

Correlating between chronic obstructive pulmonary disease assessment test and emPHasis score in Group III pulmonary hypertension patients

Sir,

It is important to assess the health status of patients to understand the impact of a disease and an intervention. Chronic obstructive pulmonary disease (COPD) assessment test (CAT) is one such simple and accepted measurement scale framed on eight selected domains concerning the health status of a COPD patient.^[1,2] CAT (introduced in 2009) has been successfully utilized in other respiratory conditions as diffuse parenchymal lung diseases (DPLD), bronchiectasis, and destroyed lung for tuberculosis.^[3-5] Later, we have observed the advent of emPHasis score (introduced in 2014) for the measurement of health-related quality of life of the patients with pulmonary hypertension (PH).^[6] As both the conditions (COPD and PH) possess some of the common symptom domains, we have been following our Class III PH patients with CAT score for some time, and we introduced the emPHasis score afterward following appropriate validation in the local language (Bengali) in collaboration with the original authors. We decided to look for the comparison of these two scoring systems to appreciate the role of CAT in measuring the health status in PH.

The job was done following ethical approval with proper consent. Both the two scoring systems (emPHasis and CAT) were applied to a cohort of our patients with Class-III PH been diagnosed on a clinico-radiological screening protocol practiced at the institute.^[7] The etiological evaluation^[7] for PH was done on a modified but defined algorithm borrowed from the international guideline.^[8] The

measurement of CAT and emPHasis scoring was done by a single trained research fellow entrusted to assist and collect the responses from the patients on a single day with a gap of about 30 min between procurement of the two scoring systems. Any patients with a history of exacerbation in the preceding 6 weeks were excluded. Both the scores were plotted and computed statistically using GraphPad Prism 7.0 software. We have also tested the correlation separately for our COPD and non-COPD participants.

A total of 75 patients of PH (mean systolic pulmonary artery pressure as 51.9 ± 12.4 mm of Hg) with different lung diseases (COPD-30, DPLD-12, long-standing asthma-16, obstructive sleep apnea-5, and others-12) were included. The “others” group included bronchiectasis, ABPA, CTEPH, PAH, and one hemodialysis associated PH. The mean CAT score and EmPhasis score were 12.5 ± 5 and 10.7 ± 5.4 , respectively. A strong correlation between CAT and emPHasis was observed ($r = 0.81$, $P \leq 0.0001$). This co-relationship is unlikely affected by the COPD patients in the cohort as the calculated co-relation separately for the condition was found to be lower ($r = 0.67$; $P \leq 0.0001$). It also suggests that the comparison (between CAT and emPHasis) is better for non-COPD patients with PH [Figure 1].

The result deduced is encouraging and may help a clinician to understand the health status of patient of PH through using the existing CAT scoring system which is far more popular than emPHasis. Individual etiology-specific

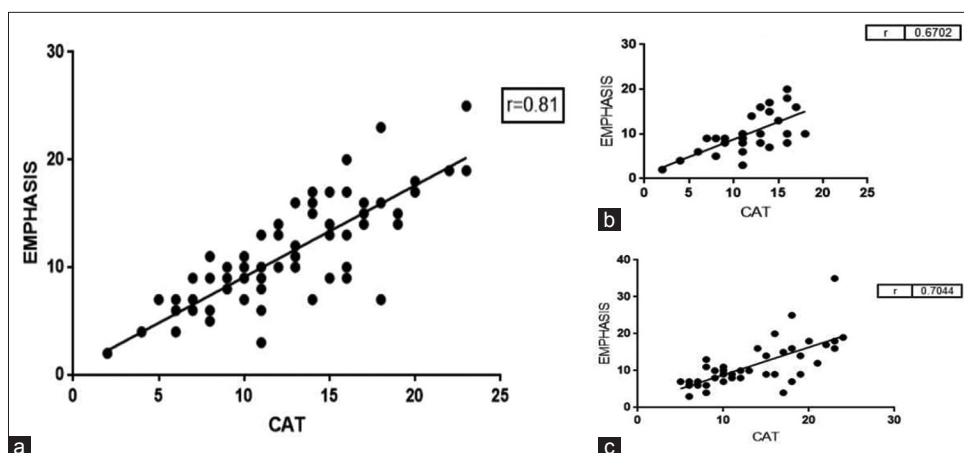


Figure 1: Correlation between chronic obstructive pulmonary disease assessment test and emPHasis (a) overall; (b) for chronic obstructive pulmonary disease participants ($n = 30$); (c) for nonchronic obstructive pulmonary disease participants ($n = 45$)

assessment of the CAT and the emPHasis would be worthwhile to see in future.

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Conflicts of interest

There are no conflicts of interest.

**Sayoni Sengupta, Debkanya Dey,
Parthasarathi Bhattacharyya**

*Department of Pulmonary Medicine, Institute of Pulmocare and
Research, Kolkata, West Bengal, India
E-mail: parthachest@yahoo.com*

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