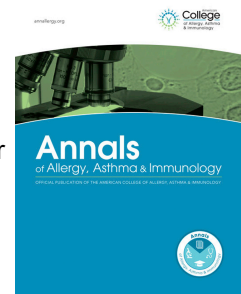


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The home environment's influence on cytokine profiles and atopic disease in 6/7 year old children

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Keywords: Birth cohort, environmental exposure, cytokine profile, allergic sensitization, respiratory disease

Abbreviations: CHILD: Canadian Healthy Infant Longitudinal Development IAP: Indoor Air Pollution, IFN: Interferon, IL: Interleukin, KABC: Kingston Allergy Birth Cohort, OAP: Outdoor Air Pollution, SPT: Skin prick test, TGF: Transforming Growth Factor, Th: T helper, Treg: Regulatory T cell

Word Count: 1000

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Table 1. Cytokine concentrations and ratios for clinical outcomes and exposures

	Cytokine Concentration (Median IQR pg/ml)						Cytokine Ratio (Median IQR)						
	IL-5	IL-8	IL-10	IL-13	IL-21	IFN γ	IL-10:IL-8	IL-10:IFN γ	IL-10:IL-17A	IFN γ :IL-17A	TGF β 1:IL-10	TGF β 1:IL-17A	TGF β 1:IL-21
Negative SPT	2.15 (1.83 - 2.75)	1.75 (1.50 - 2.18)	7.00 (6.33 - 7.90)	1.90 (1.50 - 2.60)	1.00 (0.53 - 1.68)	7.55 (5.85 - 9.55)	4.40 (3.150 - 4.70)	0.98 (0.78 - 1.10)	1.01 (0.79 - 1.27)	1.10 (0.92 - 1.25)	624.7 (507.5 - 913.7)	764.1 (391.7 - 953.1)	5388 (2178 - 10554)
Positive SPT	2.45 (1.55 - 3.58)	2.05 (1.28 - 4.30)	7.25 (3.90 - 12.60)	2.35 (1.00 - 4.30)	1.00 (0.35 - 1.63)	7.90 (5.50 - 19.73)	2.92 (1.65 - 3.89)	0.78 (0.57 - 0.87)	0.90 (0.53 - 1.37)	1.01 (0.90 - 1.54)	1181 (417.5 - 1622)	664.7 (435.1 - 1334)	6358 (4194- 20003)
p	0.423	0.374	0.869	0.752	0.684	0.686	0.045	0.073	0.481	0.892	0.417	0.788	0.5
No Wheeze	2.27 (1.73 - 2.88)	1.90 (1.51 - 2.45)	7.03 (6.17 - 10.38)	2.06 (1.43 - 2.84)	1.05 (0.52 - 1.77)	7.92 (6.20 - 11.40)	4.21 (3.12 - 4.85)	0.89 (0.76 - 1.06)	1.08 (0.82 - 1.32)	1.10 (0.96 - 1.36)	591 (390.0 - 942.6)	656.3 (346.9 - 908.8)	4042 (2094 - 10013)
Wheeze	2.27 (1.67 - 2.86)	1.74 (1.52 - 3.38)	6.19 (6.17 - 10.38)	2.44 (1.20 - 3.15)	0.58 (0.27 - 1.18)	6.27 (4.32 - 12.46)	2.56 (1.32 - 3.86)	0.75 (0.53 - 1.29)	0.76 (0.46 - 1.22)	0.91 (0.81 - 1.10)	1350 (729 - 2002)	825.2 (500.9 - 1723)	8533 (6398 - 24611)
p	0.935	0.974	0.334	0.858	0.181	0.28	0.033	0.569	0.246	0.079	0.047	0.31	0.056
No Atopy	2.13 (1.73 - 2.79)	1.76 (1.51 - 2.29)	6.92 (6.17 - 8.25)	1.94 (1.43 - 2.84)	1.04 (0.52 - 1.80)	7.92 (6.20 - 9.88)	4.40 (3.12 - 4.85)	0.96 (0.76 - 1.06)	0.97 (0.73 - 1.26)	1.10 (0.94 - 1.28)	642.7 (461.4 - 942.6)	764.1 (346.9 - 908.8)	4029 (2094 - 12294)
SPT positive and Wheeze	2.27 (1.06 - 3.39)	1.74 (1.43 - 5.89)	4.46 (1.91 - 9.13)	2.44 (0.89 - 4.27)	0.61 (0.20 - 1.71)	7.56 (2.77 - 20.55)	1.85 (1.08 - 2.71)	0.59 (0.46 - 0.81)	0.54 (0.35 - 0.85)	0.91 (0.75 - 1.03)	1543 (1332 - 2603)	825.2 (4.69.8 - 2303)	15194 (6049 - 27011)
p	0.948	0.878	0.15	0.778	0.338	0.878	0.003	0.024	0.033	0.106	0.024	0.442	0.101
Prenatal IAP Low	2.76 (2.13 - 4.56)	2.23 (1.63 - 3.54)	9.11 (7.13 - 14.40)	2.41 (1.80 - 3.76)	1.29 (1.04 - 1.87)	10.41 (7.92 - 16.35)	4.64 (3.30 - 5.29)	0.94 (0.80 - 0.99)	0.97 (0.87 - 1.35)	1.15 (0.96 0 - 1.37)	461.8 (424.4 - 1031)	626.0 (495.7 - 871.6)	4293 (2913 - 7890)
Prenatal IAP High	2.01 (1.20 - 2.56)	1.80 (1.52 - 2.33)	6.19 (4.20 - 7.55)	2.17 (1.47 - 2.58)	0.56 (0.45 - 1.05)	6.70 (5.27 - 8.42)	2.98 (2.26 - 4.04)	0.83 (0.61 - 0.83)	0.95 (0.56 - 1.29)	0.96 (0.85 - 1.07)	828.6 (511.9 - 1385)	701.9 (392.4 - 1379)	6978 (3926 - 10709)
p	0.048	0.456	0.009	0.401	0.01	0.016	0.004	0.809	0.37	0.107	0.23	0.824	0.131

Prenatal No Cats	2.82 (2.07 - 5.34)	2.34 (1.75 - 4.07)	11.19 (7.34 - 14.40)	2.50 (2.03 - 4.31)	1.29 (1.06 - 1.92)	12.40 (7.74 - 17.20)	4.60 (3.24 - 5.31)	0.96 (0.79 - 1.00)	1.11 (0.90 - 1.39)	1.18 (0.98 - 1.41)	583.5 (265.4 - 882.7)	656.3 (331.3 - 861.0)	3710 (3171 - 6624)
Prenatal Cats	2.13 (1.42 - 2.50)	1.74 (1.50 - 2.27)	6.46 (4.43 - 7.47)	2.06 (0.89 - 2.55)	0.58 (0.48 - 1.04)	7.06 (5.41 - 8.47)	3.02 (2.29 - 4.33)	0.83 (0.62 - 1.21)	0.85 (0.57 - 1.26)	0.94 (0.86 - 1.07)	938 (625.5 - 1367)	838.6 (394.8 - 1441)	9935 (4379 - 14702)
p	0.06	0.181	0.004	0.151	0.008	0.025	0.016	0.637	0.208	0.041	0.031	0.305	0.025
Current IAP low	2.76 (1.07 - 3.38)	2.06 (1.68 - 3.54)	7.13 (6.46 - 13.83)	2.41 (1.94 - 4.16)	1.20 (0.58 - 1.94)	9.13 (7.39 - 16.35)	3.26 (2.96 - 4.60)	0.83 (0.74 - 0.98)	0.95 (0.76 - 1.34)	1.07 (0.93 - 1.39)	576.9 (272.3 - 1129)	516.1 (291.7 - 855.1)	3900 (2092 - 7073)
Current IAP High	2.01 (1.61 - 2.32)	1.57 (1.41 - 2.09)	6.72 (4.20 - 7.55)	1.65 (0.69 - 2.46)	0.60 (0.45 - 1.02)	5.99 (5.34 - 8.28)	4.04 (2.52 - 4.64)	1.05 (0.63 - 1.24)	1.18 (0.60 - 1.29)	1.01 (0.90 - 1.20)	828.6 (593.7 - 1385)	886.7 (563.2 - 1379)	9781 (5739 - 17052)
p	0.048	0.047	0.13	0.053	0.056	0.013	0.733	0.283	0.722	0.4	0.106	0.03	0.063
Current No Cats	2.76 (1.95 - 3.38)	2.06 (1.66 - 3.54)	7.91 (6.93 - 13.83)	2.58 (1.94 - 4.16)	1.29 (0.77 - 1.94)	9.13 (7.39 - 16.35)	3.42 (3.10 - 4.98)	0.88 (0.76 - 0.99)	0.97 (0.87 - 1.26)	1.07 (0.90 - 1.30)	5901.1 (303.6 - 943.1)	516.1 (331.1 - 855.1)	3900 (2255 - 7962)
Current Cats	2.01 (1.61 - 2.29)	1.58 (1.41 - 2.09)	6.09 (4.20 - 6.92)	1.47 (0.69 - 2.41)	0.6 (0.45 - 1.02)	6.27 (5.34 - 8.42)	3.61 (2.52 - 4.42)	0.82 (0.61 - 1.12)	1.18 (0.56 - 1.40)	1.01 (0.91 - 1.20)	828.6 (593.7 - 1701)	886.7 (563.2 - 1379)	10089 (3926 - 17340)
p	0.06	0.072	0.011	0.027	0.019	0.022	0.531	0.966	0.943	0.764	0.167	0.093	0.055