What are the barriers to use spirometry for diagnosing chronic obstructive pulmonary disease among general out-patient doctors in Hong Kong? – A pilot study

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Keywords:
Chronic obstructive pulmonary disease
Spirometry
Barriers
General out-patient clinic

Introduction
COPD is a common disease and a leading cause of death worldwide, presented significant burden to health care system. Spirometry is considered the gold standard for confirming the diagnosis of COPD and assessing disease severity, which guides appropriate therapy that can positively influence disease course, slow progression, relieve symptoms and reduce exacerbations. International and local studies confirmed primary care doctors underused spirometry with their COPD patients. There was no local study that looked for barriers to use spirometry in diagnosing COPD among primary care doctors in Hong Kong. Identification of the barriers to use spirometry for diagnosing COPD allows implementation of targeted strategies to tackle those obstacles and promote use of spirometry, and ultimately enhances care to COPD patients.

Objectives
To identify important barriers to use spirometry in diagnosing COPD among doctors serving at general out-patient clinics (GOPCs) in Hong Kong; to determine their frequency of using spirometry in diagnosing COPD, their confidence in interpreting spirometry results and its correlation with different barriers

Methodology
The cross-sectional survey piloted in 23 GOPCs in Kowloon West Cluster. Participating doctors completed a questionnaire which gathered their demographic data, training background, working environment, frequency of using spirometry and confidence level in interpreting spirometry result. Their opinion towards 10 potential
barriers to use spirometry in diagnosing COPD was expressed on a 5-point Likert scale (1="strong disagreement"; 5="strong agreement"). The mean score and the proportion of participants agreeing to each of the 10 barriers were used as the main outcome measure. Pearson correlation coefficient was performed to explore the correlation between confidence level and agreement on each of the 10 barriers. Chi-square test was used to determine whether the frequency of spirometry usage was influenced by clinic environment or training experience.

Result
98 doctors (79%) responded to the questionnaires. The most important barriers were limited choices of medication in GOPCs (mean score 3.78, 69% agreed), limited consultation time (3.70, 68% agreed), patient's reluctance (3.21, 41% agreed) and lack of access to spirometry service (3.07, 42% agreed). The mean score for doctors' confidence in interpreting spirometry result was 3.43, but confidence level was not found to correlate with any of the above 4 barriers. Over 50% doctors used spirometry in only 0-20% occasion while diagnosing COPD; Doctors working in training centres used spirometry more frequently.