

Chronic Cough in America: Characteristics of Chronic Cough Patients with Allergies

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BACKGROUND

- Limited literature exists describing the characteristics of and burden for US sufferers of both chronic cough and allergies.
- Subjects were recruited from a general-purpose, web-based consumer panel reflective of the US adult population in terms of age, sex, race, and ethnicity.

OBJECTIVE

To describe US chronic cough (CC) sufferers in terms of those with vs without comorbid Allergies. Specifically, their cough duration, severity, and diagnosis as well as demographics, healthcare resource use, and health status.

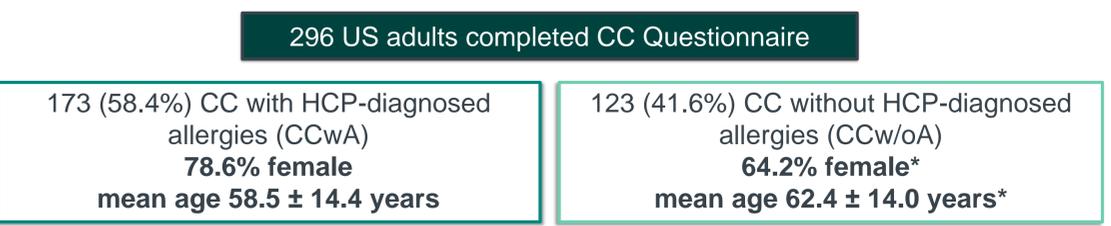
METHODS

- CC in this survey = a daily cough for 8 weeks or longer
- 2018 National Health and Wellness Survey (NHWS; Kantar, New York) respondents reporting CC in the prior year were invited to complete a questionnaire about their CC experience.
- The CC Questionnaire inclusion/exclusion criteria were: currently experiencing CC; no lung disease*; not current (in past year) smoker/vaper; not regularly taking oral steroids to treat CC, asthma or COPD; not taking ACEi for high blood pressure.
- Respondents stratified into those with comorbid allergies diagnosed by a healthcare provider (HCP) and those without.
- Respondents completed health status questionnaires, including:
 - Work Productivity and Activity Impairment measures the impact, over prior 7 days, of health state on work productivity.¹
 - Leicester Cough Questionnaire (LCQ): range 3-21; higher scores indicate higher health-related quality of life.²
 - Hull Airway Reflux Questionnaire (HARQ): scores >13 = higher likelihood of having cough hypersensitivity syndrome.³
 - Cough Quality of Life Questionnaire (CQLQ): range 28-112; higher scores indicate higher impact on quality of life.⁴
- Respondents also reported on HCRU including visits to HCPs for their own medical conditions in the preceding 6 months.
- Charlson Comorbidity Index (CCI)⁵ was further modified to remove COPD, a common underlying cause of CC (mCCI).
- Where indicated and pre-specified, multivariable analyses controlled for age and gender; results reported as means ± SE and percentages. Results not otherwise specified are unadjusted; reporting means ± SD and percentages.

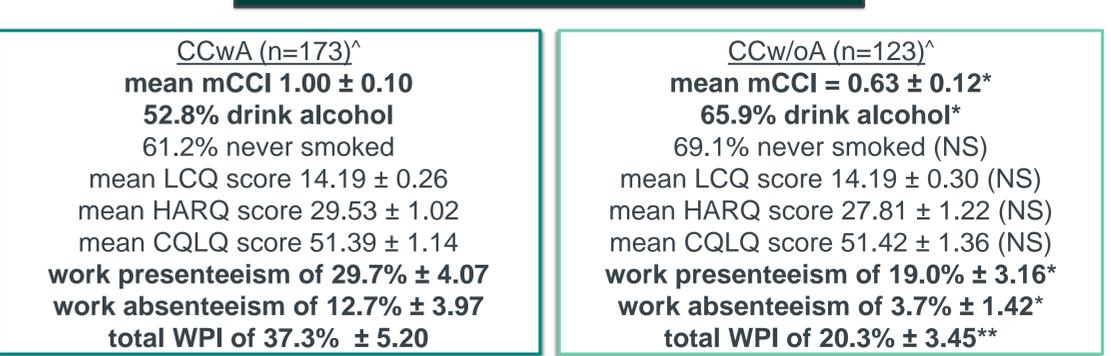
*Lung disease in this survey is defined as: idiopathic interstitial lung disease and any type of lung cancer

RESULTS

Figure 1. Key Demographics and Health Status



Multivariable Analyses, controlled for age & gender



WPI = work productivity impairment. NS = not statistically significantly different from CCwA.
[^]Multivariable analysis results presented as means ± standard error and percentages.
 *Statistically significant at $p < 0.05$. **Statistically significant at $p < 0.01$.

- While mean HARQ scores indicated the average respondent in each strata have a high likelihood of cough hypersensitivity syndrome, some symptoms were a worse problem for a higher proportion of CCwA than for CCw/oA (Fig 2).

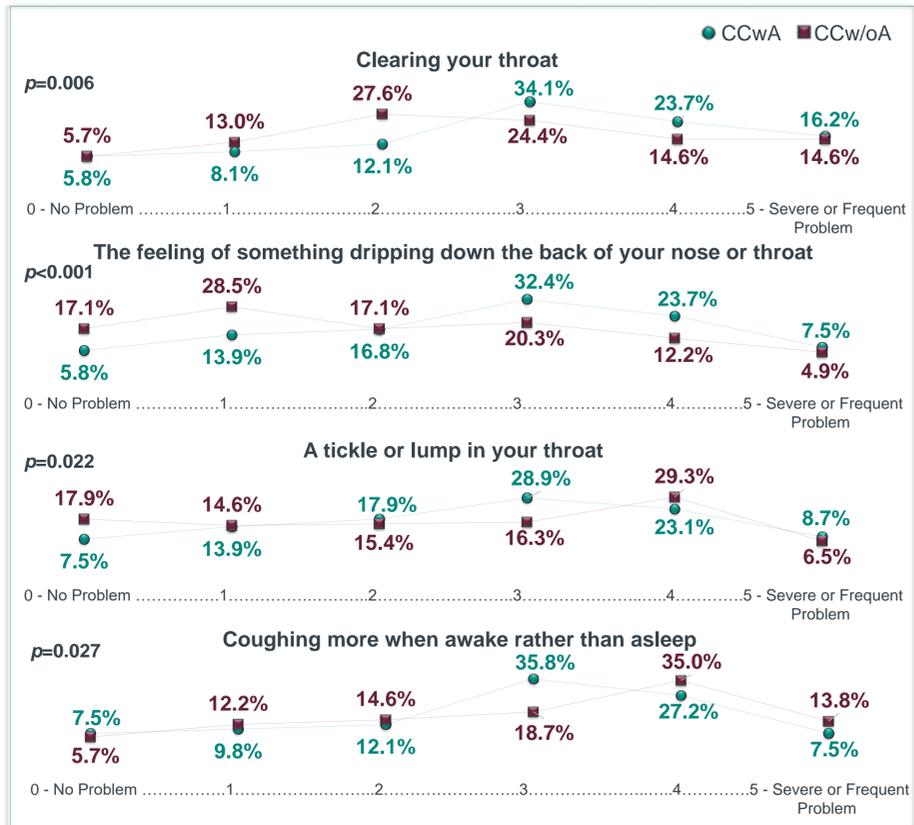
Chronic Cough Characteristics

- Mean cough duration was similar: CCwA (7.3 ± 10.3 years) vs CCw/oA (7.7 ± 10.3 years)
- Cough severity (VAS 0-10) on worst day in preceding two weeks was similar among CCwA (6.0 ± 2.2) and CCw/oA (5.8 ± 2.1).
- Of the 52.3% (n=56) CCwA who indicated cough was more severe at a certain time of year, many reported spring (41.1%) or winter (39.3%).

HCP Interactions

- More CCwA than CCw/oA were told by HCPs that they had conditions related to their CC (91.3% vs 65.0%, $p < 0.01$). Most notably, post-nasal drip (38.7% vs 20.3%, $p = 0.001$), asthma (35.3% vs 18.7%, $p = 0.002$), and GERD (30.6% vs 18.7%, $p = 0.021$).
- CCwA reported higher rates of compliance with doctor's advice related to CC compared with CCw/oA (87.9% vs 76.4%, $p = 0.010$).

Figure 2. HARQ Items with Differences (unadjusted)



Healthcare Resource Use

- While both strata visited an HCP in the preceding 6 months (94.2% and 86.6%), CCwA had more HCP visits (8.0 ± 9.6 vs 5.3 ± 5.2, $p = 0.005$).
- CCwA had more Allergist visits (0.19 ± 0.57 vs 0.02 ± 0.20, $p = 0.002$) and more Otolaryngologist visits (0.14 ± 0.51 vs 0.01 ± 0.09, $p = 0.005$) than CCw/oA.
- Fewer CCwA visited a Cardiologist (14.5% vs 24.4%, $p = 0.030$), but the number of visits was not statistically different (0.29 ± 0.84 vs 0.37 ± 0.08) from CCw/oA.
- More CCwA than CCw/oA saw an HCP to evaluate their CC (91.9% vs 78.9%, $p = 0.001$); among those seeking care, both groups predominantly (~90%) visited an PCP.
- CCwA also report higher use of diagnostic tests to evaluate CC than CCw/oA: allergy testing (32.4% vs 7.3%), GI testing (21.4% vs 10.6%), sinus imaging (20.2% vs 9.8%) (each comparison $p < 0.02$).

CONSIDERATIONS

- A strength of this survey is it is not limited to patients seen in specialty clinics.
- Responses are self-reported data.
- In a posthoc assessment, we learned that 45 (36.6%) of the 123 respondents in CCw/oA had at some point experienced what they reported to be allergies but none reported being diagnosed by an HCP as having allergies. This may indicate need for greater consideration of allergy playing a role in CC.
- Although the NHWS is sampled to be nationally representative, participation in the CC Questionnaire was optional and required meeting inclusion criteria; results may not be generalizable.
- Causal conclusions cannot be drawn from this cross-sectional questionnaire.

CONCLUSIONS

- Compared with those with CC but no diagnosed allergies, those with CC and comorbid allergies had
 - greater work productivity impairment
 - higher healthcare resource use
 - higher percentage of comorbidities
- CC respondents with allergies more frequently reported complying with their doctor's advice related to their cough vs. those without allergies.
- Additional research is needed to better understand the underlying etiologies of CC.

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