

## Research Ideas on Respiratory Conditions and Tobacco Dependency

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### Identifying undiagnosed COPD in patients with systemic arterial hypertension in Brazil: a screening test accuracy study (protocol)

Sonia Maria MARTINS, Andy Dickens Andy, Rafael Stelmach Rafael, Aldo A Albuquerque Neto Aldo, Peymane Adab Peymane, Alice Sitch Alice, Rachel Jordan Rachel  
*Breathe Well Group*

**Research question:** What are the most cost effective screening strategies for identifying undiagnosed COPD in Brazil, amongst patients with systemic arterial hypertension?

#### Background:

COPD and systemic arterial hypertension (SAH) are often underdiagnosed and inadequately treated in primary care settings in Brazil. In the city of São Bernardo do Campo, there is a high prevalence of SAH, and COPD is a common comorbidity. In a situation where resource constraints are evident, diagnosing COPD patients more effectively is a current challenge. This study aims to evaluate the sensitivity, specificity and cost-effectiveness of different screening strategies, comparing screening questionnaires, hand-held micro-spirometry and peak flow.

#### Possible methodology: (eg research methods, design, population, recruitment, funding):

Design: Cross-sectional study (screening test accuracy).

Population: Diagnosed SAH patients, aged  $\geq 40$  years.

Recruitment: Participants will be recruited from hypertension clinics within 9 basic health units in São Bernardo do Campo. Patients will be excluded if they cannot understand the study consent form or are contraindicated for spirometry. A maximum of 2000 patients will be recruited.

Outcome measures: Participants will conduct index and references tests on the same day. Index tests will include COPD screening questionnaires, peak flow and microspirometry. The reference test (diagnosed COPD) is defined as clinical diagnosis by a pulmonologist and airflow obstruction based on the lower limit of normal (GLI), according to quality diagnostic spirometry. Test performance (e.g. sensitivity, specificity) of all screening tests and strategies will be compared against quality diagnostic spirometry.

#### QUESTIONS TO DISCUSS:

Should screening strategies be used instead of universal quality diagnostic spirometry?

Could screening questionnaires and/or microspirometry be used for COPD screening in a non-specialized healthcare scenario?

Should COPD screening be conducted in smokers aged  $\geq 40$  years regardless of respiratory symptoms?

#### Declaration of Interest

The authors declare no conflicts of interest. The research is funded by NIHR Global Health Research, as part of the Breathe Well programme.

#### References and Clinical Trial Registry Information

1. **Rabahi MF.** Prevalence of chronic obstructive pulmonary disease among patients with systemic arterial hypertension without respiratory symptoms. *International Journal of COPD*, 2015.
2. **Haroon et al.** Effectiveness of case finding strategies for COPD in primary care: a systematic review and meta-analysis. *NPJ Primary Care Respiratory Medicine*, 2015.