

Respiratory symptoms and their determinants in the general Spanish population: Changes over 20 years.

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Supplementary material. Results.

Table S1. Unadjusted and adjusted association between patients' characteristics and the presence of dyspnoea by sex.

Dyspnoea	Females						Males					
	Unadjusted			Adjusted			Unadjusted			Adjusted		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Age (years)	1.036	1.029 – 1.043	<0.0001	1.027	1.019 - 1.035	<0.0001	1.044	1.034 – 1.054	<0.0001	1.027	1.015 - 1.040	<0.0001
BMI (kg/m ²)	1.120	1.105 – 1.136	<0.0001	1.095	1.079 - 1.112	<0.0001	1.112	1.088 – 1.136	<0.0001	1.084	1.058 - 1.111	<0.0001
Pack-years, 0	ref						ref			Ref		
0-10	0.671	0.528 – 0.853	0.0011	-	-	-	1.506	0.992 – 2.284	0.0543	1.879	1.174 - 3.007	0.0086
10-20	0.688	0.526 – 0.900	0.0064	-	-	-	1.443	0.935 – 2.227	0.0979	1.759	1.090 - 2.838	0.0207
20-30	0.919	0.699 – 1.208	0.5439	-	-	-	1.854	1.237 – 2.777	0.0027	1.745	1.102 - 2.764	0.0175
>30	1.269	1.011 – 1.592	0.0403	-	-	-	4.597	3.443 – 6.137	<0.0001	2.629	1.874 - 3.688	<0.0001
FEV1 (%)	0.970	0.966 – 0.975	<0.0001	0.976	0.971 - 0.981	<0.0001	0.952	0.947 - 0.958	<0.0001	0.968	0.961 - 0.975	<0.0001
Charlson, 0	ref			ref			ref			Ref		
1	2.650	2.180 – 3.221	<0.0001	1.753	1.403 - 2.190	<0.0001	2.898	2.223- 3.777	<0.0001	1.530	1.123 - 2.086	0.0071
>1	3.486	2.691 – 4.517	<0.0001	2.331	1.739 - 3.124	<0.0001	4.659	3.484 – 6.229	<0.0001	2.093	1.467 - 2.988	<0.0001
Depression Yes	3.664	3.033 – 4.425	<0.0001	1.903	1.509 - 2.400	<0.0001	4.937	3.809 – 6.399	<0.0001	2.033	1.443 - 2.863	<0.0001
Anxiety Yes	2.575	2.205 – 3.007	<0.0001	2.102	1.737 - 2.544	<0.0001	3.231	2.568 – 4.066	<0.0001	2.831	2.082 - 3.849	<0.0001
YPAS	0.978	0.975 – 0.982	<0.0001	0.988	0.984 - 0.992	<0.0001	0.970	0.965 – 0.975	<0.0001	0.982	0.976 - 0.988	<0.0001

Footnote: BMI: Body mass index; CI: Confidence interval; FVC: Forced vital capacity; FEV₁: Forced expiratory volume in one second; HADS: Hospital Anxiety and Depression scale; YPAS: Yale Physical Activity Questionnaire.

Table S2. Unadjusted and adjusted association between patients' characteristics and wheezing by sex.

Wheezing	Females						Males					
	Unadjusted			Adjusted			Unadjusted			Adjusted		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Age (years)	1.000	0.994 – 1.005	0.9043				0.995	0.989 – 1.001	0.0809	0.981	0.974 - 0.988	<0.0001
BMI (kg/m ²)	1.059	1.047 – 1.071	<0.0001	1.054	1.042 - 1.067	<0.0001	1.049	1.034 -1.064	<0.0001	1.027	1.011 - 1.043	0.0007
Pack-years, 0	ref			ref			ref			ref		
0-10	1.239	1.035 - 1.483	0.0197	1.497	1.237 - 1.811	<0.0001	1.875	1.515 – 2.321	<0.0001	1.952	1.560 - 2.442	<0.0001
10-20	1.636	1.346 - 1.988	<0.0001	1.834	1.492 - 2.255	<0.0001	2.231	1.798 – 2.769	<0.0001	2.278	1.814 - 2.860	<0.0001
20-30	1.700	1.370 - 2.109	<0.0001	1.813	1.443 - 2.278	<0.0001	2.971	2.404 – 3.672	<0.0001	2.790	2.228 - 3.495	<0.0001
>30	3.208	2.652 - 3.880	<0.0001	3.023	2.469 - 3.700	<0.0001	3.872	3.260 – 4.598	<0.0001	3.177	2.632 - 3.834	<0.0001
FEV1 (%)	0.975	0.971 – 0.979	<0.0001	0.979	0.975 - 0.983	<0.0001	0.970	0.966 – 0.973	<0.0001	0.974	0.970 - 0.978	<0.0001
Charlson, 0	ref			ref			ref					
1	1.977	1.665 – 2.348	<0.0001	1.662	1.378 – 2.005	<0.0001	1.616	1.363 – 1.915	<0.0001	1.255	1.036 – 1.521	0.0203
>1	1.741	1.367 – 2.218	<0.0001	1.456	1.121 - 1.890	0.0049	1.610	1.295 – 2.002	<0.0001	1.190	0.927 – 1.526	0.1719
Depression Yes	1.651	1.385 – 1.968	<0.0001	-	-	-	1.402	1.136 – 1.730	0.0017	0.735	0.568 - 0.953	0.0199
Anxiety Yes	1.724	1.518 – 1.958	<0.0001	1.656	1.446 - 1.898	<0.0001	1.869	1.601 – 2.182	<0.0001	1.813	1.506 - 2.184	<.0001
YPAS	0.995	0.993 – 0.998	<0.0001	-	-	-	0.995	0.993 – 0.998	0.0004	-	-	-

Footnote: BMI: Body mass index; CI: Confidence interval; FVC: Forced vital capacity; FEV₁: Forced expiratory volume in one second; HADS: Hospital Anxiety and Depression scale; YPAS: Yale Physical Activity Questionnaire.

Table S3. Unadjusted and adjusted association between patients' characteristics and chronic bronchitis by sex.

Chronic bronchitis	Females						Males					
	Unadjusted			Adjusted			Unadjusted			Adjusted		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Age (years)	0.992	0.979 – 1.005	0.2396				1.020	1.007 – 1.033	0.0021	-	-	-
BMI (kg/m ²)	1.031	1.006 – 1.057	0.0140	-	-	-	1.025	0.994 – 1.056	0.1127			
Pack-years, 0	ref			ref			ref			Ref		
0-10	1.035	0.631 – 1.698	0.8928	1.115	0.670 - 1.856	0.6761	1.699	0.830 - 3.477	0.1467	1.767	0.831 - 3.758	0.1394
10-20	1.391	0.846 – 2.287	2.1936	1.330	0.797 - 2.217	0.2748	3.058	1.630 – 5.735	0.0005	3.266	1.704 - 6.259	0.0004
20-30	2.635	1.686 – 4.120	<0.0001	2.705	1.718 – 4.257	<0.0001	5.032	2.864 – 8.839	<0.0001	4.627	2.555 – 8.376	<0.0001
>30	3.806	2.621 – 5.525	<0.0001	3.429	2.339 – 5.028	<0.0001	10.871	6.791 – 17.402	<0.0001	8.482	5.138 – 14.003	<0.0001
FEV1 (%)	0.978	0.970 – 0.987	<0.0001	0.983	0.974 - 0.992	0.0001	0.960	0.954 – 0.967	<0.0001	0.970	0.962 - 0.977	<0.0001
Charlson, 0	ref						ref					
1	1.425	0.967 - 2.101	0.0736	-	-	-	1.831	1.286 – 2.606	0.0008	-	-	-
>1	1.189	0.665 - 2.125	0.5602	-	-	-	3.024	2.078 – 4.402	<0.0001	-	-	-
Depression Yes	2.418	1.714 – 3.412	<0.0001	-	-	-	3.303	2.345 – 4.653	<0.0001	-	-	-
Anxiety Yes	2.669	1.996 – 3.570	<0.0001	2.542	1.888 - 3.422	<0.0001	3.078	2.300 – 4.117	<0.0001	2.899	2.126 – 3.9542	<0.0001
YPAS	0.993	0.986 – 1.000	0.0474	-	-	-	0.990	0.984 – 0.996	0.0012	-	-	-

Footnote: BMI: Body mass index; CI: Confidence interval; FVC: Forced vital capacity; FEV₁: Forced expiratory volume in one second; HADS: Hospital Anxiety and Depression scale; YPAS: Yale Physical Activity Questionnaire.

Table S4. Unadjusted and adjusted association between patients' characteristics and the presence of "any symptom" by sex.

Wheezing	Females						Males					
	Unadjusted			Adjusted			Unadjusted			Adjusted		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Age (years)	1.010	1.005 – 1.016	<0.0001	1.006	1.000 – 1.012	0.0461	1.009	1.003 – 1.014	0.0031	-	-	-
BMI (kg/m ²)	1.073	1.060 – 1.085	<0.0001	1.061	1.047 - 1.074	<0.0001	1.057	1.042 – 1.073	<0.0001	1.031	1.015 - 1.047	0.0002
Pack-years, 0	ref			ref			ref			Ref		
0-10	1.033	0.872 – 1.224	0.7086	1.310	1.088 - 1.577	0.0044	1.629	1.331 – 1.993	<0.0001	1.694	1.368 - 2.097	<0.0001
10-20	1.495	1.237 – 1.807	<0.0001	1.772	1.439 - 2.181	<0.0001	2.216	1.805 – 2.721	<0.0001	2.281	1.833 - 2.840	<0.0001
20-30	1.756	1.420 – 2.171	<0.0001	2.019	1.603 - 2.543	<0.0001	2.749	2.239 – 3.376	<0.0001	2.523	2.026 – 3.143	<0.0001
>30	3.318	2.703 – 4.073	<0.0001	3.129	2.509 - 3.901	<0.0001	4.357	3.683 – 5.154	<0.0001	3.194	2.662 - 3.831	<0.0001
FEV1 (%)	0.972	0.969 – 0.976	<0.0001	0.977	0.973 - 0.981	<0.0001	0.964	0.960 – 0.968	<0.0001	0.972	0.967- 0.976	<0.0001
Charlson, 0	ref			ref			ref			Ref		
1	2.059	1.727 – 2.456	<0.0001	1.617	1.330 - 1.967	<0.0001	1.823	1.539 – 2.160	<0.0001	1.252	1.036 - 1.514	0.0201
>1	2.233	1.735 – 2.873	<0.0001	1.754	1.332 - 2.310	<0.0001	2.112	1.696 – 2.630	<0.0001	1.289	1.005 - 1.653	0.0452
Depression Yes	2.373	1.972 – 2.855	<0.0001	1.400	1.127 - 1.740	0.0024	1.957	1.581 – 2.423	<0.0001	-	-	-
Anxiety Yes	2.033	1.792 – 2.307	<0.0001	1.813	1.564 – 2.102	<0.0001	1.963	1.680 – 2.295	<0.0001	1.851	1.561 - 2.196	<0.0001
YPAS	0.990	0.988 – 0.993	<0.0001	0.996	0.993 - 0.999	0.0041	0.992	0.989 – 0.994	<0.0001	0.996	0.993 - 0.999	0.0048

Footnote: BMI: Body mass index; CI: Confidence interval; FVC: Forced vital capacity; FEV₁: Forced expiratory volume in one second; HADS: Hospital Anxiety and Depression scale; YPAS: Yale Physical Activity Questionnaire.

Table S5. Participants' characteristics and the prevalence of respiratory symptoms and chronic airflow obstruction in IBERPOC, EPISCAN and EPISCAN II.

	IBERPOC (1999)	EPISCAN (2009)	EPISCAN II (2019)	P value
Participants, n	4,035	3,885	9,092	
Sex, women	51	52.7	52.6	0.1267
Age range, years	40-69	40-79	>40	
Mean age, years, mean (SD)	53.4 (8.6)	56.6 (10.7)	60.2 (11.1)	-
Smokers and exsmokers	50	56.9	54	0.0011
Cough	13.5	13.4	15.9	0.0549
Chronic mucus hypersecretion	10.7	11.7	13.0	0.0001
Wheezing	40	36	33.7	<0.0001
Dyspnoea (one floor)	10.4	9.9	13.1	0.0003
Chronic bronchitis	4.8	6.9	4.7	0.1926
Asthma	4.9	7.1	7.9	<0.0001
Chronic airflow obstruction	10.6	10.2	11.8	0.0168

Footnote: Data are presented in percentage, unless otherwise specified. SD: Standard deviation; p: p-value of Chi-square test for trend.

Table S6. Participants' characteristics and the prevalence of respiratory symptoms and chronic airflow obstruction in IBERPOC, EPISCAN and EPISCAN II. Population in EPISCAN II was restricted to the age groups corresponding to the same age groups included in IBERPOC and EPISCAN for comparison.

	IBERPOC (1999)	EPISCAN II (2019) (40-69 years)	P value	EPISCAN (2009)	EPISCAN II (2019) (40-79 years)	P value
Participants, n	4,035	6,978		3,885	8,626	
Sex, women	51	51.9	0.3613	52.7	52.4	0.7637
Mean age, years, mean (SD)	53.4 (8.6)	55.5 (7.6)	-	56.6 (10.7)	59.0 (9.9)	-
Smokers and exsmokers	50	57.5	<0.0001	56.9	55.0	0.0461
Cough	13.5	15.7	0.0018	13.4	15.8	0.0005
Chronic mucus hypersecretion	10.7	12.2	0.0189	11.7	12.7	0.1185
Wheezing	40	34	<0.0001	36	33.7	0.0118
Dyspnoea (one floor)	10.4	10.7	0.6266	9.9	12.1	0.0004
Chronic bronchitis	4.8	4.5	0.4577	6.9	4.7	<0.0001
Asthma	4.9	8.1	<0.0001	7.1	7.9	0.1237
Chronic airflow obstruction	10.6	8.8	0.0018	10.2	10.9	0.02379

Footnote: Data are presented in percentage, unless otherwise specified. SD: Standard deviation; p: p-value of Chi-square test for trend.