



**Service Priorities and Programmes  
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**The prevalence of anxiety and depression among hospitalized elderly male in-patients during exacerbation of Chronic Obstructive Pulmonary Disease (COPD) in Hong Kong.**

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**Introduction**

According to the World Health Organization (WHO), Chronic Obstructive Pulmonary Disease (COPD) was the fifth leading cause of death in 2002, it was believed that COPD will become the third leading cause of death in the world by 2030. COPD is a costly disease, both at individual and societal level. Patients with COPD will progressively have physical deterioration which will further affect their psychological well being thus leading to a decrease in quality of life. Furthermore, at the societal level, as with the ageing population, there will be a higher hospital admission and with the cost of new medication will definitely put a stress to the health care system. Many Caucasian studies showed that the prevalence of depression and anxiety was 50% higher in patients with COPD than those without however limited researches have been done in Hong Kong.

**Objectives**

This study aimed at establishing the prevalence of anxiety and depression among hospitalized elderly male in-patients during exacerbation of Chronic Obstructive Pulmonary Disease (COPD) living in the community of Hong Kong and also to identify the associated factors.

**Methodology**

Convenience sampling would be used in this study. All in-patients who were referred for occupational therapy from the ward of respiratory medicine at Kowloon Hospital, Hong Kong, were recruited based on inclusion and exclusion criteria. Inclusion criteria: 1) Male; 2) Age 65 or above; 3) diagnosis as COPD exacerbation in the current admission; 4) Have a confirmed diagnosis of COPD by spirometry (FEV1:FVC < 0.7); 5) Living in the community of Hong Kong. Exclusion criteria: 1) Bedbound; 2) Non-communicable; 3) Known Dementia; 4) Known psychiatric illnesses (including known depression and anxiety), 5) Known intellectual disabilities; 6) Failed to sign consent form; 7) a current or an ex-Intra-Venous Drug Addict (IVDA); and 8) on

contact precaution. Participants underwent the 21-item Depression, Anxiety Stress Scale (DASS 21), COPD Assessment Test (CAT), Borg Scale on Rating of Perceived Dyspnea, The Chinese Shortness of Breath Questionnaire (SOBQ), the subscale of Monitored Functional Task Evaluation (MFTE), 2 minutes ambulation. After the collection of all the data from the assessments and questionnaires, the demographical details such as age; education level; financial status; smoking status; mode of living; financial status such as currently receiving or not receiving subsidy from the government or fund board; whether the completion of disease management group or supported by community resources were recorded. Past medical information such as Predicted Forced Expiratory Volume value in one second (FEV1) from the latest spirometry result; number of hospital admissions due to COPD exacerbation within one year; Body Mass Index (BMI); past history of hypertension and/or diabetic mellitus and/or cancer and/or stroke and/or pain and/or cardiac problems and/or other lung diseases; existing oxygen therapy user; pre and on admission Modified Medical Research Council Dyspnea Scale grading and years of disease were also collected from medical record.

### **Result**

From univariate analysis, age (76-84 years old) ( $p < 0.02$ ; OR: 2.46; 95% CI: 0.86 – 7.02), high MMRC score (Grade 3-4) ( $p < 0.04$ ; OR: 2.23; 95% CI: 0.78 – 6.32), lower physical performance ( $p < 0.04$ ; OR: 0.51; 95% CI: 0.18 – 1.51) showed statistically significance with anxiety. Home oxygen user ( $p < 0.02$ ; OR: 2.33; 95% CI: 0.75 – 7.19), high MMRC score (Grade 3-4) ( $p < 0.02$ ; OR: 1.72; 95% CI: 0.56 – 5.3), C-SOBQ score ( $\geq 55$ ) ( $p < 0.00$ ; OR: 2.89; 95% CI: 0.84 – 9.96), CAT score (21 – 40) ( $p < 0.03$ ; OR: 1.75; 95% CI: 0.58 – 5.26) showed statistically significance with depression. However no significance was showed from multivariate analysis. This study suggested an approximately 40-60% of patients with severe grade (predicted FEV1 : 30-49%) of COPD showed anxious and/or depressive features. A better integrated approach towards management of COPD patients are encouraged.