



Clusters of functional status in COPD: an exploratory analysis

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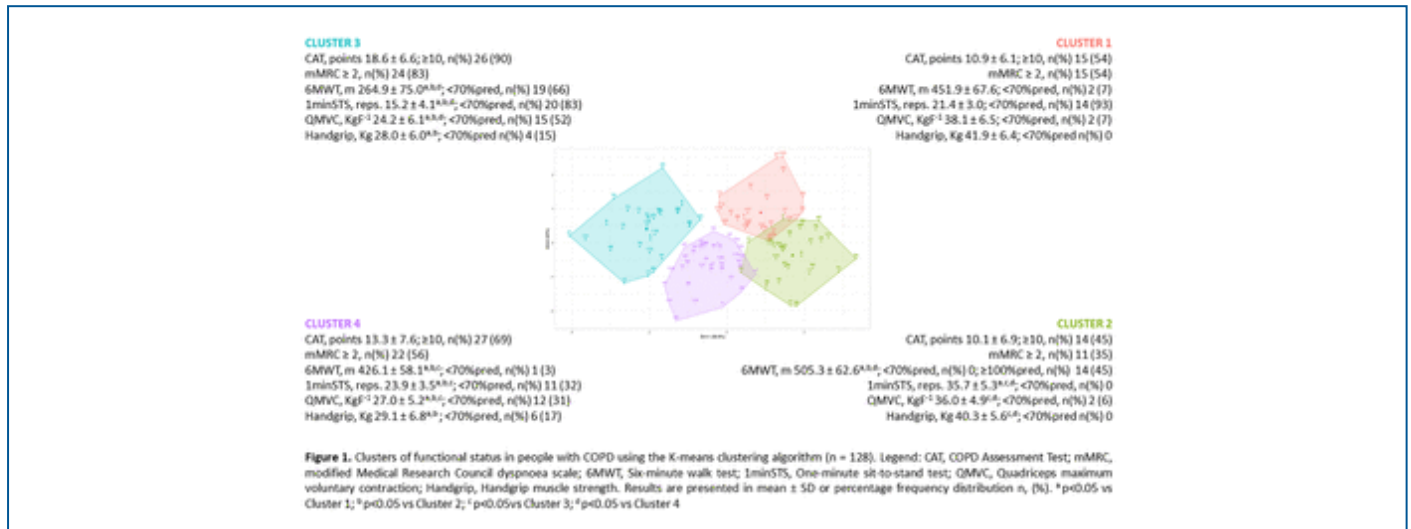
Abstract

Functional status is highly meaningful to the daily life of people with COPD but is often overlooked by treatment options. Understanding its heterogeneity, might contribute to better personalised care. We aimed to explore clusters of functional status in people with COPD.

Lung function, impact of the disease, activity-related dyspnoea and functional status were collected cross-sectionally. The 6-minute walk test, 1-minute sit-to-stand test, quadriceps maximum voluntary contraction and handgrip muscle strength were used to group individuals to clusters (K-means clustering). Total within cluster sum of squares was computed for different values of k and the optimum number of clusters was defined as the inflexion point on the curve. Differences between clusters were explored using ANOVA and post-hoc multiple pairwise comparisons.

127 people with COPD (82% male, 68±8 years, FEV1 56±20 %pred) were included in the analysis. 4 clusters were found (Fig. 1): 'over-achievers' (Cluster 2, n=30); 'achievers' (Cluster 1, n=28); 'partial-achievers' (Cluster 4, n=39); 'non-achievers' (Cluster 3, n=29).

Our 4 clusters of functional status may guide tailored treatment regimens to improve this highly meaningful outcome. Cluster validity, their behaviour over time and differential response to treatment needs further investigation.



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