Author’s response to reviews

Title: A cluster analysis of chronic obstructive pulmonary disease in dusty areas cohort identified three subgroups

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Version: 2 Date: 01 Nov 2017

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I suggest to:

1) Be more specific about which score from PCA was used for clustering, was it regression score or score from factor analysis.

Response 1: We used score from factor analysis score for clustering. We have added text in the Methods section for clarification (page 6, line 11)

2) Specify the potential direction that results could be affected by using change of FEV1, mMRC and CAT in final analysis.

Response 2: For example, patients with high FEV1 can potentially associated with more FEV1 decline as shown in previous study by COPDGene group. (American journal of respiratory and critical care medicine 2016, 194(2):178-184). So we have changed text in the Discussion section adding this potential direction.

“The PCA variables were the ones that changed differently according to subgroups. This may have influenced the results. For example, FEV1, was included in the PCA variables, and patient with better lung function showed more lung function decline in the previous report [19]. However, subgroup 2, which have worse lung function showed more decline in the current study.” (page 11, line 8)
We also corrected typing errors in the manuscript.