

Online Supplement

Original Research

The Long-Term Effects of Cost-Related Nonadherence on COPD Outcomes and Progression in the COPD Genetic Epidemiology Study Cohort

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	No Questionnaire n=217	Questionnaire n=2523	p-value
Age	66 (60-73)	63 (57-69)	<0.01
Gender			
Female	117 (54%)	1168 (46%)	0.03
Self-reported Race			
White	192 (88%)	1969 (78%)	<0.01
Black	25 (12%)	554 (22%)	
Baseline FEV ₁	1.3 (0.9-1.8)	1.7 (1.2-2.3)	<0.01
Baseline FVC	2.7 (2.2-3.4)	3.1 (2.5-3.9)	<0.01
Baseline FEV ₁ /FVC	49 (36-61)	59 (47-65)	<0.01
Pack years	49 (37-71)	44 (33-62)	<0.01
Smoking status at baseline			
Former Smoker	157 (72%)	1436 (57%)	<0.01
Current Smoker	60 (28%)	1087 (43%)	
Asthma	48 (22%)	612 (24%)	0.48
	1134 (936-1365)	1341 (1100-1586)	<0.01
6MWD at baseline (feet)			
SGRQ Total	39 (24-57)	29 (13-48)	<0.01
Taking Respiratory Medication			
LABA	110 (51%)	888 (35%)	<0.01
LAMA	108 (50%)	689 (27%)	<0.01
ICS	115 (53%)	940 (37%)	<0.01
Congestive Heart Failure	14 (6%)	81 (3%)	0.01
Coronary Artery Disease	28 (13%)	216 (9%)	0.03
Diabetes	27 (12%)	286 (11%)	0.62

e-Table 1: Baseline characteristics of participants categorized by having completed versus not completed the questionnaire regarding cost-related nonadherence.

Abbreviation: FEV₁: Forced expiratory volume over 1 second; FVC: Forced vital capacity; 6MWD: 6-minute walk distance; SGRQ: St. George's Respiratory Questionnaire; LABA: Long-Acting Beta Agonist; LAMA: Long-Acting Muscarinic Antagonist; ICS: Inhaled corticosteroid

Effect of cost-related nonadherence on COPD outcomes at baseline		
	Mean Difference (95% CI)	p-value
FEV ₁ (mL)	-124 (-196 to -53)	<0.01
6MWD (ft.)	-58 (-94 to -23)	<0.01
SGRQ	8 (6 to 10)	<0.01
CAT	2.6 (1.7 to 3.4)	<0.01
BODE Index	0.3 (0.1 to 0.5)	<0.01

e-Table 2: Mean difference at baseline visit using linear regression model controlling for baseline FEV₁, age, gender, race, smoking status, smoking pack years, asthma, and ADI.

Abbreviation: 6MWD: 6-minute walk distance; SGRQ: St. George's Respiratory Questionnaire; CAT: COPD Assessment Test; BODE: Body-Mass Index, Airflow Obstruction, Dyspnea, and Exercise Capacity.

Longitudinal Outcomes associated with Cost-related nonadherence		
	Adjusted Differences (95% CI)	p-value
Post BD FEV ₁ in mL (SD) ¹	-8 (-4 to -11)	<0.01
6MWD in ft. (SD) ¹	3.0 (-1.7 to 7.80)	0.21
SGRQ (SD) ¹	-0.1 (-0.3 to 0.1)	0.44
CAT Score (SD) ¹	0.01 (-0.20 to 0.19)	0.95
BODE (SD) ¹	0.01 (-0.02 to 0.03)	0.54
Exacerbation (IRR) ²	1.47 (1.29 to 1.68)	<0.01

e-Table 3: Adjusted differences in outcome comparing individuals with COPD experiencing cost-related nonadherence versus no cost-related nonadherence. All models adjusted for baseline FEV₁, age, gender, race, smoking status, smoking pack years, asthma, and ADI.

1. Mixed effects linear regression model with site and participant random intercept and FEV₁ random slope.

2. Mixed effects negative binomial model with total follow up time as an offset.

Abbreviation: BD: bronchodilator; SD: slope difference; FEV₁: Forced expiratory volume in 1 second; 6MWD: 6-minute walk distance; SGRQ: St George's Respiratory Questionnaire; CAT: COPD Assessment Test; BODE: Body-Mass Index, Airflow Obstruction, Dyspnea, and Exercise Capacity; IRR: Incidence Rate Ratio;