

Online Data Supplement

Adiposity and asthma in a nationwide study of children and adults in the United States

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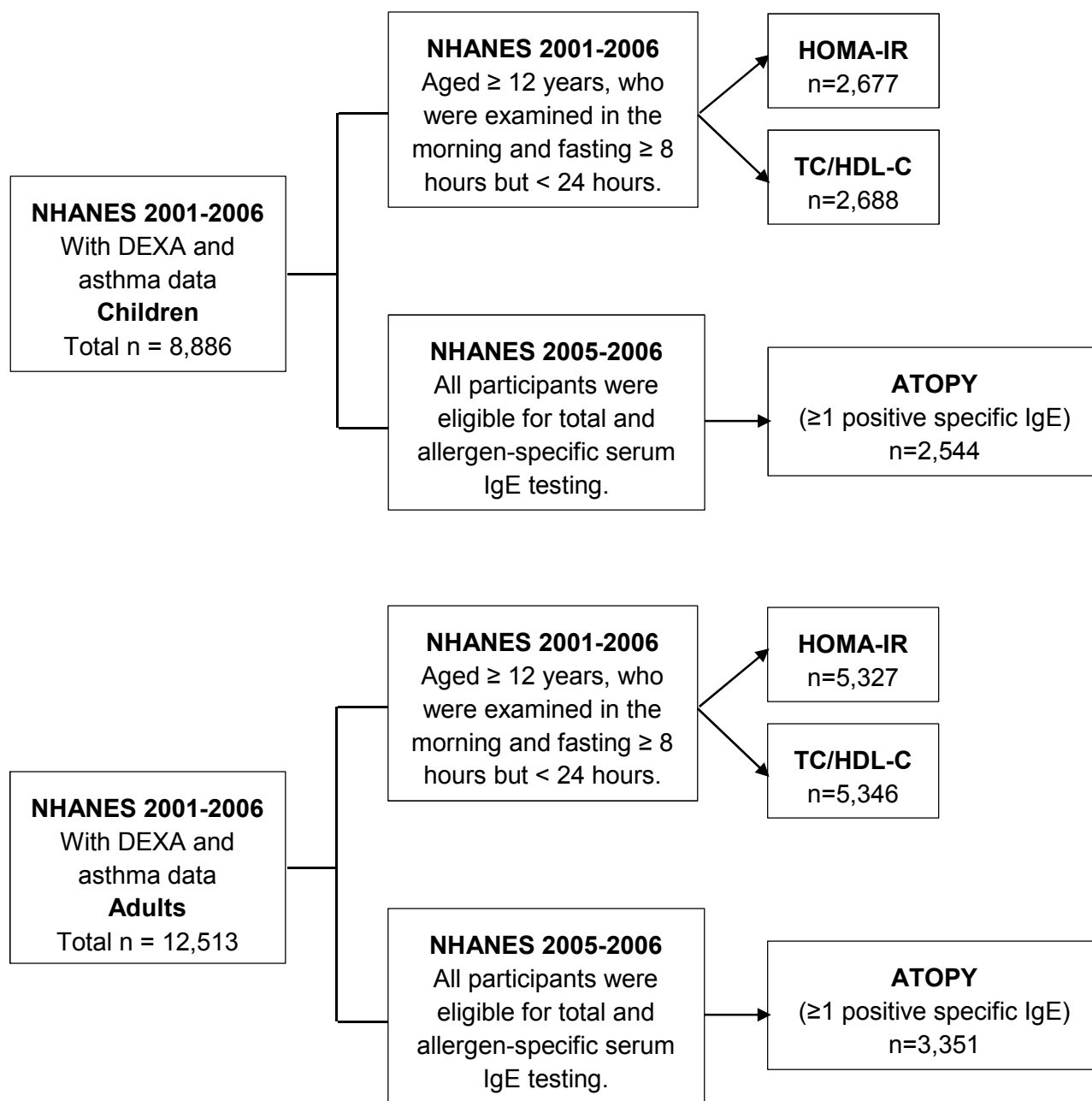
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Supplemental Figure E1 – Flow diagram of NHANES participants included in the analysis



Supplemental Table E1 – Adiposity measures and current asthma in children and adults by gender after adjusting for insulin resistance and dyslipidemia

	Children (12-19 years, n=2,903)		Adults (20-69 years, n=5,776)	
	Male Asthma n=169	Female Asthma n=155	Male Asthma n=167	Female Asthma n=237
	Odds Ratio (95% confidence interval)			
Anthropometry				
BMI ¹	1.12 (0.86, 1.48)	1.22 (0.94, 1.58)	1.06 (1.03, 1.09)[‡]	1.03 (1.01, 1.06)[‡]
Obese ³	2.16 (1.23, 3.81)[‡]	1.06 (0.46, 2.44)	2.12 (1.29, 3.49)[‡]	1.96 (1.22, 3.15)[‡]
Waist circumference ¹	1.36 (1.08, 1.71)[‡]	1.05 (0.81, 1.36)	1.03 (1.01, 1.04)[‡]	1.02 (1.01, 1.03)[‡]
Central obese ⁴	5.16 (2.56, 10.44)[‡]	1.14 (0.32, 4.14)	1.25 (0.79, 1.98)	1.46 (0.99, 2.15)
Waist-to-height ratio ²	1.45 (1.13, 1.87)[‡]	0.97 (0.74, 1.27)	1.53 (1.26, 1.86)[‡]	1.32 (1.09, 1.59)[‡]
Percent body fat ¹	1.23 (0.79, 1.93)	0.92 (0.69, 1.23)	1.02 (0.98, 1.06)	1.02 (0.99, 1.04)
Dural-Energy X-ray Absorptiometry				
Total percent fat	1.04 (1.01, 1.08)[†]	0.99 (0.94, 1.04)	1.05 (1.02, 1.09)[‡]	1.04 (1.02, 1.07)[‡]
Trunk percent fat	1.04 (1.01, 1.07)[†]	0.99 (0.95, 1.03)	1.04 (1.01, 1.08)[†]	1.03 (1.01, 1.05)[‡]
Leg percent fat	1.03 (1.00, 1.06)	1.00 (0.95, 1.05)	1.05 (1.01, 1.08)[‡]	1.03 (1.00, 1.06)[‡]
Fat Mass Index	1.12 (1.04, 1.20)[‡]	1.00 (0.92, 1.09)	1.10 (1.05, 1.16)[‡]	1.05 (1.02, 1.09)[‡]
Trunk-to-total fat ²	1.26 (0.85, 1.87)	0.88 (0.64, 1.22)	1.17 (0.92, 1.50)	1.18 (0.95, 1.46)
Legs-to-total fat ²	0.95 (0.71, 1.28)	1.24 (0.93, 1.67)	1.01 (0.77, 1.32)	0.89 (0.71, 1.12)
Trunk-to-legs fat ²	1.18 (0.80, 1.73)	0.82 (0.60, 1.12)	1.03 (0.83, 1.27)	1.13 (0.90, 1.40)

All models adjusted for age, race, annual household income, serum cotinine, serum CRP, HOMA-IR, and TC/HDL-C. When adding HOMA-IR and/or TC/HDL-C, results for males remained significant (children and adults). Results for girls became all non-significant. Results for adult females remained significant for general adiposity, but all local adiposity ratios (Tr/Tot, L/Tot, Tr/L) became non-significant.

†P<0.05, ‡P<0.01.

¹Z-score for children only (BMI, WC, PBF).

²Z-score for children and adults, calculated separately for each age group (WHtR, Tr/Tot, L/Tot, Tr/L).

³Compared to normal weight.

⁴Compared to non-central obese.

Supplemental Table E2 – Adiposity measures and atopic asthma in adults by gender

	Atopic adult male (Asthma n=78)	Atopic adult female (Asthma n=92)
	Odds Ratio (95% confidence interval) of asthma	
Anthropometry		
BMI	1.06 (1.01, 1.11)[†]	1.06 (1.02, 1.10)[‡]
Obese ²	2.05 (0.99, 4.26)	2.40 (1.36, 4.26)[‡]
Waist circumference	1.02 (0.99, 1.04)	1.03 (1.01, 1.04)[‡]
Central obese ³	1.35 (0.68, 2.68)	1.59 (0.85, 2.96)
Waist-to-height ratio ¹	1.47 (1.11, 1.94)[‡]	1.57 (1.21, 2.04)[‡]
Percent body fat	0.97 (0.93, 1.02)	1.01 (0.97, 1.04)
Dual-Energy X-ray Absorptiometry		
Total percent fat	1.02 (0.98, 1.07)	1.06 (1.02, 1.11)[‡]
Trunk percent fat	1.02 (0.98, 1.05)	1.05 (1.01, 1.09)[‡]
Leg percent fat	1.03 (0.98, 1.08)	1.03 (0.99, 1.07)
Fat Mass Index	1.07 (0.99, 1.17)	1.09 (1.03, 1.15)[‡]
Trunk-to-total fat ¹	0.97 (0.70, 1.34)	1.42 (1.08, 1.87)[‡]
Legs-to-total fat ¹	1.14 (0.76, 1.70)	0.70 (0.54, 0.92)[‡]
Trunk-to-legs fat ¹	0.97 (0.70, 1.34)	1.42 (1.08, 1.87)[†]

All models adjusted for age, race, annual household income, serum cotinine, and serum CRP.

[†]P<0.05, [‡]P<0.01.

¹Z-scores.

²Compared to normal weight.

³Compared to non-central obese.