

Title: Evaluating Effective Pharmacotherapy for Post-TB COPD: A Multicentric Real-World Observational Study from India

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Introduction: India is home to nearly 40 million of the estimated 155 million TB survivors globally. COPD is the most common post-TB sequela; however, effective pharmacotherapy for post-TB COPD remains unknown. This study aimed to evaluate treatment outcomes with various inhaled pharmacotherapies in Post-TB COPD patients.

Methods And Materials: 183 post-TB-COPD patients (post-bronchodilator FEV1/FVC<70%), from 12 clinics across India participated. Treatment arms evaluated were LABA+LAMA, LABA+ICS and LABA+LAMA+ICS. Demographics, symptoms, history of hospitalizations, CAT scores, and spirometry indices were recorded at baseline and after 3 months.

Results: Table 1 summarizes the results from 104 participants who completed the follow-up visit.

Variables	LABA+LAMA(n=40)		LABA+ICS(n=10)		LABA+LAMA+ICS(n=54)	
Age (years) (Mean ± SD)	62.7±9.1		63.1±11.6		67.5±9.6	
Gender(M,F)%	72.5, 27.5		60,40		72.2,27.8	
	Baseline vs 3- months Follow up	p-Value	Baseline vs 3- months Follow up	p-Value	Baseline vs 3- months Follow up	p-Value
Persistent Cough(%)	85 vs 55	0.007	70 vs 40	0.368	75.93 vs 55.56	0.042
Shortness of breath(%)	100 vs 60	<0.001	100 vs 60	0.093	100 vs 81.48	0.002
Wheeze(%)	72.5 vs 30	<0.001	10 vs 30	0.576	59.26 vs 37.04	0.034
Chest Tightness(%)	42.5 vs 25	0.156	30 vs 0	0.210	44.44 vs 22.22	0.024
Hospitalizations due to exacerbations (%)	12.5 vs 0	0.03	10 vs 10	0.62	11.11 vs 0	0.02
FEV1 Pre(L) (Mean ± SD)	0.96±0.42 vs 1.15±0.52	0.001	1.2±0.68 vs 1.21±0.64	0.754	0.79±0.29 vs 0.91±0.35	0.003
FVC Pre(L) (Mean ± SD)	1.75±0.77 vs 1.98±0.84	<0.001	2±1.01 vs 2.05±0.85	0.407	1.54±0.55 vs 1.73±0.58	<0.001
CAT Score (Mean ± SD)	15.42±5.42 vs 7.25±4.33	<0.001	13.6±6.75 vs 9.70±5.89	0.034	16.03±6.22 vs 8.81±4.76	<0.001

Discussion: Post-TB COPD patients receiving LABA+LAMA or LABA+LAMA+ICS showed significant improvements in symptoms, CAT scores, and spirometry indices. LABA+ICS use resulted in limited clinical and spirometric benefits, which may be attributed to the smaller sample size in this group.

Conclusion: Our findings suggest that dual bronchodilator or triple therapy may be effective in improving symptoms and lung function outcomes in post-TB COPD patients.