

Exhaled Nitric Oxide Levels Among Adults With Excessive Alcohol Consumption

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CHEST 2016; 150(1):196-209

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e-Table 1. Comparison of missing data to study population from the NHANES, 2007-2012 in adults aged ≥ 21 years.

Baseline Characteristics	Study Population (12,059)	Missing Cohort* (3,442)	p-value
Age, year, (SEM)	45.98 (0.34)	47.35 (0.40)	0.002
Height, cm, (SEM)	169.61 (0.13)	166.54 (0.33)	<0.001
BMI, %, (SEM)			
Underweight	157 (1.30)	83 (2.83)	
Normal Weight	3283 (28.98)	842 (28.00)	
Overweight	4059 (34.01)	1049 (32.64)	
Obesity Class I	2566 (20.63)	714 (20.07)	0.003
Obesity Class II	1153 (8.68)	329 (10.20)	
Obesity Class III	841 (6.40)	236 (6.25)	
Female, n (%)	5807 (49.11)	2020 (58.75)	<0.001
Race n, (%)			
Non-Hispanic White	5462 (70.26)	1100 (54.76)	
Non-Hispanic Black	2565 (10.61)	873 (15.78)	<0.001
Mexican-American	3079 (12.93)	1056 (18.61)	
Other Race/Ethnicity	953 (7.56)	413 (10.85)	
Asthma n, (%)	915 (7.56)	330 (8.79)	0.060
Smoker status, n, (%)			
Never	2813 (22.10)	731 (21.69)	
Current	2891 (24.62)	707 (20.40)	<0.001
Former	6355 (53.27)	1992 (57.91)	
URI	2426 (17.82)	271 (20.29)	0.181
Alcohol related liver disease	559 (4.54)	72 (2.03)	<0.001
NO-rich veg diet	500 (4.63)	59 (6.38)	0.143
NO-rich meat diet	413 (3.65)	41 (3.18)	0.424
Education, n, (%)			
12 yrs.	2937 (16.16)	1336 (27.83)	
<12 yrs.	2767 (22.44)	761 (23.12)	<0.001
≥ 12 yrs.	6355 (61.40)	1345 (49.05)	
Poverty Income Ratio <1, n (%)	3217 (18.55)	1400 (33.01)	<0.001
Inhaled steroid use, n, (%)	268 (2.30)	132 (3.20)	0.010
Oral corticosteroid use, n, (%)	121 (0.89)	58 (1.45)	0.037
Hay fever, n, (%)	1904 (18.29)	455 (15.49)	0.008

*Missing cohort comprised of missing demographic and questionnaire data (N=1788) and missing FeNO data (N=1654). BMI= body mass index; SEM= standard error of the mean; URI = upper respiratory illness in last 7 days; Age= Group 1 female is 21-45 years and male is 21-59 years. Group 2 female is 46-79 and male is 60-79.

e-Table 2. Coefficient from Multivariable Linear Regression for primary outcome of FeNO levels and secondary outcomes of blood eosinophils and CRP in Asthma Participants

Variables	Ln FeNO (95% CI) (n=911)		Blood Eosinophil (95% CI) (n=887)		CRP* (95% CI) (n=590)	
		p-value		p-value		p-value
Age (group)						
Group 1	referent		referent		referent	
Group 2	0.04 (-0.09, 0.18)	0.529	0.00 (-0.04, 0.04)	0.918	0.07 (-0.07, 0.21)	0.333
Height (per 10cm)	0.12 (0.04, 0.21)	0.007	-0.02 (-0.05, 0.00)	0.099	-0.02 (-0.15, 0.12)	0.814
BMI						
Normal	referent		referent		referent	
Underweight	-0.10 (-0.70, 0.50)	0.743	0.25 (0.03-0.46)	0.024	-0.07 (-0.30, 0.17)	0.578
Overweight	0.12 (-0.07, 0.32)	0.200	0.04 (-0.01, 0.09)	0.122	0.11 (-0.08, 0.29)	0.257
Obesity Class I	0.12 (-0.05, 0.30)	0.169	0.02 (-0.03, 0.07)	0.465	0.35 (0.14, 0.56)	0.002
Obesity Class II	0.02 (-0.18, 0.21)	0.846	0.02 (-0.02, 0.07)	0.283	0.44 (0.23, 0.66)	<0.001
Obesity Class III	0.13 (-0.08, 0.35)	0.223	0.07 (0.01, 0.13)	0.024	0.77 (0.45, 1.10)	<0.001
Sex						
Male	referent		referent		referent	
Female	-0.01 (-0.17, 0.16)	0.936	-0.05 (-0.09, -0.02)	0.007	0.17 (-0.02, 0.36)	0.074
Race						
Non-Hispanic White	referent		referent		referent	
Non-Hispanic Black	-0.17 (-0.32, -0.03)	0.022	-0.03 (-0.06, 0.01)	.101	0.07 (-0.11, 0.26)	0.418
Hispanic	0.24 (0.10, 0.39)	0.002	0.01 (-0.04, 0.05)	0.761	0.18 (-0.10, 0.46)	0.198
Other Race/Ethnicity	-0.10 (-0.30, 0.09)	0.296	-0.04 (-0.08, 0.00)	0.083	-0.01 (-0.15, 0.13)	0.922
Average Cig/Day						
0	referent		referent		referent	
1-10	-0.43 (-0.59, -0.26)	<0.001	0.03 (-0.01, 0.07)	0.168	0.05 (-0.13, 0.24)	0.057
11-20	-0.78 (-0.98, -0.58)	<0.001	0.07 (0.01, 0.13)	0.027	0.11 (0.00, 0.22)	0.177
>20	-0.88 (-1.20, -0.56)	<0.001	0.03 (-0.01, 0.07)	0.198	0.16 (-0.08, 0.41)	0.814
Education						
12 years	referent		referent		referent	
≤12 years	-0.03 (-0.22, 0.16)	0.733	-0.01 (-0.04, 0.02)	0.627	-0.06 (-0.19, 0.08)	0.414
>12 years	0.12 (-0.03, 0.27)	0.109	0.00 (-0.04, 0.04)	0.877	-0.01 (-0.15, 0.13)	0.897
Poverty Income Ratio <1						
No	referent		referent		referent	
Yes	-0.05 (-0.17, 0.07)	0.396	0.01 (-0.02, 0.04)	0.675	-0.06 (-0.18, 0.06)	0.329
Inhaled Steroid Use						
No	referent		referent		referent	
Yes	0.02 (-0.12, 0.15)	0.810	0.06 (0.01, 0.11)	0.028	0.07 (-0.09, 0.23)	0.371
Ate Nitrogen Rich Veg						
No	referent		referent		referent	
Yes	0.50 (0.26-0.73)	<0.001	0.04 (-0.02, 0.10)	0.192	-0.13 (-0.38, -0.04)	0.020
Hay fever						
No	referent		referent		referent	
Yes	0.18 (0.05, 0.30)	0.009	0.02 (-0.01, 0.05)	0.246	0.04 (-0.11, 0.18)	0.630
Alcohol Liver Disease						
No	referent		referent		referent	
Yes	0.07 (-0.20, 0.34)	0.603	0.00 (-0.05, 0.05)	0.984	-0.13 (-0.36, 0.10)	0.272
Alcohol Category						
Never Drinker	referent		referent		referent	
Non-excessive	0.09 (-0.07, 0.26)	0.267	0.02 (-0.01, 0.06)	0.169	-0.09 (-0.30, 0.11)	0.377
Excessive	0.02 (-0.18, 0.21)	0.877	0.02 (-0.02, 0.07)	0.289	0.10 (-0.18, 0.38)	0.488
Former Excessive	0.30 (0.02, 0.58)	0.033	-0.01 (-0.07, 0.06)	0.876	0.13 (-0.26, 0.51)	0.513

Age= Group 1 female is 21-45 years and male is 21-59 years. Group 2 female is 46-79 and male is 60-79. Coefficients are expressed as change in ln (FeNO) per 1 unit change in the independent variable. BMI = body mass index; FeNO= fractional excretion nitric oxide; Blood eosinophils expressed as cells/mm³. CRP = C-reactive protein in ng/mL. *Data available from 2007-2010.