

Online Supplement

Original Research

Body Mass Index and Bronchodilator Responsiveness in Adults: Analysis of 2 Population-Based Studies in 4 South American Countries

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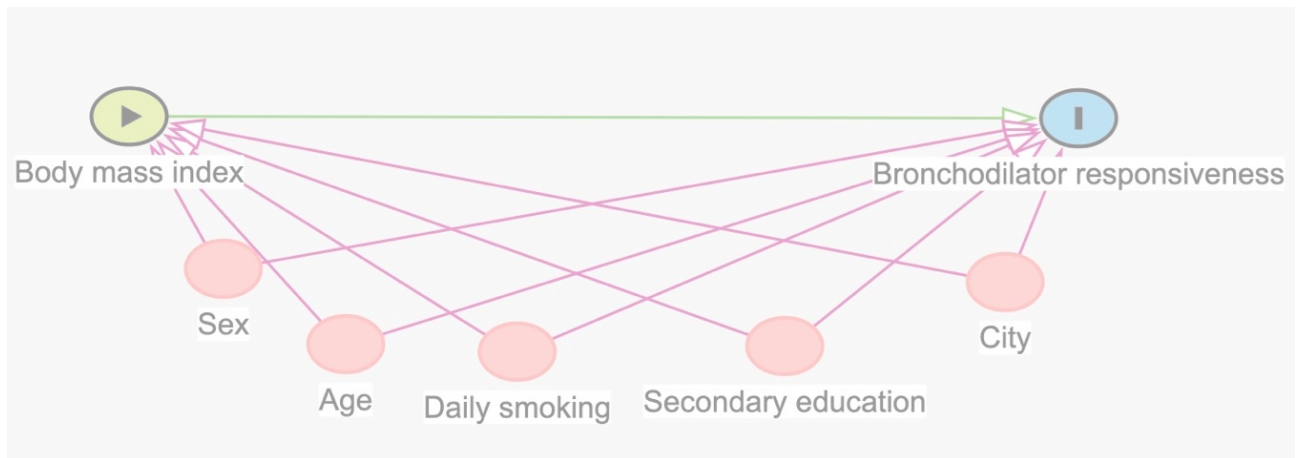
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eFigure 1. Directed Acyclic Graph of the association between body mass index and bronchodilator responsiveness



eTable 1. Single variable logistic regression analysis of positive bronchodilator responsiveness (BDR) according to individual characteristics in 7,160 participants, including city, sex, age ≥ 60 years, secondary school education, smoking, biomass exposure, respiratory diseases, and body mass index categories.

Characteristics		BDR			FEV ₁ -specific BDR			FVC-specific BDR		
		OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
City										
	Temuco, Chile	1.00			1.00			1.00		
	Marcos Paz, Argentina	1.34	0.94 – 1.93	0.11	1.04	0.69 – 1.60	0.84	1.77	1.14 – 2.82	0.013
	Tumbes, Peru	1.70	1.19 – 2.46	0.004	1.94	1.31 – 2.91	0.001	1.70	1.06 – 2.76	0.030
	Canelones, Uruguay	2.00	1.40 – 2.88	<0.001	1.98	1.33 – 2.98	0.001	2.04	1.28 – 3.30	0.003
	Lima, Peru	2.32	1.66 – 3.29	<0.001	2.53	1.74 – 3.72	<0.001	1.68	1.05 – 2.72	0.032
	Urban Puno, Peru	2.56	1.74 – 3.79	<0.001	3.22	2.14 – 4.91	<0.001	0.78	0.37 – 1.52	0.48
	Bariloche, Argentina	2.64	1.90 – 3.71	<0.001	2.41	1.67 – 3.54	<0.001	3.11	2.05 – 4.85	<0.001
	Rural Puno, Peru	3.88	2.70 – 5.60	<0.001	4.83	3.29 – 7.20	<0.001	1.60	0.90 – 2.80	0.10
Sex										
	Male	1.00			1.00			1.00		
	Female	1.07	0.91 – 1.26	0.39	1.15	0.97 – 1.37	0.10	0.98	0.79 – 1.22	0.87
Age ≥ 60 years										
	No	1.00			1.00			1.00		
	Yes	1.43	1.22 – 1.67	<0.001	1.27	1.07 – 1.51	0.006	1.64	1.32 – 2.04	<0.001
Secondary school or higher										
	No	1.00			1.00			1.00		
	Yes	0.70	0.59 – 0.82	<0.001	0.74	0.62 – 0.88	0.001	0.59	0.47 – 0.74	<0.001
Daily smoking										
	No	1.00			1.00			1.00		
	Yes	0.98	0.78 – 1.23	0.90	0.80	0.61 – 1.04	0.10	1.25	0.92 – 1.66	0.14
Biomass smoke										
	No	1.00			1.00			1.00		
	Yes	1.44	1.18 – 1.74	<0.001	1.58	1.29 – 1.94	<0.001	1.18	0.89 – 1.55	0.23
Asthma										
	No	1.00			1.00			1.00		
	Yes	3.29	2.54 – 4.22	<0.001	2.78	2.08 – 3.66	<0.001	4.81	3.56 – 6.42	<0.001
COPD										
	No	1.00			1.00			1.00		

	Yes	3.33	2.61 – 4.23	<0.001	2.46	1.86 – 3.22	<0.001	4.10	3.04 – 5.45	<0.001
Chronic bronchitis										
	No	1.00			1.00			1.00		
	Yes	1.71	1.34 – 2.16	<0.001	1.50	1.14 – 1.96	0.003	2.15	1.58 – 2.87	<0.001
Previous tuberculosis										
	No	1.00			1.00			1.00		
	Yes	1.26	0.74 – 2.01	0.37	1.27	0.71 – 2.10	0.39	1.36	0.66 – 2.47	0.36
Body mass index (kg/m²)										
	<20	1.46	0.88 – 2.31	0.124	1.46	0.85 – 2.39	0.144	1.10	0.45 – 2.28	0.818
	20-24.9	1.00			1.00			1.00		
	25-29.9	0.85	0.69 – 1.04	0.118	0.83	0.66 – 1.04	0.105	1.07	0.79 – 1.47	0.650
	≥ 30	0.92	0.75 – 1.14	0.464	0.85	0.67 – 1.07	0.152	1.43	1.06 – 1.94	0.021

eTable 2. Single variable logistic regression models assessing the association between body mass index categories and bronchodilator responsiveness (BDR), in the overall sample and stratified by respiratory condition (asthma, COPD, chronic bronchitis, previous tuberculosis, or absence of respiratory disease).

Categories of body mass index in kg/m ²	BDR			FEV ₁ -specific BDR			FVC-specific BDR		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Overall sample (n=7,160)									
<20	1.46	0.88 – 2.31	0.12	1.46	0.85 – 2.39	0.14	1.10	0.45 – 2.28	0.82
20-24.9	1.00			1.00			1.00		
25-29.9	0.85	0.69 – 1.04	0.12	0.83	0.66 – 1.04	0.11	1.07	0.79 – 1.47	0.65
≥ 30	0.92	0.75 – 1.14	0.46	0.85	0.67 – 1.07	0.15	1.43	1.06 – 1.94	0.02
Asthma (n=368)									
<20	3.07	0.67 – 13.42	0.13	3.84	0.83 – 17.21	0.08	2.08	0.27 – 10.94	0.41
20-24.9	1.00			1.00			1.00		
25-29.9	1.35	0.65 – 2.93	0.44	1.24	0.57 – 2.88	0.61	1.61	0.68 – 4.28	0.30
≥ 30	1.11	0.55 – 2.37	0.78	0.84	0.39 – 1.95	0.68	1.64	0.72 – 4.26	0.27
COPD (n=418)									
<20	0.83	0.31 – 2.02	0.70	0.91	0.28 – 2.51	0.87	0.81	0.22 – 2.41	0.73
20-24.9	1.00			1.00			1.00		
25-29.9	1.04	0.60 – 1.83	0.89	1.09	0.57 – 2.10	0.81	0.98	0.49 – 1.98	0.95
≥ 30	1.39	0.75 – 2.59	0.30	1.34	0.65 – 2.76	0.42	1.99	0.98 – 4.10	0.06
Chronic bronchitis (n=613)									
<20	2.79	0.90 – 7.93	0.06	3.01	0.87 – 9.28	0.06	2.21	0.46 – 8.20	0.26
20-24.9	1.00			1.00			1.00		
25-29.9	1.07	0.57 – 2.09	0.83	1.26	0.62 – 2.67	0.53	1.08	0.48 – 2.59	0.86
≥ 30	1.52	0.82 – 2.92	0.19	1.27	0.62 – 2.71	0.52	1.98	0.93 – 4.59	0.09
Previous tuberculosis (n=155)									
<20	2.10	0.10 – 18.30	0.54	2.10	0.10 – 18.30	0.54			
20-24.9	1.00			1.00				-	
25-29.9	0.97	0.27 – 3.57	0.96	0.97	0.27 – 3.57	0.96			
≥ 30	1.29	0.36 – 4.81	0.69	0.60	0.12 – 2.60	0.50			
Without respiratory disease (n=5,835)									
<20	1.23	0.60 – 2.26	0.54	1.25	0.60 – 2.37	0.52	0.31	0.02 – 1.44	0.25
20-24.9	1.00			1.00			1.00		
25-29.9	0.79	0.62 – 1.02	0.07	0.78	0.60 – 1.02	0.06	1.06	0.72 – 1.58	0.78
≥ 30	0.84	0.65 – 1.09	0.19	0.80	0.61 – 1.05	0.11	1.26	0.86 – 1.88	0.25