Clinical Research Results Abstract

Abstract ID = 11509

Presented by Zihan Pan on Saturday 30th May 2020

Screening for undiagnosed COPD; accuracy of different strategies among primary care patients in China: Breathe Well study

Zihan Pan[1], Andrew Dickens[2], Chunhua Chi[3], Xia Kong[3], Alexandra Enocson[2], Peymané Adab[2], Kar Keung Cheng[2], Alice Sitch[2], Sue Jowett[2], Rachel Jordan[2]
[1]Department of General Practice, Peking University First Hospital, China, [2]University of Birmingham, [3]Peking University First Hospital

Aim: To identify the most effective screening strategy for identifying undiagnosed COPD amongst primary care patients in China.

Methods: Cross-sectional study in eight community hospitals from four cities, with participants completing all index tests (screening questionnaires [CDQ, CAPTURE, Symptom-based questionnaire, COPD-SQ], microspirometer [COPD-6] and peak flow [USPE]) and the reference test (ndd Easy On-PC spirometer). Test performance of all screening tests and strategies were compared against the reference test. Cases were defined as those below the lower limit of normal (LLN-GLI) on the reference test.

Results: 2439 participants completed the index and reference test. Participants had a mean age of 59.8 (SD 9.6) years, 39.0% (n=950) were male, 69.0% (n=1682) were never-smokers and 3.4% (n=84) had an existing COPD diagnosis. 13.7% (n=335) of participants had spirometry-confirmed airflow obstruction; amongst those with no previous COPD diagnosis, the prevalence was 10.7%. The microspirometer had a sensitivity of 52.7% (95% CI 47.2%-58.2%) and specificity 94.3% (95% CI 93.2%- 95.2%) using a cut-point of <0.75. The peak flow meter had a sensitivity of 65.9% (95%CI 60.5%-70.9%) and specificity of 82.5% (95%CI 80.8%-84.1%) using a cut-point of <350 litres/min for men and <250 litres/min for women. The least accurate screening questionnaire was the CDQ with a sensitivity of 46.0% (95%CI 40.5%-51.5%) and a specificity of 21.3% (95%CI 19.6%-23.1%), while the Chinese symptom-based questionnaire had the best accuracy with a sensitivity of 61.8% (95%CI 56.4%-67.0%) and a specificity of 74.2% (95%CI 72.3%-76.1%).

Conclusion: The prevalence of spirometry-confirmed COPD was 13.7% in the overall sample, and 10.7% amongst those with no previous diagnosis. In our sample, the peak flow meter had slightly better test performance than the microspirometer at the cut-points chosen, and the Chinese symptom-based questionnaire was the most accurate screening questionnaire. Alternative cut-points and combinations of tests need to be further evaluated.

Declaration of Interest

References and Clinical Trial Registry Information