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**CHARACTERISTICS RELATED TO THE POOR OUTCOMES AMONG  
PATIENTS HOSPITALISED FOR ACUTE EXACERBATION OF  
CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

**ABSTRACT**

Acute exacerbations of chronic obstructive pulmonary disease (AECOPD) are associated with increased hospital admission and mortality. Older patients were more prone for severe life threatening exacerbations. They are usually present with multiple co-morbidities of which anxiety and depression are often neglected and under-diagnosed. The objectives of this study were to explore the general characteristics of patients hospitalised with AECOPD and to identify the prognostic factors associated with poor outcomes (mortality and readmission) after hospital discharge. The occurrence of probable anxiety and depression among older patients were also evaluated.

A historical cohort study among patients admitted with primary diagnosis of AECOPD over a 5-year period between 2007 and 2011 was conducted in part 1 of the study. This was followed by a multicenter prospective longitudinal study (part 2) which was conducted in four states in Malaysia focusing on older ( $\geq 60$  years) patients over a one year period. The occurrences of probable anxiety and depression were assessed using Geriatric Depression Scale (GDS-15) and Generalized Anxiety Disorder-7 (GAD-7).

A total of 259 patients were included in the Part 1 of the study. The mortality rates after 1, 3, and 5 years were 26.3%, 49.8% and 59.5% respectively. The multivariate Cox regression result identified older age ( $\geq 60$  years) (HR, 2.53; 95% CI 1.29-4.92) and LTOT (HR, 2.78; 95% CI 1.54-

5.02) as independent prognostic factors associated with the higher risk of mortality after discharge. The rate of hospital readmission was 34%, 43.2%, and 48.6% for 1, 3, and 5-years respectively. Older age (HR, 1.78; 95% CI 1.12-2.85), LTOT usage (HR, 3.63; 95% CI 1.89-6.95), number of previous COPD admission ( $\geq 2$ ) within a year (HR, 2.92; 95% CI 1.47-5.80), and ventilation use in the hospital (HR, 0.19; 95% CI 0.08-0.47) were identified as the prognostic factors associated with COPD hospital readmission. Part 2 consisted of 85 older patients. The rates of probable anxiety and depression were 34.1% and 37.8% among the study population. Approximately a quarter (25.9%) of the patients were detected to have both anxiety and depression.

In conclusion, the rates of hospital readmission and mortality were high among patients with AECOPD and the risk increases among elderly and patients using LTOT. History of frequent COPD hospitalisation increases the risk of readmission. Anxiety and depression were found to be relatively common among older patients locally. History of frequent exacerbations was found to be associated with developing depression symptoms, while anxiety scores were associated with dyspnoea severity. Special attention and regular monitoring among those patients who are higher risk of mortality and readmission may have positive impact and decrease the risk of poor outcomes. Regular screening for the early detection of the symptoms of anxiety and depression and initiation of appropriate treatment should be encouraged.