Obes Facts

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Original Article

Associations between Exposure to Persistent Organic Pollutants in Childhood and Overweight up to 12 Years Later in a Low Exposed Danish Population

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Supplemental Material

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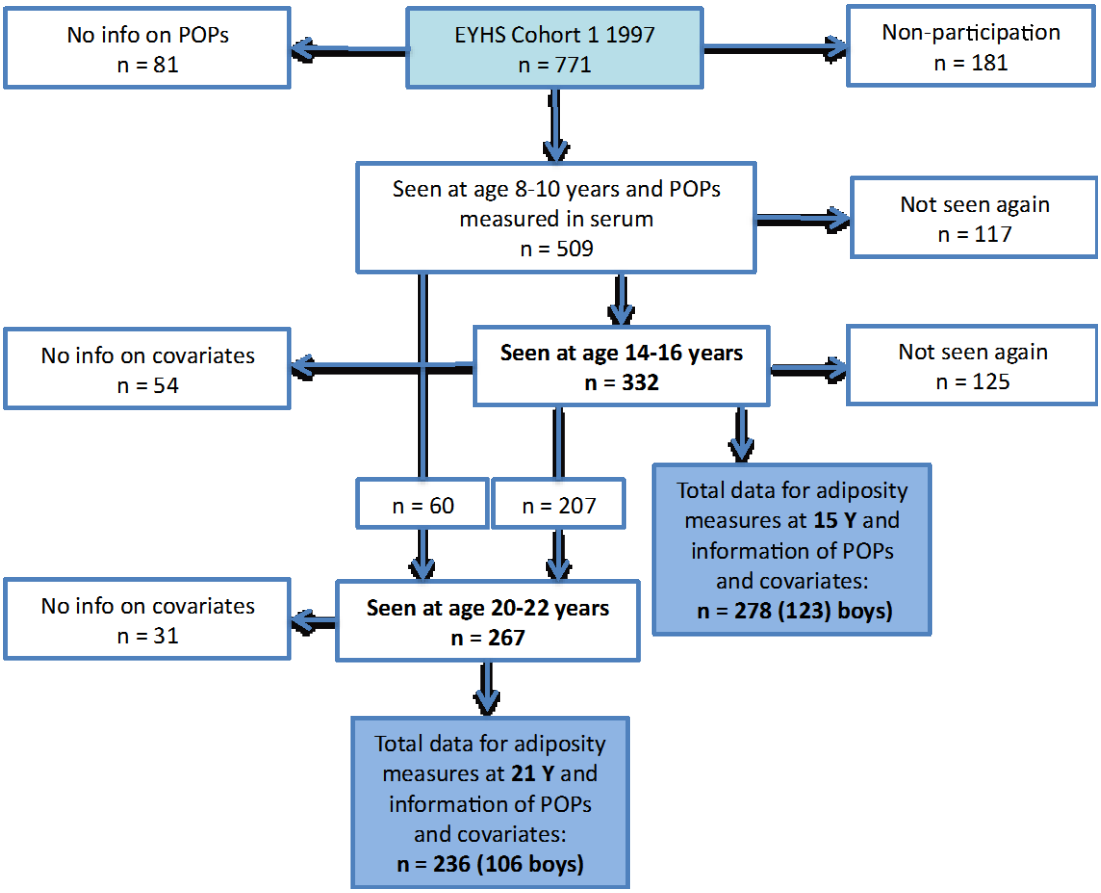
Supplemental fig. 1. Flowchart



Supplemental table 1. Associations between DDE (µg/g lipid) at age 8–10 years in tertiles and continuous and measurements of adiposity at age 14–16 and 20–22 years according to sex, EYHS cohort

DDE in tertiles‡	Girls, regression coefficient†							
	14–16 years (n = 155)				20–22 years (n = 130)			
	crude		adjusted*		crude		adjusted*	
	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value
BMI z-score								
1st tertile	reference		reference		reference		reference	
2nd tertile	−0.51 (−0.80, −0.21)	0.001	0.01 (−0.20, 0.22)	0.93	−0.59 (−0.93, −0.24)	0.001	−0.21 (−0.54, 0.11)	0.20
3rd tertile	−0.65 (−0.94, −0.35)	<0.001	−0.10 (−0.32, 0.13)	0.39	−0.92 (−1.26, −0.58)	<0.001	−0.44 (−0.81, −0.07)	0.02
p-trend		<0.001		0.39		<0.001		0.02
Continuous	−0.40 (−0.57, −0.22)	<0.001	−0.04 (−0.18, 0.11)	0.62	−0.58 (−0.80, −0.35)	<0.001	−0.29 (−0.56, 0.02)	0.03
Waist circumference								
1st tertile	reference		reference		reference		reference	
2nd tertile	−3.47 (−5.94, −0.99)	0.006	−0.20 (−2.01, 1.61)	0.83	−3.76 (−7.16, −0.36)	0.03	−1.57 (−4.93, 1.79)	0.36
3rd tertile	−4.42 (−6.83, −2.00)	<0.001	−1.96 (−3.85, −0.06)	0.04	−4.54 (−7.91, −1.17)	0.01	−2.01 (−5.79, 1.76)	0.29
p-trend		<0.001		0.05		0.01		0.29
Continuous	−2.81 (−4.26, −1.35)	<0.001	−1.36 (−2.61, −0.11)	0.03	−2.75 (−5.01, −0.49)	0.02	−1.25 (−4.03, 1.52)	0.37
% BF								
1st tertile	reference		reference		reference		reference	
2nd tertile	−2.35 (−4.28, −0.43)	0.02	0.48 (−1.02, 1.98)	0.53	−5.19 (−8.64, −1.75)	0.003	−3.69 (−7.35, −0.02)	0.04
3rd tertile	−3.32 (−5.19, −1.44)	0.001	−0.32 (−1.88, 1.23)	0.68	−5.26 (−8.67, −1.85)	0.003	−2.28 (−6.29, 1.73)	0.26
p-trend		0.001		0.70		0.003		0.30
Continuous	−2.11 (−3.24, −0.98)	<0.001	−0.26 (−1.28, 0.78)	0.61	−3.58 (−5.86, −1.31)	0.002	−2.08 (−5.01, 0.84)	0.16

Supplemental table 1 continued on next page

Supplemental table 1. Continued

DDE in tertiles‡	Boys, regression coefficient†							
	14–16 years (n = 123)				20–22 years (n = 106)			
	crude		adjusted*		crude		adjusted*	
	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value
BMI z-score								
1st tertile	reference		reference		reference		reference	
2nd tertile	–0.34 (–0.71, 0.02)	0.06	0.03 (–0.24, 0.31)	0.80	–0.61 (–1.09, –0.13)	0.01	0.30 (–0.16, 0.77)	0.20
3rd tertile	–0.04 (–0.42, 0.33)	0.83	0.18 (–0.12, 0.47)	0.24	–0.39 (–0.87, 0.08)	0.10	0.57 (0.07, 1.07)	0.03
p-trend		0.81		0.22		0.14		0.02
Continuous	–0.07 (–0.30, 0.15)	0.53	0.01 (–0.17, 0.18)	0.96	–0.14 (–0.41, 0.12)	0.28	0.27 (0.01, 0.53)	0.04
Waist circumference								
1st tertile	reference		reference		reference		reference	
2nd tertile	–3.47 (–6.55, –0.39)	0.03	–0.42 (–2.78, 1.93)	0.72	–3.43 (–8.65, 1.79)	0.20	4.67 (–0.95,10.30)	0.10
3rd tertile	–1.90 (–5.06, 1.26)	0.24	0.07 (–2.47, 2.60)	0.96	–3.79 (–9.01, 1.43)	0.15	5.13 (–0.97, 11.22)	0.10
p-trend		0.23		0.93		0.16		0.13
Continuous	–1.52 (–3.43, 0.39)	0.12	–0.72 (–2.22, 0.79)	0.35	–1.58 (–4.42, 1.25)	0.27	2.04 (–1.11, 5.18)	0.20
% BF								
1st tertile	reference		reference		reference		reference	
2nd tertile	–2.33 (–5.33, 0.66)	0.13	–0.03 (–2.23, 2.17)	0.98	–1.97 (–7.36, 3.41)	0.47	4.25 (–2.12, 10.61)	0.19
3rd tertile	–2.23 (–5.31, 0.86)	0.16	0.73 (–1.74, 3.20)	0.56	–2.86 (–8.25, 2.52)	0.29	5.42 (–1.74, 12.59)	0.14
p-trend		0.15		0.55		0.30		0.16
Continuous	–1.61 (–3.46, 0.24)	0.09	–0.25 (–1.75, 1.25)	0.74	–1.45 (–4.36, 1.47)	0.33	2.34 (–1.47, 6.15)	0.23

DDE = p,p-dichlorodiphenyldichloroethylene.

*Adjustment made for baseline adiposity measures, breastfeeding, SES, fitness, maternal BMI and maternal smoking.

†Regression coefficient derived from multiple linear regression model. Continuous estimated coefficients are the absolute change in adiposity measurements expected when the log-transformed DDE variable is multiplied by 2.7 (all continuous variables in this table).

‡DDE in µg/g lipid, log-transformed. Concentrations were measured in child serum at age 8–10 years.

Supplemental table 2. Associations between HCB (µg/g lipid) at age 8–10 years in tertiles and continuous and measurements of adiposity at age 14–16 and 20–22 years according to sex, EYHS cohort

HCB in tertiles‡	Girls, regression coefficient†							
	14–16 years (n = 155)				20–22 years (n = 130)			
	crude		adjusted*		crude		adjusted*	
	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value
BMI z-score								
1st tertile	reference		reference		reference		reference	
2nd tertile	–0.32 (–0.61, –0.03)	0.03	0.14 (–0.07, 0.35)	0.20	–0.28 (–0.62, 0.07)	0.12	0.05 (–0.27, 0.36)	0.77
3rd tertile	–0.74 (–1.02, –0.45)	<0.001	0.08 (–0.15, 0.31)	0.51	–0.77 (–1.12, –0.42)	<0.001	–0.22 (–0.56, 0.12)	0.20
p-trend		<0.001		0.48		<0.001		0.20
Continuous	–0.96 (–1.31, –0.62)	<0.001	0.02 (–0.26, 0.31)	0.87	–1.12 (–1.50, –0.73)	<0.001	–0.49 (–0.89, –0.09)	0.02
Waist circumference								
1st tertile	reference		reference		reference		reference	
2nd tertile	–2.69 (–5.14, –0.25)	0.03	0.24 (–1.59, 2.08)	0.79	–2.74 (–6.08, 0.59)	0.11	–0.07 (–3.33, 3.19)	0.97
3rd tertile	–4.82 (–7.22, –2.41)	<0.001	0.26 (–1.73, 2.26)	0.80	–5.08 (–8.46, –1.71)	0.003	–2.23 (–5.71, 1.25)	0.21
p-trend		<0.001		0.79		0.003		0.20
Continuous	–6.24 (–9.16, –3.32)	<0.001	–0.24 (–2.68, 2.19)	0.84	–7.87 (–11.64, –4.10)	<0.001	–4.97 (–9.06, –0.89)	0.02
% BF								
1st tertile	reference		reference		reference		reference	
2nd tertile	–2.84 (–4.67, –1.01)	0.003	–0.82(–2.34, 0.70)	0.29	–3.83 (–7.20, –0.46)	0.03	–1.29 (–4.89, 2.30)	0.48
3rd tertile	–4.83 (–6.63, –3.02)	<0.001	–0.41 (–2.07, 1.26)	0.63	–6.22 (–9.61, –2.83)	<0.001	–1.47 (–5.45, 2.51)	0.47
p-trend		<0.001		0.72		<0.001		0.47
Continuous	–6.41 (–8.58, –4.24)	<0.001	–1.07 (–3.07, 0.92)	0.29	–8.01 (–11.84, –4.18)	<0.001	–2.45 (–7.13, 2.22)	0.30

Supplemental table 2 continued on next page

Supplemental table 2. Continued

HCB in tertiles‡	Boys, regression coefficient†							
	14–16 years (n = 123)				20–22 years (n = 106)			
	crude		adjusted*		crude		adjusted*	
	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value	estimate (95% CI)	p value
BMI z-score								
1st tertile	reference		reference		reference		reference	
2nd tertile	–0.30 (–0.67, 0.07)	0.11	0.25 (–0.02, 0.53)	0.07	–0.40 (–0.86, 0.05)	0.08	0.17 (–0.25, 0.59)	0.41
3rd tertile	–0.52 (–0.89, –0.15)	0.006	0.08 (–0.19, 0.34)	0.56	–0.64 (–1.11, –0.18)	0.007	0.27 (–0.18, 0.73)	0.24
p-trend		0.006		0.69		0.007		0.24
Continuous	–0.52 (–0.89, –0.15)	0.006	–0.04 (–0.35, 0.28)	0.82	–0.83 (–1.38, –0.27)	0.004	0.29 (–0.29, 0.86)	0.33
Waist circumference								
1st tertile	reference		reference		reference		reference	
2nd tertile	–3.31 (–6.42, –0.20)	0.04	0.55 (–1.86, 2.97)	0.65	–4.53 (–9.51, 0.44)	0.07	–0.35 (–5.47, 4.77)	0.89
3rd tertile	–5.00 (–8.09, –1.91)	0.002	–0.35 (–2.73, 2.03)	0.77	–5.75 (–10.82, –0.68)	0.03	2.02 (–3.40, 7.43)	0.46
p-trend		0.002		0.72		0.03		0.45
Continuous	–5.32 (–8.40, –2.23)	0.001	–1.14 (–3.82, 1.54)	0.40	–7.60 (–13.61, –1.60)	0.01	2.32 (–4.56, 9.19)	0.51
% BF								
1st tertile	reference		reference		reference		reference	
2nd tertile	–2.78 (–5.80, 0.24)	0.07	2.17 (–0.13, 4.46)	0.06	–4.08 (–9.21, 1.05)	0.12	1.41 (–4.43, 7.25)	0.63
3rd tertile	–4.85 (–7.84, –1.85)	0.002	0.41 (–1.91, 2.72)	0.73	–5.05 (–10.28, 0.19)	0.06	2.06 (–4.12, 8.24)	0.51
p-trend		0.002		0.95		0.06		0.51
Continuous	–4.86 (–7.87, –1.85)	0.02	–0.25 (–2.92, 2.42)	0.85	–6.71 (–12.91, –0.50)	0.03	2.56 (–4.99, 10.12)	0.50

HCB = Hexachlorobenzene.

*Adjustment made for baseline obesity outcomes, breastfeeding, SES, fitness, maternal BMI and maternal smoking.

†Regression coefficient derived from multiple linear regression model. Continuous estimated coefficients are the absolute change in adiposity measurements expected when the log transformed HCB variable is multiplied by 2.7 (all continuous variables in this table).

‡HCB in µg/g lipid, log-transformed. Concentrations measured in child serum at age 8–10 years.