

Supplementary Table 1. Cough-related characteristics in chronic cough and subacute cough patients

		Chronic cough patients (N=568)		Subacute cough patients (N=378)	
		Mean	SD	Mean	SD
Years experienced chronic cough †		3.39	3.28	N.A	N.A
		Count (%)		Count (%)	
Currently smoke cigarettes	<i>No</i>	391 (68.8%)		249 (65.9%)	
(Chronic cough survey)	<i>Yes</i>	177 (31.2%)		129 (34.1%)	
Smoked cigarettes in last 12 months	<i>No</i>	378 (66.5%)		241 (63.8%)	
(Chronic cough survey)	<i>Yes</i>	190 (33.5%)		137 (36.2%)	
Cough more severe at a certain time of year	<i>No</i>	139 (66.5%)		45 (22.1%)	
	<i>Yes</i>	70 (33.5%)		25 (12.3%)	
Cough most severe in:	<i>Spring (March, April, May)</i>	17 (24.3%)		63 (30.9%)	
	<i>Summer (June, July, August)</i>	9 (12.9%)		71 (34.8%)	
	<i>Fall/Autumn (September, October, November)</i>	17 (24.3%)		17 (4.5%)	
	<i>Winter (December, January, February)</i>	27 (38.6%)		66 (17.5%)	
	<i>Yes</i>	22 (7.0%)		45 (22.1%)	
Cough improves when stopped smoking	<i>No</i>	74 (23.6%)		25 (12.3%)	
	<i>Don't know</i>	86 (27.5%)		63 (30.9%)	
	<i>I did not stop smoking</i>	131 (41.9%)		71 (34.8%)	
	<i>Never</i>	41 (7.3%)		17 (4.5%)	
How often do you cough up phlegm when you cough	<i>Rarely</i>	105 (18.6%)		66 (17.5%)	
	<i>Sometimes</i>	211 (37.3%)		152 (40.3%)	
	<i>Often</i>	127 (22.5%)		108 (28.6%)	
	<i>Always</i>	81 (14.3%)		34 (9.0%)	
Discussion on diet/weight loss to improve GERD	<i>No</i>	11 (57.9%)		2 (40.0%)	
	<i>Yes</i>	8 (42.1%)		3 (60.0%)	
Cough start/exacerbate with cold or flu-like illness	<i>Yes</i>	138 (24.5%)		155 (41.3%)	
	<i>No</i>	312 (55.3%)		148 (39.5%)	
	<i>Don't know</i>	114 (20.2%)		72 (19.2%)	

† Sample size: CC (N=341)

Supplementary Table 2. Point prevalence and 12-month period prevalence estimate for chronic and subacute cough among non-smokers

		Point prevalence (before exclusion)			Point prevalence (after exclusion †)		12-month period prevalence	
		Total	Count	Prevalence	Count	Prevalence	Count	Prevalence
Chronic cough	All respondents	19,440	478	2.46%	401	2.06%	762	3.92%
	<60 male	5,308	120	2.26%	103	1.94%	189	3.56%
	<60 female	6,192	109	1.76%	93	1.50%	232	3.75%
	≥60 male	4,366	147	3.37%	118	2.70%	192	4.40%
	≥60 female	3,574	102	2.85%	87	2.43%	149	4.17%
Subacute cough	All respondents	19,440	355	1.82%	281	1.45%	1,084	5.58%
	<60 male	5,308	119	2.24%	81	1.53%	324	6.10%
	<60 female	6,192	116	1.87%	99	1.60%	416	6.72%
	≥60 male	4,366	77	1.76%	63	1.44%	179	4.10%
	≥60 female	3,574	43	1.20%	38	1.06%	165	4.62%

† Respondents were excluded from the analysis if they met any of the following criteria: i) self-reported in NHWS or the chronic cough survey of any form of lung cancer, interstitial lung disease, such as idiopathic pulmonary fibrosis, or currently taking an ACE inhibitor; or ii) self-reported experienced chronic cough in the NHWS but did not participate in the chronic cough survey.

Supplementary Table 3. Demographics, health characteristics and cough severity among chronic cough patients not smoking vs. smoking.

		Total CC (N=568)		Not smoking CC (N=391)		Smoking CC (N=177)		p-value
		Mean	SD	Mean	SD	Mean	SD	
Age		56.01	15.15	57.07	15.63	53.66	13.79	0.013
Charlson Comorbidity index		0.33	0.67	0.31	0.62	0.35	0.75	0.554
Adapted Charlson Comorbidity index		0.23	0.55	0.21	0.51	0.28	0.62	0.161
		Count (%)		Count (%)		Count (%)		
Gender	<i>Male</i>	347 (61.10%)		212 (54.20%)		135 (76.30%)		< .001
	<i>Female</i>	221 (38.90%)		179 (45.80%)		42 (23.70%)		
Currently employed	<i>No</i>	252 (44.40%)		198 (50.60%)		54 (30.50%)		< .001
	<i>Yes</i>	316 (55.60%)		193 (49.40%)		123 (69.50%)		
BMI category	<i>Underweight (BMI<18.5)</i>	54 (9.50%)		41 (10.50%)		13 (7.30%)		0.043
	<i>Normal weight (18.5≤BMI<23)</i>	373 (65.70%)		256 (65.50%)		117 (66.10%)		
	<i>Overweight (23≤BMI<25)</i>	94 (16.50%)		56 (14.30%)		38 (21.50%)		
	<i>Obese (BMI≥25)</i>	31 (5.50%)		27 (6.90%)		4 (2.30%)		
Use of alcohol	<i>Decline to answer</i>	16 (2.80%)		11 (2.80%)		5 (2.80%)		0.003
	<i>Abstain</i>	191 (33.60%)		147 (37.60%)		44 (24.90%)		
	<i>Currently consume alcohol</i>	377 (66.40%)		244 (62.40%)		133 (75.10%)		
Vigorous exercise in past 30 days	<i>No</i>	305 (53.70%)		210 (53.70%)		95 (53.70%)		0.994
	<i>Yes</i>	263 (46.30%)		181 (46.30%)		82 (46.30%)		
Ever spoken with a physician for your cough †	<i>No</i>	313 (55.10%)		185 (47.30%)		128 (72.30%)		< .001
	<i>Yes</i>	251 (44.20%)		204 (52.20%)		47 (26.60%)		
Severity VAS (0-100) ‡		Mean	SD	Mean	SD	Mean	SD	
Severity of cough over the past 2 weeks		40.54	21.6	38.72	21.46	44.60	21.43	0.003
Severity of cough on the worst day during the past 2 weeks		49.88	23.93	48.19	24.05	53.63	23.29	0.012

† Sample size: Total CC(N=564), Not smoking (N=389), Smoking (N=175)

‡ Sample size: Total CC (N=565), Not smoking (N=389), Smoking (N=176)

Supplementary Table 4. Demographics, health characteristics and cough severity between chronic cough patients whose underlying disease of chronic cough were unknown and all other chronic cough patients.

		Total CC (N=568)		All other CC patients (N=514)		CC patients without known underlying disease (N=54)		p-value
		Mean	SD	Mean	SD	Mean	SD	
Age		56.01	15.15	55.63	15.29	59.57	13.40	0.069
Charlson Comorbidity index		0.33	0.67	0.32	0.66	0.41	0.69	0.343
Adapted Charlson Comorbidity index		0.23	0.55	0.22	0.53	0.35	0.68	0.083
		Count (%)		Count (%)		Count (%)		
Gender	<i>Male</i>	347 (61.1%)		317 (61.7%)		30 (55.6%)		0.380
	<i>Female</i>	221 (38.9%)		197 (38.3%)		24 (44.4%)		
Currently employed	<i>No</i>	252 (44.4%)		226 (44.0%)		26 (48.1%)		0.557
	<i>Yes</i>	316 (55.6%)		288 (56.0%)		28 (51.9%)		
BMI category	<i>Underweight (BMI<18.5)</i>	54 (9.5%)		47 (9.1%)		7 (13.0%)		0.193
	<i>Normal weight (18.5≤BMI<23)</i>	373 (65.7%)		333 (64.8%)		40 (74.1%)		
	<i>Overweight (23≤BMI<25)</i>	94 (16.5%)		90 (17.5%)		4 (7.4%)		
	<i>Obese (BMI≥25)</i>	31 (5.5%)		28 (5.4%)		3 (5.6%)		
Currently smoke cigarettes (cough questionnaire)	<i>No</i>	391 (68.8%)		346 (67.3%)		45 (83.3%)		0.016
	<i>Yes</i>	177 (31.2%)		168 (32.7%)		9 (16.7%)		
Use of alcohol	<i>Abstain</i>	191 (33.6%)		169 (32.9%)		22 (40.7%)		0.245
	<i>Currently consume alcohol</i>	377 (66.4%)		345 (67.1%)		32 (59.3%)		
Vigorous exercise in past 30 days	<i>No</i>	305 (53.7%)		268 (52.1%)		37 (68.5%)		0.022
	<i>Yes</i>	263 (46.3%)		246 (47.9%)		17 (31.5%)		
Ever spoken with a physician for your cough †	<i>No</i>	313 (55.1%)		313 (60.9%)		0 (0.0%)		< .001
	<i>Yes</i>	251 (44.2%)		197 (38.3%)		54 (100.0%)		
Severity VAS (0-100) ‡		Mean	SD	Mean	SD	Mean	SD	
Severity of cough over the past 2 weeks		40.54	21.6	40.99	21.68	36.30	20.50	0.129
Severity of cough on the worst day during the past 2 weeks		49.88	23.93	50.33	23.88	45.65	24.17	0.172

† Sample size: Total CC(N=564), All other CC patients (N=510), CC patients without known underlying disease (N=54)

‡ Sample size: Total CC(N=567), All other CC patients (N=513), CC patients without known underlying disease (N=54)

Supplementary Table 5. Self-reported medication usage and satisfaction between chronic cough patients whose underlying disease were unknown and all other chronic cough patient

	Total CC (N=564)	All other CC patients (N=510)	CC patients without known underlying disease (N=54)	p-value
	Count (%)	Count (%)	Count (%)	
None	289 (50.9%)	268 (52.1%)	21 (38.9%)	0.056
Anti-tussives	69 (12.1%)	57 (11.1%)	12 (22.2%)	0.018
Anti-epileptics	1 (0.2%)	1 (0.2%)	0 (0.0%)	0.745
Proton pump inhibitors	10 (1.8%)	10 (1.9%)	0 (0.0%)	0.299
H2 blockers	10 (1.8%)	9 (1.8%)	1 (1.9%)	0.963
Nasal Steroids	21 (3.7%)	20 (3.9%)	1 (1.9%)	0.445
Inhaled steroids	57 (10.0%)	50 (9.7%)	7 (13.0%)	0.464
Oral steroids	13 (2.3%)	11 (2.1%)	2 (3.7%)	0.471
Beta-agonists	11 (1.9%)	10 (1.9%)	1 (1.9%)	0.956
1st generation antihistamines	8 (1.4%)	7 (1.4%)	1 (1.9%)	0.777
2nd generation antihistamine	24 (4.2%)	20 (3.9%)	4 (7.4%)	0.228
Cough drops	60 (10.6%)	59 (11.5%)	1 (1.9%)	0.028
Antibiotics	46 (8.1%)	42 (8.2%)	4 (7.4%)	0.833
ICS-LABA	51 (9.0%)	46 (8.9%)	5 (9.3%)	0.953
Others	73 (12.9%)	61 (11.9%)	12 (22.2%)	0.033

Supplementary Table 6. Comparison of demographics, health characteristics and cough severity in chronic cough patients not greatly satisfied with treatment effectiveness and other chronic cough patients

		Total (N=568)		All other CC patients (N=477)		CC patients not greatly satisfied with treatment effectiveness (N=91)		p-value
		Mean	SD	Mean	SD	Mean	SD	
Age		56.01	15.15	56.32	15.07	54.36	15.57	0.259
Charlson Comorbidity index		0.33	0.67	0.29	0.62	0.52	0.85	0.003
Adapted Charlson Comorbidity index		0.23	0.55	0.22	0.52	0.27	0.68	0.384
		Count (%)		Count (%)		Count (%)		
Gender	<i>Male</i>	347 (61.1%)		307 (64.4%)		40 (44.0%)		< .001
	<i>Female</i>	221 (38.9%)		170 (35.6%)		51 (56.0%)		
Currently employed	<i>No</i>	252 (44.4%)		220 (46.1%)		32 (35.2%)		0.054
	<i>Yes</i>	316 (55.6%)		257 (53.9%)		59 (64.8%)		
BMI category	<i>Underweight (BMI<18.5)</i>	54 (9.5%)		42 (8.8%)		12 (13.2%)		0.097
	<i>Normal weight (18.5≤BMI<23)</i>	373 (65.7%)		311 (65.2%)		62 (68.1%)		
	<i>Overweight (23≤BMI<25)</i>	94 (16.5%)		87 (18.2%)		7 (7.7%)		
	<i>Obese (BMI≥25)</i>	31 (5.5%)		24 (5.0%)		7 (7.7%)		
Currently smoke cigarettes (cough questionnaire)	<i>No</i>	391 (68.8%)		318 (66.7%)		73 (80.2%)		0.011
	<i>Yes</i>	177 (31.2%)		159 (33.3%)		18 (19.8%)		
Use of alcohol	<i>Abstain</i>	191 (33.6%)		162 (34.0%)		29 (31.9%)		0.698
	<i>Currently consume alcohol</i>	377 (66.4%)		315 (66.0%)		62 (68.1%)		
Vigorous exercise in past 30 days	<i>No</i>	305 (53.7%)		266 (55.8%)		39 (42.9%)		0.024
	<i>Yes</i>	263 (46.3%)		211 (44.2%)		52 (57.1%)		
Ever spoken with a physician for your cough †	<i>No</i>	313 (55.1%)		293 (61.4%)		20 (22.0%)		< .001
	<i>Yes</i>	251 (44.2%)		180 (37.7%)		71 (78.0%)		
Severity VAS (0-100) ‡								
		Mean	SD	Mean	SD	Mean	SD	
Severity of cough over the past 2 weeks		40.54	21.6	39.63	21.42	45.34	22.04	0.021

Severity of cough on the worst day during the past 2 weeks	49.88	23.93	48.44	23.8	57.41	23.32	0.001
	Count (%)		Count (%)		Count (%)		
Severity VAS (0-100) exceeding 40	255 (45.0%)		207 (43.5%)		48 (52.7%)		

† Sample size: Total CC(N=564), Not RCC (N=473), RCC (N=91)

‡ Sample size: Total CC(N=567), Not RCC (N=476), RCC (N=91)