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Clinical phenotypes and health-related quality of life of COPD patients in a rural setting in Malaysia – a cross-sectional study

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Abstract

Background: The Spanish chronic obstructive pulmonary disease (COPD) guideline phenotypes patients according to the exacerbation frequency and COPD subtypes. In this study, we compared the patients' health-related quality of life (HRQoL) according to their COPD phenotypes.

Methods: This was a cross-sectional study of COPD patients who attended the outpatient clinic of the Serian Divisional Hospital and Bau District Hospital from 23th January 2018 to 22th January 2019. The HRQoL was assessed using modified Medical Research Council (mMRC), COPD Assessment Test (CAT), and St George's Respiratory Questionnaire for COPD (SGRQ-c).

Results: Of 185 patients, 108 (58.4%) were non-exacerbators (NON-AE), 51 (27.6%) were frequent exacerbators (AE), and the remaining 26 (14.1%) had asthma-COPD overlap (ACO). Of AE patients, 42 (82.4%) had chronic bronchitis and only 9 (17.6%) had emphysema. Of the 185 COPD patients, 65.9% had exposure to biomass fuel and 69.1% were ex- or current smokers. The scores of mMRC, CAT, and SGRQ-c were significantly different between COPD phenotypes ($p < 0.001$). There were significantly more patients with mMRC 2–4 among AE (68.6%) ($p < 0.001$), compared to those with ACO (38.5%) and NON-AE (16.7%). AE patients had significantly higher total CAT ($p = 0.003$; $p < 0.001$) and SGRQ-c (both $p < 0.001$) scores than those with ACO and NON-AE. Patients with ACO had significantly higher total CAT and SGRQ-c (both $p < 0.001$) scores than those with NON-AE.

AE patients had significantly higher score in each item of CAT and component of SGRQ-c compared to those with NON-AE (all $p < 0.001$), and ACO [$p = 0.003$ – 0.016 ; $p < 0.001$ – 0.005] except CAT 1, 2 and 7. ACO patients had significantly higher score in each item of CAT and component of SGRQ-c ($p = < 0.001$ – 0.040 ; $p < 0.001$) except CAT 2 and activity components of SGRQ-c.

Conclusions: The HRQoL of COPD patients was significantly different across different COPD phenotypes. HRQoL was worst in AE, followed by ACO and NON-AE. This study supports phenotyping COPD patients based on their exacerbation frequency and COPD subtypes. The treatment of COPD should be personalised according to these two factors.

Keywords: Chronic obstructive pulmonary disease, Clinical phenotypes, Health-related quality of life, Exacerbators, Asthma overlap

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