

Abstract Presentations

5. Zihan Pan, China



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

Zihan Pan; Andrew P Dickens; Chunhua Chi; Xia Kong; Alexandra Enocson; Peymané Adab; Kar Keung Cheng; Alice Sitch; Sue Jowett, Rachel E Jordan on behalf of the Breathe Well Group



北京大学第一医院
PEKING UNIVERSITY FIRST HOSPITAL

UNIVERSITY OF
BIRMINGHAM



FUNDED BY

NIHR

National Institute
for Health Research



Background and aims

- In China, COPD is 4th leading cause of death in urban areas and 3rd in rural areas (1.28 million deaths/year)
- Prevalence of COPD is 15% amongst people ≥ 40 years old in China
- Only 12% of COPD patients reported a previous pulmonary function test
- Screening in primary care could identify patients requiring diagnostic spirometry, but evidence of cost-effective strategies in resource limited settings is lacking
- **Research question**
 - What are the most cost effective screening strategies for identifying undiagnosed COPD amongst patients aged ≥ 40 yrs in China?

Methods

- **Population:** Aged ≥ 40 years, residents of Beijing, Chengdu, Guangzhou or Shenyang
- **Index tests:** Screening questionnaires (CDQ, CAPTURE, COPD-SQ, symptom-based), microspirometer (COPD-6) and peak flow (USPE)
- **Reference test:** Quality diagnostic spirometry (nidd Easy-On PC), lower limit of normal-GLI
- **Outcome:** Test performance & cost effectiveness of all index tests & strategies compared against reference test
- **Study design:** Cross-sectional (screening test accuracy)

Results – sample characteristics

	n=2439 (number completing study)
Age; mean (SD)	59.8 (9.6)
Sex; n (%) male	950 (39.0)
Smoking status	
Current	473 (19.3)
Ex	290(11.8)
Never	1682 (69.0)
CAT score; mean (SD)	6.1 (5.4)
MRC dyspnoea; n (%)	
Grade 1-2	2225(90.9)
Grade 3-5	224 (9.1)
Existing COPD diagnosis; n (%)	84 (3.4)

Results – test accuracy

- 99% spirometry tests were usable
- <LLN in whole sample: 13.7% (335/2449)
- <LLN if no prior diagnosis: 10.7% (247/2449)

- Screening questionnaire: symptom-based (sens 61.8%, spec 74.2%)
- Lung function test: peak flow (sens 65.9%, spec 82.5%)
- Parallel testing strategy: COPD-SQ & peak flow (sens 88.9%, spec 15.0 %)
- Serial testing strategy: symptom-based & peak flow (sens 47.9 %, spec 91.2 %)

Conclusions

- Prevalence of COPD was lower than previous Chinese studies
- Sensitivity/specificity of index tests was worse than previous studies, perhaps due to the population studied
- Sensitivity analyses need to explore the impact of spirometry quality and diagnostic criteria used. We will also explore optimal cut-points of the index tests

This research was funded by the National Institute for Health Research (NIHR) NIHR global group on global COPD in primary care, University of Birmingham, (project reference: 16/137/95) using UK aid from the UK Government to support global health research. The views expressed in this presentation are those of the author(s) and not necessarily those of the NIHR or the UK Department of Health and Social Care.