.49, 0.33)
	p _{int}		0.232	0.833	0.922	0.765
Gestational age (weeks) ^b	All	738	-0.04 (-0.36, 0.28)	0.13 (-0.24, 0.49)	0.06 (-0.26, 0.38)	0.00 (-0.38, 0.37)
	Poor	450	-0.09 (-0.49, 0.32)	0.13 (-0.34, 0.59)	0.01 (-0.38, 0.40)	0.04 (-0.43, 0.51)
	Not Poor	288	0.02 (-0.51, 0.55)	0.13 (-0.46, 0.71)	0.15 (-0.39, 0.69)	-0.09 (-0.72, 0.55)
	p _{int}		0.749	0.997	0.671	0.739
Low birth weight ^c	All	738	0.75 (0.45, 1.26)	0.63 (0.30, 1.30)	0.80 (0.43, 1.48)	0.62 (0.32, 1.22)
	Poor	450	0.75 (0.41, 1.38)	0.88 (0.38, 2.07)	0.90 (0.44, 1.86)	0.78 (0.36, 1.72)
	Not Poor	288	0.77 (0.30, 2.00)	0.27 (0.06, 1.10)	0.60 (0.18, 2.02)	0.32 (0.08, 1.23)
	p _{int}		0.960	0.153	0.568	0.256
Preterm birth ^c	All	738	1.07 (0.69, 1.66)	0.82 (0.50, 1.36)	1.01 (0.65, 1.58)	1.03 (0.62, 1.73)
	Poor	450	1.03 (0.58, 1.81)	0.82 (0.43, 1.56)	1.15 (0.66, 2.00)	1.01 (0.53, 1.92)
	Not Poor	288	1.13 (0.56, 2.27)	0.83 (0.38, 1.83)	0.81 (0.39, 1.70)	1.07 (0.46, 2.49)
	p _{int}		0.843	0.979	0.466	0.916
Small for gestational age ^c	All	738	1.01 (0.74, 1.38)	1.02 (0.70, 1.49)	1.09 (0.78, 1.51)	1.09 (0.74, 1.61)
	Poor	450	0.90 (0.62, 1.33)	1.00 (0.63, 1.59)	1.04 (0.70, 1.53)	1.13 (0.71, 1.82)
	Not Poor	288	1.37 (0.78, 2.42)	1.09 (0.56, 2.13)	1.26 (0.69, 2.30)	1.04 (0.50, 2.13)
	p _{int}		0.230	0.825	0.590	0.836
Large for gestational age ^c	All	733	0.83 (0.43, 1.60)	0.86 (0.43, 1.72)	0.90 (0.50, 1.64)	0.97 (0.49, 1.94)
	Poor	449	0.74 (0.32, 1.72)	0.56 (0.22, 1.45)	0.84 (0.40, 1.76)	0.78 (0.32, 1.86)
	Not Poor	284	1.01 (0.35, 2.94)	1.52 (0.53, 4.33)	1.03 (0.39, 2.70)	1.43 (0.46, 4.44)
	p _{int}		0.649	0.172	0.745	0.407

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^d $P < 0.05$.

Web Table 15. Interactions by maternal HIV status for associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on marginal structural models^a

		N	p, p' -DDT β/OR (95% CI)	p, p' -DDE β/OR (95% CI)	o, p' -DDT β/OR (95% CI)
Birth weight (g) ^b	All	750	12.2 (-24.5, 49.7)	10.5 (-36.9, 58.1)	11.4 (-36.0, 60.6)
	HIV pos	646	102.7 (-29.7, 250.2)	86.9 (-64.1, 245.3)	51.8 (-118.0, 221.3)
	HIV neg	104	0.9 (-40.0, 39.2)	-1.2 (-50.9, 47.4)	1.7 (-46.3, 52.5)
	p_{int}		0.146	0.298	0.598
Length (cm) ^b	All	745	0.16 (-0.04, 0.36)	0.20 (-0.04, 0.44)	0.20 (-0.05, 0.45)
	HIV pos	103	0.43 (-0.23, 1.21)	0.43 (-0.36, 1.30)	0.19 (-0.58, 0.96)
	HIV neg	642	0.13 (-0.06, 0.33)	0.17 (-0.06, 0.40)	0.18 (-0.06, 0.43)
	p_{int}		0.430	0.556	0.972
Head circumference (cm) ^b	All	745	0.07 (-0.05, 0.19)	0.02 (-0.12, 0.16)	0.09 (-0.05, 0.24)
	HIV pos	103	0.28 (-0.04, 0.69)	0.14 (-0.25, 0.59)	0.18 (-0.19, 0.60)
	HIV neg	642	0.04 (-0.08, 0.17)	-0.01 (-0.15, 0.15)	0.06 (-0.09, 0.23)
	p_{int}		0.196	0.516	0.554
Gestational age (weeks) ^b	All	751	-0.02 (-0.21, 0.18)	-0.08 (-0.34, 0.15)	-0.04 (-0.29, 0.20)
	HIV pos	104	-0.01 (-0.79, 0.84)	-0.15 (-1.16, 0.66)	-0.14 (-0.88, 0.70)
	HIV neg	647	-0.01 (-0.21, 0.19)	-0.07 (-0.32, 0.17)	-0.02 (-0.29, 0.22)
	p_{int}		0.942	0.840	0.792
Low birth weight ^c	All	750	0.81 (0.60, 1.08)	0.78 (0.53, 1.16)	0.90 (0.62, 1.32)
	HIV pos	646	0.69 (0.25, 1.40)	0.75 (0.32, 1.50)	0.88 (0.32, 2.09)
	HIV neg	104	0.84 (0.60, 1.14)	0.80 (0.51, 1.28)	0.92 (0.61, 1.40)
	p_{int}		0.584	0.840	0.966
Preterm birth ^c	All	751	0.97 (0.74, 1.27)	1.04 (0.75, 1.41)	1.06 (0.77, 1.48)
	HIV pos	104	1.26 (0.51, 2.78)	1.22 (0.46, 3.25)	1.67 (0.73, 3.77)
	HIV neg	647	0.92 (0.68, 1.20)	1.00 (0.72, 1.39)	0.95 (0.67, 1.35)
	p_{int}		0.456	0.658	0.222
Small for gestational age ^c	All	750	0.92 (0.73, 1.16)	0.87 (0.66, 1.10)	0.89 (0.68, 1.16)
	HIV pos	646	0.66 (0.38, 1.14)	0.50 (0.22, 0.96) ^d	0.72 (0.33, 1.40)
	HIV neg	104	0.98 (0.75, 1.28)	0.95 (0.71, 1.25)	0.95 (0.71, 1.28)
	p_{int}		0.186	0.080	0.466
Large for gestational age ^c	All	750	1.02 (0.69, 1.51)	1.13 (0.72, 1.80)	0.94 (0.54, 1.57)
	HIV pos	646	1.94 (0.86, 4.76)	2.11 (0.55, 7.37)	1.29 (0.10, 5.29)
	HIV neg	104	0.94 (0.60, 1.46)	1.02 (0.63, 1.70)	0.89 (0.50, 1.53)
	p_{int}		0.122	0.256	0.712

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 16. Interactions by maternal HIV status for associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on marginal structural models^a

			<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA	3-PBA
		N	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)
Birth weight (g) ^b	All	738	4.8 (-65.4, 79.8)	15.8 (-52.9, 83.4)	5.2 (-57.0, 65.1)	7.5 (-83.3, 99.8)
	HIV pos	97	176.6 (-22.7, 360.1)	49.1 (-155.9, 227.0)	14.7 (-159.4, 167.5)	2.5 (-188.2, 201.0)
	HIV neg	641	-25.8 (-103.0, 50.8)	14.8 (-57.5, 86.7)	9.5 (-53.8, 73.9)	6.4 (-88.2, 98.5)
	p _{int}		0.064	0.756	0.972	0.970
Length (cm) ^b	All	733	0.03 (-0.26, 0.33)	0.11 (-0.18, 0.37)	0.02 (-0.24, 0.26)	0.12 (-0.20, 0.45)
	HIV pos	96	0.34 (-0.34, 1.37)	0.52 (-0.31, 1.27)	0.33 (-0.41, 0.88)	0.44 (-0.17, 1.17)
	HIV neg	637	-0.03 (-0.34, 0.30)	0.06 (-0.28, 0.36)	0.00 (-0.31, 0.26)	0.09 (-0.28, 0.48)
	p _{int}		0.382	0.262	0.372	0.390
Head circumference (cm) ^b	All	733	0.04 (-0.20, 0.27)	0.06 (-0.20, 0.28)	-0.02 (-0.25, 0.18)	-0.01 (-0.30, 0.27)
	HIV pos	96	0.52 (0.00, 1.15) ^d	0.25 (-0.34, 0.70)	0.16 (-0.38, 0.57)	0.25 (-0.29, 0.72)
	HIV neg	637	-0.04 (-0.28, 0.21)	0.05 (-0.24, 0.29)	-0.02 (-0.29, 0.20)	-0.04 (-0.37, 0.27)
	p _{int}		0.070	0.506	0.464	0.320
Gestational age (weeks) ^b	All	738	-0.11 (-0.49, 0.27)	0.07 (-0.26, 0.39)	0.01 (-0.27, 0.29)	-0.11 (-0.56, 0.29)
	HIV pos	97	0.51 (-0.53, 1.52)	0.49 (-0.50, 1.72)	0.38 (-0.51, 1.46)	0.15 (-1.05, 1.47)
	HIV neg	641	-0.22 (-0.66, 0.22)	0.00 (-0.37, 0.33)	-0.05 (-0.36, 0.22)	-0.22 (-0.66, 0.21)
	p _{int}		0.196	0.380	0.346	0.518
Low birth weight ^c	All	738	0.97 (0.45, 2.01)	0.70 (0.41, 1.12)	0.81 (0.51, 1.22)	0.73 (0.36, 1.56)
	HIV pos	97	0.36 (0.06, 0.99) ^d	0.40 (0.11, 1.13)	0.51 (0.17, 1.26)	0.37 (0.12, 0.94) ^d
	HIV neg	641	1.29 (0.56, 2.70)	0.78 (0.43, 1.29)	0.90 (0.53, 1.37)	0.91 (0.43, 2.30)
	p _{int}		0.070	0.278	0.256	0.190
Preterm birth ^c	All	738	1.11 (0.69, 1.82)	0.83 (0.52, 1.27)	0.98 (0.67, 1.44)	1.12 (0.66, 1.99)
	HIV pos	97	0.64 (0.26, 1.39)	0.89 (0.20, 3.05)	0.99 (0.32, 2.66)	1.17 (0.21, 4.19)
	HIV neg	641	1.28 (0.72, 2.16)	0.82 (0.53, 1.29)	0.99 (0.68, 1.43)	1.21 (0.69, 2.17)
	p _{int}		0.178	0.952	0.990	0.866
Small for gestational age ^c	All	738	0.97 (0.70, 1.33)	0.91 (0.65, 1.32)	0.99 (0.72, 1.36)	1.01 (0.71, 1.49)
	HIV pos	97	0.93 (0.38, 2.21)	1.38 (0.66, 5.35)	1.25 (0.66, 3.70)	1.01 (0.47, 3.79)
	HIV neg	641	0.98 (0.71, 1.40)	0.80 (0.53, 1.22)	0.90 (0.63, 1.27)	0.89 (0.59, 1.37)
	p _{int}		0.872	0.188	0.424	0.744
Large for gestational age ^c	All	738	0.78 (0.47, 1.34)	0.91 (0.45, 1.70)	0.91 (0.49, 1.61)	0.88 (0.39, 1.84)
	HIV pos	97	0.56 (0.17, 1.75)	0.33 (0.02, 1.91)	0.27 (0.03, 1.12)	0.27 (0.04, 1.08)
	HIV neg	641	0.84 (0.46, 1.53)	1.06 (0.48, 2.13)	1.16 (0.63, 2.14)	1.16 (0.52, 2.51)
	p _{int}		0.478	0.200	0.076	0.094

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^d $P < 0.05$.

Web Table 17. Interactions by maternal HIV status for associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on standard multivariable regression models^a

		N	ρ, ρ' -DDT β /OR (95% CI)	ρ, ρ' -DDE β /OR (95% CI)	ρ, ρ' -DDT β /OR (95% CI)
Birth weight (g) ^b	All	750	18.8 (-19.4, 56.9)	24.2 (-21.2, 69.6)	19.3 (-27.7, 66.3)
	HIV pos	646	102.2 (-8.4, 212.8)	102.1 (-28.9, 233.1)	71.3 (-57.5, 200.1)
	HIV neg	104	7.7 (-32.9, 48.2)	13.7 (-34.6, 62.0)	11.4 (-39.0, 61.9)
	ρ_{int}		0.115	0.214	0.395
Length (cm) ^b	All	745	0.19 (0.00, 0.39) ^d	0.24 (0.02, 0.47) ^d	0.23 (0.00, 0.47)
	HIV pos	103	0.44 (-0.11, 1.00)	0.53 (-0.13, 1.18)	0.33 (-0.32, 0.98)
	HIV neg	642	0.16 (-0.04, 0.36)	0.21 (-0.04, 0.45)	0.22 (-0.03, 0.47)
	ρ_{int}		0.347	0.363	0.760
Head circumference (cm) ^b	All	745	0.11 (-0.02, 0.23)	0.06 (-0.09, 0.21)	0.12 (-0.03, 0.27)
	HIV pos	103	0.32 (-0.04, 0.68)	0.22 (-0.20, 0.65)	0.32 (-0.10, 0.74)
	HIV neg	642	0.08 (-0.05, 0.21)	0.04 (-0.12, 0.20)	0.09 (-0.07, 0.26)
	ρ_{int}		0.210	0.423	0.321
Gestational age (weeks) ^b	All	751	0.01 (-0.19, 0.22)	-0.07 (-0.31, 0.17)	0.00 (-0.25, 0.25)
	HIV pos	104	0.07 (-0.52, 0.67)	-0.03 (-0.73, 0.67)	0.03 (-0.66, 0.72)
	HIV neg	647	0.01 (-0.21, 0.22)	-0.07 (-0.33, 0.19)	0.00 (-0.27, 0.27)
	ρ_{int}		0.828	0.911	0.928
Low birth weight ^c	All	750	0.82 (0.61, 1.10)	0.74 (0.50, 1.09)	0.87 (0.58, 1.31)
	HIV pos	646	0.73 (0.33, 1.62)	0.67 (0.29, 1.51)	0.87 (0.32, 2.33)
	HIV neg	104	0.84 (0.61, 1.16)	0.75 (0.49, 1.16)	0.87 (0.56, 1.37)
	ρ_{int}		0.764	0.793	0.990
Preterm birth ^c	All	751	0.98 (0.76, 1.25)	1.01 (0.75, 1.36)	1.07 (0.79, 1.45)
	HIV pos	104	1.21 (0.60, 2.42)	1.11 (0.47, 2.64)	1.60 (0.73, 3.50)
	HIV neg	647	0.94 (0.72, 1.22)	0.99 (0.73, 1.35)	0.98 (0.71, 1.36)
	ρ_{int}		0.498	0.806	0.256
Small for gestational age ^c	All	750	0.95 (0.77, 1.17)	0.88 (0.67, 1.14)	0.93 (0.71, 1.21)
	HIV pos	646	0.63 (0.37, 1.06)	0.46 (0.22, 0.95) ^d	0.71 (0.38, 1.32)
	HIV neg	104	1.01 (0.80, 1.27)	0.96 (0.73, 1.28)	0.97 (0.73, 1.30)
	ρ_{int}		0.103	0.065	0.361
Large for gestational age ^c	All	750	1.09 (0.71, 1.66)	1.24 (0.79, 1.95)	1.07 (0.63, 1.82)
	HIV pos	646	2.01 (0.86, 4.68)	2.58 (0.76, 8.71)	1.49 (0.37, 5.97)
	HIV neg	104	0.99 (0.62, 1.59)	1.13 (0.70, 1.82)	1.01 (0.58, 1.78)
	ρ_{int}		0.149	0.208	0.609

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 18. Interactions by maternal HIV status for associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on standard multivariable regression models^a

			<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA	3-PBA
		N	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)
Birth weight (g) ^b	All	738	18.2 (-41.0, 77.4)	-9.6 (-77.6, 58.4)	-5.3 (-64.6, 53.9)	5.3 (-66.2, 76.8)
	HIV pos	97	202.1 (45.8, 358.3) ^d	22.2 (-161.3, 205.6)	-10.6 (-163.9, 142.6)	36.3 (-134.6, 207.2)
	HIV neg	641	-12.1 (-75.8, 51.5)	-14.6 (-87.7, 58.5)	-4.4 (-68.7, 59.9)	-1.2 (-79.8, 77.4)
	p _{int}		0.013	0.714	0.941	0.695
Length (cm) ^b	All	733	0.11 (-0.18, 0.41)	0.04 (-0.30, 0.38)	0.02 (-0.28, 0.31)	0.15 (-0.20, 0.51)
	HIV pos	96	0.52 (-0.28, 1.32)	0.23 (-0.68, 1.15)	0.00 (-0.77, 0.77)	0.35 (-0.51, 1.20)
	HIV neg	637	0.05 (-0.27, 0.37)	0.01 (-0.35, 0.38)	0.02 (-0.30, 0.34)	0.11 (-0.28, 0.51)
	p _{int}		0.286	0.666	0.957	0.627
Head circumference (cm) ^b	All	733	0.07 (-0.12, 0.27)	0.01 (-0.21, 0.23)	-0.02 (-0.21, 0.18)	-0.02 (-0.26, 0.21)
	HIV pos	96	0.55 (0.03, 1.07) ^d	0.03 (-0.57, 0.62)	-0.05 (-0.55, 0.44)	0.10 (-0.45, 0.66)
	HIV neg	637	0.00 (-0.21, 0.21)	0.01 (-0.23, 0.25)	-0.01 (-0.22, 0.20)	-0.05 (-0.31, 0.20)
	p _{int}		0.053	0.949	0.865	0.625
Gestational age (weeks) ^b	All	738	0.06 (-0.26, 0.37)	0.06 (-0.31, 0.42)	0.02 (-0.30, 0.34)	-0.03 (-0.41, 0.35)
	HIV pos	97	0.63 (-0.21, 1.46)	0.44 (-0.53, 1.42)	0.31 (-0.51, 1.12)	0.43 (-0.47, 1.34)
	HIV neg	641	-0.04 (-0.38, 0.30)	-0.01 (-0.39, 0.38)	-0.03 (-0.37, 0.31)	-0.13 (-0.55, 0.29)
	p _{int}		0.150	0.402	0.456	0.270
Low birth weight ^c	All	738	0.79 (0.48, 1.30)	0.74 (0.47, 1.18)	0.83 (0.55, 1.25)	0.68 (0.41, 1.15)
	HIV pos	97	0.31 (0.09, 1.09)	0.45 (0.14, 1.44)	0.54 (0.19, 1.57)	0.43 (0.13, 1.34)
	HIV neg	641	0.98 (0.59, 1.62)	0.83 (0.51, 1.36)	0.92 (0.60, 1.41)	0.79 (0.45, 1.40)
	p _{int}		0.094	0.340	0.364	0.341
Preterm birth ^c	All	738	0.98 (0.67, 1.44)	0.87 (0.59, 1.28)	1.01 (0.72, 1.41)	1.03 (0.68, 1.55)
	HIV pos	97	0.56 (0.25, 1.24)	0.86 (0.28, 2.59)	1.03 (0.40, 2.63)	0.74 (0.27, 2.04)
	HIV neg	641	1.11 (0.73, 1.69)	0.87 (0.57, 1.31)	1.00 (0.70, 1.44)	1.13 (0.73, 1.76)
	p _{int}		0.137	0.982	0.967	0.456
Small for gestational age ^c	All	738	1.03 (0.74, 1.44)	0.97 (0.68, 1.39)	1.02 (0.75, 1.39)	1.04 (0.72, 1.52)
	HIV pos	97	0.81 (0.36, 1.82)	1.74 (0.72, 4.20)	1.42 (0.67, 3.03)	1.41 (0.62, 3.23)
	HIV neg	641	1.08 (0.75, 1.57)	0.87 (0.58, 1.30)	0.95 (0.67, 1.35)	0.97 (0.64, 1.48)
	p _{int}		0.519	0.163	0.348	0.427
Large for gestational age ^c	All	738	0.70 (0.38, 1.28)	0.93 (0.48, 1.81)	0.96 (0.53, 1.76)	0.94 (0.46, 1.95)
	HIV pos	97	0.51 (0.16, 1.59)	0.39 (0.08, 1.97)	0.33 (0.08, 1.32)	0.41 (0.11, 1.58)
	HIV neg	641	0.74 (0.37, 1.47)	1.07 (0.54, 2.14)	1.17 (0.62, 2.19)	1.12 (0.50, 2.49)
	p _{int}		0.579	0.254	0.097	0.200

^a Models adjusted for maternal age, education, marital status, smoking, alcohol use during pregnancy, post-delivery BMI, and HIV status; household income per capita and assets; child sex, parity, delivery method, and season of birth.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

Web Table 19. Interactions maternal HIV status for associations between maternal peripartum serum DDT/E concentrations and birth outcomes in VHEMBE study participants based on propensity score models^a

		N	ρ, ρ' -DDT β /OR (95% CI)	ρ, ρ' -DDE β /OR (95% CI)	ρ, ρ' -DDT β /OR (95% CI)
Birth weight (g) ^b	All	750	15.8 (-24.0, 55.6)	11.6 (-36.8, 60.0)	12.6 (-37.5, 62.6)
	HIV pos	646	90.6 (-25.1, 206.3)	78.9 (-59.1, 216.9)	23.1 (-112.7, 159.0)
	HIV neg	104	5.0 (-36.9, 46.9)	1.8 (-49.1, 52.7)	6.7 (-46.3, 59.6)
	ρ_{int}		0.172	0.302	0.823
Length (cm) ^b	All	745	0.20 (0.00, 0.39)	0.21 (-0.03, 0.45)	0.22 (-0.03, 0.47)
	HIV pos	103	0.35 (-0.22, 0.92)	0.41 (-0.27, 1.10)	0.10 (-0.59, 0.78)
	HIV neg	642	0.17 (-0.04, 0.38)	0.18 (-0.08, 0.43)	0.22 (-0.04, 0.48)
	ρ_{int}		0.568	0.525	0.735
Head circumference (cm) ^b	All	745	0.10 (-0.04, 0.23)	0.02 (-0.14, 0.18)	0.09 (-0.08, 0.26)
	HIV pos	103	0.28 (-0.10, 0.67)	0.17 (-0.29, 0.63)	0.15 (-0.31, 0.60)
	HIV neg	642	0.07 (-0.07, 0.21)	-0.01 (-0.18, 0.16)	0.07 (-0.11, 0.24)
	ρ_{int}		0.302	0.477	0.740
Gestational age (weeks) ^b	All	751	0.03 (-0.18, 0.23)	-0.08 (-0.33, 0.17)	0.00 (-0.26, 0.26)
	HIV pos	104	-0.05 (-0.64, 0.55)	-0.19 (-0.91, 0.52)	-0.14 (-0.84, 0.56)
	HIV neg	647	0.04 (-0.18, 0.25)	-0.07 (-0.33, 0.19)	0.01 (-0.26, 0.29)
	ρ_{int}		0.803	0.745	0.690
Low birth weight ^c	All	750	0.84 (0.60, 1.20)	0.77 (0.52, 1.13)	0.90 (0.60, 1.34)
	HIV pos	646	0.81 (0.36, 1.83)	0.77 (0.31, 1.93)	1.01 (0.42, 2.43)
	HIV neg	104	0.86 (0.58, 1.27)	0.78 (0.51, 1.19)	0.90 (0.57, 1.42)
	ρ_{int}		0.907	0.985	0.816
Preterm birth ^c	All	751	0.96 (0.74, 1.24)	1.06 (0.77, 1.44)	1.08 (0.77, 1.52)
	HIV pos	104	1.33 (0.70, 2.52)	1.34 (0.62, 2.87)	2.05 (0.94, 4.45)
	HIV neg	647	0.90 (0.68, 1.20)	1.01 (0.72, 1.43)	0.96 (0.66, 1.41)
	ρ_{int}		0.274	0.512	0.082
Small for gestational age ^c	All	750	0.93 (0.75, 1.14)	0.85 (0.67, 1.08)	0.90 (0.70, 1.16)
	HIV pos	646	0.65 (0.36, 1.17)	0.51 (0.25, 1.03)	0.76 (0.39, 1.48)
	HIV neg	104	0.98 (0.79, 1.22)	0.91 (0.71, 1.19)	0.94 (0.71, 1.24)
	ρ_{int}		0.196	0.128	0.556
Large for gestational age ^c	All	750	1.01 (0.71, 1.45)	1.20 (0.73, 1.96)	0.96 (0.60, 1.52)
	HIV pos	646	1.79 (0.65, 4.96)	2.46 (0.64, 9.50)	1.27 (0.38, 4.24)
	HIV neg	104	0.93 (0.63, 1.38)	1.08 (0.64, 1.83)	0.92 (0.56, 1.51)
	ρ_{int}		0.238	0.259	0.624

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum serum DDT/E or pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum serum DDT/E concentration.

^d $P < 0.05$.

Web Table 20. Interactions by maternal HIV status for associations between maternal peripartum urinary pyrethroid metabolite concentrations and birth outcomes in VHEMBE study participants based on propensity score models^a

			<i>cis</i> -DBCA	<i>cis</i> -DCCA	<i>trans</i> -DCCA	3-PBA
		N	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)	β/OR (95% CI)
Birth weight (g) ^b	All	738	24.4 (-38.3, 87.2)	4.0 (-67.3, 75.2)	-5.0 (-67.9, 57.8)	19.9 (-54.0, 93.8)
	HIV pos	97	-19.6 (-105.9, 66.6)	-7.0 (-102.8, 88.9)	-27.4 (-111.4, 56.6)	-24.4 (-122.3, 73.4)
	HIV neg	641	70.0 (-20.7, 160.7)	17.6 (-86.9, 122.0)	21.2 (-71.2, 113.7)	74.3 (-37.5, 186.1)
	p _{int}		0.160	0.732	0.441	0.192
Length (cm) ^b	All	733	0.04 (-0.27, 0.36)	0.02 (-0.33, 0.38)	-0.05 (-0.36, 0.26)	0.13 (-0.23, 0.50)
	HIV pos	96	-0.09 (-0.52, 0.34)	-0.15 (-0.62, 0.32)	-0.25 (-0.66, 0.16)	-0.09 (-0.57, 0.38)
	HIV neg	637	0.16 (-0.29, 0.60)	0.24 (-0.28, 0.75)	0.18 (-0.27, 0.63)	0.39 (-0.15, 0.94)
	p _{int}		0.427	0.277	0.160	0.187
Head circumference (cm) ^b	All	733	0.02 (-0.19, 0.23)	-0.02 (-0.25, 0.22)	-0.07 (-0.28, 0.13)	-0.03 (-0.27, 0.21)
	HIV pos	96	-0.17 (-0.45, 0.11)	-0.11 (-0.42, 0.20)	-0.10 (-0.38, 0.17)	-0.17 (-0.49, 0.14)
	HIV neg	637	0.19 (-0.10, 0.49)	0.10 (-0.24, 0.44)	-0.04 (-0.34, 0.26)	0.12 (-0.24, 0.49)
	p _{int}		0.079	0.360	0.757	0.226
Gestational age (weeks) ^b	All	738	-0.04 (-0.36, 0.28)	0.13 (-0.24, 0.49)	0.06 (-0.26, 0.38)	0.00 (-0.38, 0.37)
	HIV pos	97	-0.10 (-0.54, 0.34)	0.14 (-0.35, 0.63)	0.04 (-0.39, 0.47)	-0.06 (-0.56, 0.44)
	HIV neg	641	0.01 (-0.45, 0.48)	0.11 (-0.42, 0.64)	0.08 (-0.39, 0.56)	0.07 (-0.50, 0.64)
	p _{int}		0.735	0.933	0.888	0.726
Low birth weight ^c	All	738	0.75 (0.45, 1.26)	0.63 (0.30, 1.30)	0.80 (0.43, 1.48)	0.62 (0.32, 1.22)
	HIV pos	97	0.81 (0.36, 1.80)	0.84 (0.28, 2.53)	1.12 (0.43, 2.93)	1.05 (0.38, 2.88)
	HIV neg	641	0.72 (0.37, 1.41)	0.51 (0.20, 1.33)	0.63 (0.27, 1.43)	0.42 (0.17, 1.06)
	p _{int}		0.828	0.503	0.373	0.198
Preterm birth ^c	All	738	1.07 (0.69, 1.66)	0.82 (0.50, 1.36)	1.01 (0.65, 1.58)	1.03 (0.62, 1.73)
	HIV pos	97	1.27 (0.69, 2.34)	0.99 (0.51, 1.94)	1.25 (0.69, 2.26)	1.28 (0.64, 2.54)
	HIV neg	641	0.88 (0.47, 1.68)	0.66 (0.31, 1.39)	0.78 (0.40, 1.52)	0.79 (0.36, 1.72)
	p _{int}		0.419	0.420	0.302	0.364
Small for gestational age ^c	All	738	1.01 (0.74, 1.38)	1.02 (0.70, 1.49)	1.09 (0.78, 1.51)	1.09 (0.74, 1.61)
	HIV pos	97	1.30 (0.86, 1.96)	1.25 (0.78, 2.02)	1.29 (0.85, 1.95)	1.33 (0.81, 2.18)
	HIV neg	641	0.67 (0.40, 1.11)	0.71 (0.38, 1.35)	0.82 (0.47, 1.41)	0.72 (0.37, 1.41)
	p _{int}		0.045	0.165	0.195	0.147
Large for gestational age ^c	All	738	0.83 (0.43, 1.60)	0.86 (0.43, 1.72)	0.90 (0.50, 1.64)	0.97 (0.49, 1.94)
	HIV pos	97	0.82 (0.34, 2.00)	1.18 (0.47, 2.97)	1.15 (0.52, 2.56)	1.16 (0.46, 2.90)
	HIV neg	641	0.84 (0.32, 2.21)	0.56 (0.19, 1.67)	0.65 (0.26, 1.66)	0.76 (0.26, 2.23)
	p _{int}		0.969	0.310	0.364	0.561

^a Propensity scores and inverse probability of treatment weights were based on conditional probability density functions determined using the Super Learner algorithm.

^b Coefficients show the change in mean outcome for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^c Coefficients show the odd ratio for each 10-fold increase in maternal peripartum pyrethroid metabolite concentration.

^d $P < 0.05$.