Title: COPD underestimation in an Italian general population sample

Body: Background: Chronic Obstructive Pulmonary Disease (COPD) is a common disease with an increasing burden, often underdiagnosed in general practice (GP), especially among high risk groups. Aim: to investigate the prevalence and burden of different COPD related groups in an Italian general population sample. Methods: 1620 subjects living in Pisa (Central Italy) participated in a cross-sectional study (2009-11) within the IMCA2 (Indicators for Monitoring COPD and Asthma in the EU) project. An interviewer administered questionnaire on socio-demographic characteristics, respiratory symptoms/diseases, cardiovascular diseases (CVD), risk factors and health services use was used. 689 (mean age: 53.6yrs±16.7; 47.3% males) subjects carried out also a spirometry test (GOLD airway obstruction (AO): FEV1/FVC <0.7). Following features of COPD were considered: 1. COPD: diagnosis +/- chronic respiratory symptoms (CRS)/AO, 2. CRS, 3. AO+/-CRS, 4. No COPD/CRS/AO. Results: 10.3% of subjects had COPD, 5.7% CRS, 18.3% AO+/-CRS. By multinomial analysis, COPD resulted significantly associated to age > 59 yrs (OR 5.49), former smoker (OR 3.50), current smoker (OR 2.29), occupational exposure (OR 2.32), GP (OR 3.84) and specialist (OR 2.31) visits and laboratory test (OR 4.68) for respiratory problems; CRS to GP visits (OR 4.24), emergency room visits (OR 2.36); AO+/-CRS to age > 59 yrs (OR 5.22), current smoker (OR 1.88), specialist visits (OR 2.16). Conclusions: COPD related risk profiles and a significant use of health services in subjects without diagnosis suggest a probable underdiagnosis of COPD in an Italian general population sample. Thus it is advisable to increase GP and patients awareness in detecting the disease in its earliest states.