

Table 1. Demographic and lifestyle characteristics according to chronic obstructive respiratory disease.

	N ^a	Chronic obstructive respiratory disease	
		Yes ^a (N ^a =706)	No ^a (N ^a =10896)
Age, years, median (IQR)			
< 65 years, %	9359	48 (33; 65)	44 (34; 60)
≥ 65 years, %	2243	40 (29; 52)	41 (30; 50)
		72 (68; 75)	70 (67; 75)
Sex, %			
Male	5483	42.3	49,8
Female	6119	57.7	50,2
Educational level, %			
No education/primary education	3345	37.5	29,2
Secondary education	4888	41.9	42,0
University education	3369	20.6	28,8
Tobacco consumption, %			
Never	5545	46.7	48,1
Smoker	3123	28.5	27,2
Ex-smoker	2934	24.8	24,7
Regular alcohol consumption, %			
Non-drinkers	5270	53.3	45,6
Low risk	5647	42.5	48,5
High risk	685	4.2	5,9
Binge drinking ^b, %			
No	10749	94.6	94,3
Yes	734	5.4	5,7
Physical activity ^c, median (IQR)	11602		
Domestic		34.6 (12.1; 63.9)	27,1 (11,0; 60,0)
Leisure-time		21.0 (11.3; 34.5)	24,0 (12,5; 40,0)
Caloric intake, calories, median (IQR)	11602	2035 (1668; 2547)	2125 (1728; 2598)
Fat intake, g/day, median (IQR)	11602		
Saturated		26.7 (18.8; 34.7)	27,2 (19,5; 36,5)
Monounsaturated		35.9 (26.7; 47.1)	37,1 (27,8; 47,9)
Polyunsaturated		13.9 (9.6; 19.2)	13,8 (9,8; 19,4)

^a N unweighted, % and median weighted.^b Missing values = 119.^c Physical activity was measured as MET-hours/week.

IQR: interquartile range.

Table 2. Biomarkers of cardiovascular risk and health status variables according to chronic obstructive respiratory disease.

	Chronic obstructive respiratory disease	
	Yes	No
	Median (IQR)	
Glucose (mg/dL)	91 (83; 100)	90 (83; 98)
Insulin (ng/dL)	7.8 (5.3; 11.6)	7.4 (5.1; 11.3)
HOMA index ^a	1.7 (1.2; 2.8)	1.6 (1.1; 2.6)
Total cholesterol (mg/dL)	195 (169; 224)	194 (169; 221)
HDL-c (mg/dL)	52 (44; 62)	51 (43; 61)
LDL-c (mg/dL)	119 (96; 142)	119 (99; 142)
LDL-c/HDL-c ratio	2.3 (1.8; 2.8)	2.3 (1.8; 2.9)
Triglycerides (mg/dL)	93 (71; 124)	93 (67; 130)
HbA1c (%)	4.7 (4.4; 5.0)	4.6 (4.4; 4.9)
Leptin (ng/mL)	17 (9; 31.1)	14.1 (6.1; 27)
Fibrinogen (g/L)	3.4 (2.9; 4.0)	3.3 (2.9; 3.8)
C-reactive protein (mg/dL)	0.16 (0.06; 0.50)	0.12 (0.06; 0.32)
SF-12: physical summary	48.9 (38.9; 54.9)	53.3 (47.5; 56.6)
SF-12: mental summary	50.7 (41.6; 56.7)	52.2 (44.9; 57.5)
	Prevalence % (95% CI)	
Metabolic syndrome	26.9 (23.2; 31.0)	23.0 (22.0; 24.1)
Central obesity	43.7 (39.3; 48.1)	35.1 (33.8; 36.3)
High blood pressure	59.7 (55.3; 63.8)	56.7 (55.5; 58.0)
Low HDL-c levels	23.7 (20.4; 27.5)	22.6 (21.6; 23.6)
Elevated triglyceride levels	16.1 (13.0; 19.7)	17.3 (16.4; 18.2)
Elevated basal blood glucose	26.8 (22.9; 31.1)	22.8 (21.8; 23.9)
Cardiovascular disease ^b	4.2 (2.9; 6.2)	1.9 (1.7; 2.3)
Perceived health status		
Suboptimal	39.1 (34.9; 43.5)	18.9 (17.9; 19.9)
Optimal	60.9 (56.4; 65.1)	81.1 (80.1; 82.0)

IC: Confidence Interval, IQR: interquartile range.

^a HOMA: Homeostatic model assessment for insulin resistance.

^b Acute myocardial infarction, heart failure, or stroke.

	Total ^a			< 65 years old ^a			≥ 65 years old ^a			Interaction p value ^c
	% ^b	95% CI	p-value	% ^b	95% CI	p-value	% ^b	95% CI	p-value	
Basal glucose	0.49	-1.16; 2.18	0.620	0.95	-0.74; 2.66	0.274	-1.05	-5.03; 3.10	0.615	0.435
Insulin	2.84	-2.05; 7.98	0.260	2.06	-3.64; 8.10	0.487	4.40	-4.61; 14.26	0.350	0.612
HOMA index	3.27	-2.12; 8.95	0.239	3.02	-3.15; 9.59	0.344	3.30	-7.09; 14.86	0.548	0.874
HbA1c	0.62	-0.41; 1.66	0.240	0.79	-0.37; 1.97	0.184	0.15	-2.05; 2.40	0.895	0.734
Total cholesterol	-0.38	-2.00; 1.26	0.648	-0.02	-1.80; 1.80	0.984	0.22	-2.72; 3.25	0.886	0.945
HDL-c	0.20	-1.87; 2.32	0.850	0.37	-2.05; 2.85	0.769	0.37	-3.57; 4.47	0.856	0.687
LDL-c	-0.98	-3.36; 1.46	0.427	-1.05	-3.76; 1.74	0.458	1.48	-2.72; 5.86	0.496	0.493
LDL-c/HDL-c ratio	-1.18	-4.11; 1.84	0.439	-1.41	-4.80; 2.10	0.427	1.10	-4.21; 6.71	0.690	0.406
Triglycerides	0.38	-3.68; 4.62	0.856	1.91	-2.97; 7.04	0.449	-3.40	-9.51; 3.13	0.300	0.467
Leptin	7.67	-0.27; 16.25	0.059	4.02	-5.15; 14.08	0.403	21.12	6.68; 37.50	0.003	0.121
Fibrinogen	1.01	-0.75; 2.79	0.263	0.00	-1.99; 2.04	0.997	3.79	0.19; 7.52	0.039	0.070
C-reactive protein	17.75	2.67; 35.04	0.019	16.23	-0.69; 36.04	0.061	19.67	-8.94; 57.26	0.197	0.783

CI: confidence Interval.

^a Reference: without chronic obstructive respiratory diseases.

^b Percentage change of geometric means of biomarkers in people with chronic obstructive respiratory disease, estimated using generalized linear models with Gaussian distribution and logarithmic link function, adjusted for age, sex, educational level, smoking, alcohol consumption, physical activity, caloric intake, and intake of saturated, monounsaturated and polyunsaturated fats..

^c Interaction p value among people under and over 65 years old.

Table 4. Association between chronic obstructive respiratory disease and metabolic syndrome and its components.

	Total ^a			< 65 years old ^a			≥ 65 years old ^a			Interaction p value ^c
	OR ^b	95% CI	p value	OR ^b	95% CI	p value	OR ^b	95% CI	p value	
Metabolic Syndrome	1.11	0.89; 1.40	0.347	1.38	1.07; 1.77	0.013	0.74	0.49; 1.11	0.144	0.042
Central Obesity	1.30	1.06; 1.59	0.011	1.29	1.03; 1.61	0.028	1.35	0.89; 2.06	0.157	0.789
High triglyceride levels	0.91	0.70; 1.19	0.511	0.98	0.72; 1.32	0.875	0.81	0.47; 1.38	0.430	0.713
Low HDL-c levels	1.01	0.82; 1.25	0.903	1.02	0.81; 1.28	0.882	0.94	0.57; 1.55	0.815	0.987
High blood pressure	1.14	0.93; 1.40	0.194	1.16	0.93; 1.47	0.190	0.93	0.58; 1.49	0.774	0.731
High basal blood glucose	1.12	0.88; 1.44	0.345	1.32	0.99; 1.75	0.055	0.88	0.58; 1.32	0.522	0.147

CI: Confidence interval.

^a Reference: without chronic obstructive respiratory disease.^b Odds ratios (OR) estimated by logistic regression models adjusted for age, sex, educational level, tobacco consumption, alcohol consumption, physical activity, caloric intake, and intake of saturated, monounsaturated and polyunsaturated fats.^c Interaction p value among people under and over 65 years old.

Table 5. Cardiovascular disease and health status in people with chronic obstructive respiratory disease according to metabolic syndrome.

	With metabolic syndrome			Without metabolic syndrome			Interaction p value ^d
	OR ^c	95% CI	p value	OR ^c	95% CI	p value	
Cardiovascular disease ^a							
Total	2.74	1.49; 5.04	0.001	1.24	0.65; 2.38	0.508	0.091
< 65 years	1.85	0.61; 5.63	0.280	1.01	0.37; 2.76	0.986	0.407
≥ 65 years	3.26	1.51; 7.06	0.003	1.35	0.60; 3.01	0.468	0.138
Perceived health status ^b							
Total	2.40	1.65; 3.49	<0.001	2.54	1.98; 3.27	<0.001	0.862
< 65 years	1.77	1.10; 2.85	0.019	2.35	1.74; 3.17	<0.001	0.311
≥ 65 years	5.32	2.50; 11.32	<0.001	3.09	1.88; 5.10	<0.001	0.242
	β ^e	95% CI	p value	β ^e	95% CI	p value	Interaction p value ^d
Mental Health Summary (SF-12)							
Totals	-1.99	-3.93; -0.06	0.044	-1.38	-2.51; -0.25	0.017	0.488
< 65 years	-1.59	-3.90; 0.721	0.177	-0.93	-2.06; 0.21	0.109	0.500
≥ 65 years	-2.69	-6.12; 0.75	0.125	-2.99	-6.10; 0.13	0.060	0.852
Physical health summary (SF-12)							
Totals	-3.26	-5.08; -1.44	<0.001	-3.64	-4.56; -2.71	<0.001	0.928
< 65 years	-1.12	-3.15; 0.92	0.281	-3.21	-4.26; -2.16	<0.001	0.123
≥ 65 years	-6.47	-9.71; -3.24	<0.001	-4.40	-6.42; -2.39	<0.001	0.171

CI: Confidence interval.

References: ^a without cardiovascular disease and ^b optimal health status.

^c Odds ratios estimated by logistic regression models adjusted for age, sex, educational level, tobacco consumption, alcohol consumption, physical activity, caloric intake, and intake of monounsaturated and polyunsaturated fats.

^d Interacción p value according to presence or absence of metabolic syndrome.

^e Coefficients estimated by linear regression models adjusted for age, sex, educational level, tobacco consumption, alcohol consumption, physical activity, caloric intake, and intake of saturated, monounsaturated and polyunsaturated fats.