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Title: Characteristics of COPD exacerbations in Greece

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**Body:** Background and Aims: Acute Exacerbations of COPD (AECOPD) are associated with significant morbidity and mortality. We aimed to provide data on the characteristics of AECOPD in a large group of COPD patients in Greece. Methods: Patients diagnosed with an AECOPD referred to 27 Greek hospitals and 114 chest specialists were included. Demographic data, previous treatment, lung function testing and co-morbidity were recorded. Results: Six thousand and fourteen patients were included in the study, 4360 (72.5%) males, age median (interquartile): 68(60-75) yrs. Up to 47.8% of patients were current smokers. Median BMI was 27.5kg/m<sup>2</sup> (24.9-30.6). Two or more co morbidities were found in 55.8%. The vast majority of the patients (86.4%) were receiving regular treatment for COPD before the exacerbation. The majority of patients (61%) were classified as moderate-to-severe COPD. Almost 1/4 (23.4%) of patients had hypoxemic respiratory failure and 10.3% of them developed hypercapnia during stable state. A remarkable percentage of patients (28.3%) experienced more than 3 exacerbations. Patients aged >76 yrs had increased number of AECOPD vs patients aged<60 yrs(p=0.03). Disease duration >5 yrs, COPD stages of 3 or 4, comorbidity and non compliance with treatment were associated with increased annual frequency of AECOPD. Increased disease duration (>11 yrs), COPD stage 4 and non compliant patients demonstrated increased OR for ICU admission (OR(95%CI): 1.8 (1.1-2.81), p=0.018, 2.8 (1.4-5.5), p=0.002, 1.4 (1.0-2.0), p=0.043, respectively). Conclusions: Our study showed that patients presenting AECOPD have a wide range of severity, while the exacerbation rate is associated with age, disease severity stage, comorbidity and compliance with regular treatment.