The evaluation of the Hong Kong Chinese version of chronic obstructive pulmonary disease assessment test (CAT) for measurement of health-related quality-of-life in patients with bronchiectasis

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Introduction
Bronchiectasis is a common respiratory disease and majority of the patients present with chronic productive cough and some will develop exacerbation which can impose significant impact on their health. A simple instrument that can assess the impact of disease is useful in clinical practice. Chronic Obstructive Pulmonary disease assessment test (CAT) is an 8-item questionnaire for COPD patients, which shows good and valid measurement properties

Objectives
To validate the Chinese version of the CAT in patients with bronchiectasis by correlation with St. George’s Respiratory Questionnaire (SGRQ-HK)

Methodology
A prospective cohort study was conducted on stable bronchiectasis patients in Haven of Hope Hospital. The baseline characteristics, physiological parameters and scoring of the CAT (Chinese) and SGRQ-HK were assessed. Concurrent validity with SGRQ-HK, test-retest reliability, internal consistency, sensitivity and responsiveness of the CAT were assessed. Stepwise multiple regression analyses was performed to identify the factors that predicted the scoring of CAT

Result
There were total 58 patients recruited with 19 males and 39 females. The mean age was 59.9±13.2 years. The common causes of bronchiectasis were idiopathic (51.7%), followed by post-infection (31%). The common presentations were sputum production
(96.6%), cough (89.7%) and exertional dyspnea (65.5%), while 25 patients (43.1%) had hemoptysis. The mean FEV1 % of predicted was 66.9 ± 21.5% and the mean FVC % of predicted was 75.7 ± 18.5%. The median no. of exacerbation in past 1 year was 1(IQR0-3). The mean CAT score was 14.6±7.6 (range 2-36). Eight patients had exacerbation of bronchiectasis and tested for responsiveness. The CAT score showed strong correlation with every domain and total score of SGRQ-HK, with the highest between the CAT and the total score of SGRQ-HK (r = 0.832, p value <0.001). Patients with 24 hour sputum volume <21.8ml and > 21.8ml showed significantly different mean rank value of CAT score (p<0.0005). CAT score also showed good internal consistency, test-retest reliability and responsiveness. CAT score was correlated positively with Modified Medical Research Council dyspnea score, frequency of exacerbation in past 1 year and C-reactive protein (p<0.02). In conclusion, CAT (Chinese) is a validated tool to assess the health-related quality-of-life of patients with bronchiectasis.