105. COPD epidemiology

P975

Clinical profile of adult patients with invasive pneumococcal disease (IPD) during a 3 year surveillance in Belgium

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Objectives: A 3 year prospective surveillance program on invasive pneumococcal disease (IPD) in Belgium provided data for 1332 patients. The data were analyzed to identify the clinical presentation and profile of patients hospitalized with IPD.
Methods: Prospective, active surveillance of IPD in hospitalized adults. Isolation of S. pneumoniae from culture of a normally sterile site by hospital microbiological laboratories. Fifty hospitals (44% of acute hospitals) participated in the surveillance network.
Results: In 2009, only patients older than 50 y with IPD were targeted. In 2010 and 2011 the study was extended to adults from 18 y. A total of 1875 patients were included and of these, 1332 patients were evaluable.
76.5% of patients had 1 or more underlying diseases. The presence of comorbidities increased by age range from 53.6% in 18-49 y, 74.1% in 50-64 y and 84.5% in 65+. The average number of comorbidies increased with age from 0.7 in 18-49 to 1.8 in 65+.
The most frequent underlying diseases were COPD (25.2%), cancer (22.3%), heart failure (18.7%) and renal insufficiency (13.4%).
The mortality rate increased with the presence of comorbidities from 9.3% to 17.6% ($p<0.0001$). The presence of heart failure, renal insufficiency, hepatic disease and alcoholism significantly increased mortality, whereas COPD, cancer, HIV, immunosuppression did not increase mortality.
Conclusion: Underlying diseases are present in 8/10 patients with invasive pneumococcal disease and their presence increases the mortality rate.

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Prevalence of chronic obstructive pulmonary disease (COPD) in a general population in Norway

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Introduction: The prevalence of Chronic Obstructive Pulmonary Disease (COPD) is increasing worldwide. There is need for regularly updated estimates to better monitor the burden of disease.
Objectives: To present updated prevalence estimates and risk factors of Global Initiative for Obstructive Lung Disease (GOLD) defined COPD in a general adult population.
Methods: In the Hordaland County Cohort Study (HCCS), 1664 subjects aged 35-90 yrs answered questionnaires and performed spirometry in 2003-05. The prevalence of COPD was calculated using mean estimates, and risk factors for COPD were analysed using logistic regression.
Results: In a previous study phase, prevalence of GOLD-defined COPD was 7%. Nine years later, the prevalence was 14%. A vast majority (70%) of the subjects experienced one or more respiratory symptoms, but only 1 out of 4 had a physician's diagnosis. As many as 1 out of 5 current smokers suffered from COPD, while approximately 1 out of 20 never-smokers had COPD. Significant risk factors for COPD were sex, age, smoking habits, pack-years and occupational exposure. Men had 1.7 (OR, 95% CI 1.2, 2.3) higher odds of COPD than women. Subjects older than 65yrs had 10.3 (OR, 95% CI 6.4, 16.5) times higher odds for COPD than subjects younger than 40yrs. Those who smoked more than 20 pack-years had 4.2 (OR, 95% CI 2.6, 6.7) times higher odds for COPD than subjects smoking less than 10 pack-years.
Conclusion: The prevalence of GOLD defined COPD had increased substantially, from 7% to 14%, during the last 9 years. There is still a large amount of under diagnosis in COPD, which indicates that the awareness of the disease including better diagnostic routines is needed.

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Prevalence of respiratory symptoms and airflow limitation in a nationally representative random sample in England

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Introduction: Chronic Obstructive Pulmonary Disease (COPD) causes 23,000 deaths p.a. in England with direct health costs of over £1bn. 835,000 people are registered on general practice (GP) COPD registers. An estimated 2.7 million are undiagnosed. Poor symptom recognition by the public and clinicians contributes to late diagnosis.
Aims: To estimate the prevalence of respiratory symptoms and airflow obstruction in the population of England.
Methods: The annual Health Survey of England is a cross-sectional study of a random, nationally representative sample of 8,000 adults. It includes detailed interviews and objective measures by nurses. The 2010 survey focused on lung disease and included spirometry (without bronchodilator).
Results: 15% of men and 23% of women aged 16+ had MRC dyspnoea score 2-5: half of these scored 3-5. 4% of men and 5% of women had ever been told by a doctor that they had chronic bronchitis, emphysema or COPD, compared with GP register prevalence of 1.6%. Measured FEV1 and FEV1/FVC ratio were inversely associated with income. FEV1/FVC was below 5th centile (indicating probable airflow limitation) in 8% of men and women: only a quarter of these had been told by a doctor that they had chronic bronchitis, emphysema, or COPD.
Conclusions: This large population survey confirms that substantial numbers of people have significant respiratory symptoms and probable undiagnosed airflow obstruction. Failure to diagnose COPD early matters because it adversely affects outcomes and quality of life. To tackle this, a national Outcomes Strategy for COPD and Asthma has been launched to promote lung health awareness, earlier diagnosis and proactive disease management.

P978

Prevalence of COPD in Algerian military

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The Survey is about one of the determinants of the chronic obstructive pulmonary disease (COPD), tobacco and the military environment. The objective is to measure the prevalence of this pathology and to make a first assessment of it in order to elaborate an efficient anti-tobacco policy and to associate a better handling of this pathology within our institutions.
It is about a transversal survey that uses the questionnaire and the spirometry on a population of soldiers and civilian staff working for the army aged of 40 years and more, current smokers or former smokers having accumulated 10 P/Y and more, belonging to 10 randomly chosen military camps belonging to the fifth military region. So 720 men have been included in the investigation and have been questioned during the period of November 01/2008 to October 31/2009.
The prevalence of the chronic obstructive pulmonary disease (COPD) is of 5.35% for the whole population, of 6.37% for current smokers and 3.75% among the former smokers, the prevalence of the different stages of severity is of 2.67% for the two stages I and II. The active tobacco addiction or weaned was the only factor of risk found with a percentage of 43.15% and 36.06% respectively, associated with the passive tobacco addiction.
The chronic obstructive pulmonary disease (COPD) in the military institution is a real problem that challenges medical community and decision–makers on the emergency of the elaboration of a health policy based on the prevention through strict measures of struggle against the tobacco addiction and the early detection of patients in a precocious stage by the practice of the minimal advice and the popularization of the breath measure.

P979

A detached island residents' smoking habits and their prevalence of COPD

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Background: The prevalence of COPD is high worldwide. It has been reported that the prevalence rate of subjects aged 40 years and over is about 8.6% in Japan. However, no reports have examined the prevalence of COPD by region, such as whether there are differences in subjects living in urban areas, or on a detached island.
Aims and objectives: The purpose of this study was to evaluate the influence of the region (mainland versus a detached island)on the general population's smoking habits and the prevalence of COPD or respiratory function. A general population of 5221 subjects was targeted.
Methods: All of the candidates' health survey items (age, sex, body composition, smoking habit, Brinkman Index, respiratory function and COPD disease) were investigated. Candidates were classified into a mainland group and a detached island group according to the location of the institution that performed their medical checkup, and each health survey item and respiratory function parameter were compared.
For the statistical analysis, two-sample t-tests, chi-square tests, and Mann-Whitney U tests were used.
Results: The former smoker' rate (mainland 51.7% vs detached island 73.7%,$p<0.001$) and Brinkman Index (mainland 322.0±494.7 vs detached island 406.2±446.7,$p<0.001$) were higher in the detached island group. Nevertheless, the prevalence of COPD was lower in the detached island group (mainland 8.5% vs detached island 7.0%,$p<0.05$).
Conclusions: According to the guidelines of the GOLD, tobacco smoke is a primary factor related to the development of COPD. Our findongs indicate that the living environment is also related to the prevalence of COPD.

P980

Distribution of COPD patients in the GOLD assessment framework by exacerbations

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GOLD 2011 proposes a new COPD assessment framework focussed on symptoms measured by the COPD Assessment Test (CAT™) or the mMRC and on risk based on poor lung function ($FEV_1<50\%$) and a history of ≥2 exacerbations in the previous year. This analysis focusses on exacerbations.
The 2011 Adelphi Disease Specific Programme dataset was used to understand the distribution of patients in the GOLD framework. Exacerbation events defined as those not brought under control by rescue medication were recorded by physicians. We included 1041 EU COPD patients with documented CAT, mMRC, FEV_1 and exacerbation history in the last year: 401 (38.5%) were from primary care and 640 (61.5%) from specialty clinics. Almost all (97.7%) were on maintenance treatment. 104 subjects (10%) reported good health status (CAT<10); only 7 of these were repeat exacerbators or had poor lung function. $\frac{1}{2}$ of all patients (48.6%) had no exacerbations and 18.5% had 1 exacerbation in the previous year.

% Distribution based on Exacerbation History - (n)

GOLD Quadrant	Exacerbation History		
	0	1	≥2
A	8.0% (83)	1.3% (14)	0% (0)
B	35.4% (368)	13.2% (137)	0% (0)
C	0.3% (3)	0.1% (1)	0.3% (3)
D	5.0% (52)	3.9% (41)	32.5% (339)
Total	48.6% (506)	18.5% (193)	32.9% (342)

In observational databases, 1 exacerbation increases the risk of future exacerbations[1] and negatively impacts health status and outcomes[2]. Therapeutic interventions reduce the number and severity of exacerbations in patients with 1 or more exacerbations. Nearly 1/5 of patients in the Adelphi dataset had 1 exacerbation in the previous year and would fail to be included in GOLD high risk category. These observations may have important clinical implications.
References:
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P981

Chronic bronchitis phenotype in subjects with and without COPD: The PLATINO study

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Background: Little information exists regarding the epidemiology of chronic bronchitis (CB) phenotype in unselected COPD populations. We examined the prevalence of CB phenotype in COPD and non-COPD subjects of the PLATINO study, and how it is associated with important outcomes.
Methods: Post-bronchodilator $FEV_1/FVC<0.70$ was used to define COPD. "Phlegm most days, at least three months a year for ≥2 years" was used to define CB. We also analyzed another definition: "cough and phlegm most days, at least three months a year for ≥2 years".
Results: Spirometry was performed in 5,314 (759 COPD and 4,554 non-COPD). The proportion of subjects with and without COPD and CB defined as "phlegm most days, at least three months a year for ≥2 years" was 14.4 and 6.2%, respectively. Using the other definition the prevalence was lower (COPD 7.4%, and non-COPD 2.5%). Among subjects, with COPD those with CB had worse lung function, and general health status, and had more respiratory symptoms, physical activity limitation, and exacerbations.

Conclusions: Our study helps to understand the prevalence of CB phenotype at a particular point in time and suggest that CB in COPD is possibly associated with worse outcomes.

P982

Prevalence characteristics of COPD in never smokers

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Background: Smoking is by far the most important documented cause for COPD. However, COPD can still be recorded among a percentage of non smoker patients, due to other different causes.
Methods: This study comprised 300 COPD patients, 230 patients (76.66%) were men and 70 patients (23.34%) were women. The mean age of the patients was 60.7±5.35 years (range 42-83 years.
Results: 300 COPD patients were included in this study, 120 (40%) were never smokers and 180 (60%) were ever smokers. Women made up 41.7% of the never smokers (50 of 120) and 11% of the ever smokers (20 of 180). Never smokers were significantly older than smokers [65.08±5.03 years vs 56.33±5.67 years ($P < 0.001$)] and were more likely to be women [41.7% vs 11% ($P < 0.001$)]. Never smokers made up to 40% (120/300) of all COPD cases: 78% (70/90) of all GOLD stage II cases, 45.5% (50/110) of all GOLD stage III cases. Among never smokers, 58.3% (70/120) fulfilled the criteria for GOLD stage II and 41.7% (50/120) fulfilled the criteria for GOLD stage III and no patients fulfilled the criteria of either GOLD stage I or GOLD stage IV. Never smokers were shown to have more occupational exposure to organic and inorganic dust and irritant gases at work place [41.7% (50/120) vs 27.7% (50/180), $P < 0.05$], more biomass exposure [41.7% (50/120) vs 0% (0/180), $P < 0.001$], less education [41.7% (50/120) vs 72.2% (130/180), $P < 0.001$], more exposure to passive smoking [75% (90/120) vs 22.2% (40/180), $P < 0.001$].
Conclusions: Never smokers still constitute a significant proportion of the Egyptian COPD patients.

P983

Profiling dyspnoea in primary care patients with COPD

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Objectives: Identify descriptors of clinically significant dyspnoea in patients with Chronic Obstructive Pulmonary Disease (COPD).
Methods: A COPD cohort was identified in the UK General Practice Research Database (GPRD) using a record of COPD dg after Jan1 2008 and nearest recorded spirometry (FEV1/FVC <70%). Dyspnoea was identified using Medical Research Council (MRC) dyspnoea scale, recorded as a part of the Quality Outcomes Framework, during observation period, from the latter of Apr1 2009 or cohort entry until censoring (earliest of death, transfer out of practice or follow-up end at March31 2011). The first MRC score recorded, within observation period, defined patients as *(A) with (MRC ≥3)* or *(B) without (MRC 1,2) clinically significant dyspnoea*; other traits were collected on or before MRC score date. Stepwise multivariate logistic regression estimated independent associations with dyspnoea.
Results: 38,256 COPD patients with MRC dyspnoea score were identified: females 46%, mean age (SD)=70 (10) yrs, GOLD stage I=15%, II=50%, III=27%, IV=6%. Of these, 16,919 (44%) reported clinically significant dyspnoea. Most of the studied characteristics, except for smoking, showed an independent association with significant dyspnoea, most notably females (OR [95% CI]=1.33 [1.27, 1.39]), GOLD stage (odds increasing with increasing stage, GOLD IV vs. I = OR [95% CI]=7.67 [6.82, 8.63]), heart failure (OR [95% CI]=1.69 [1.54, 1.85]), or moderate or severe COPD exacerbation in the past 12months (OR [95% CI]=1.68 [1.59, 1.79]).
Conclusions: Clinically significant dyspnoea (MRC ≥3) is prevalent in primary COPD patients and associated with markers of higher disease severity and increased risk of poorer outcomes.
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P984

The relation between prevalence of chronic respiratory symptoms and ventilatory dysfunctions – A crossectional study in a industrial area from Constanta Harbor

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Aims: To estimate the prevalence of chronic respiratory symptoms (CRS) and relation with ventilatory parameters in a environment with occupational exposure to inhalatory noxes;
Material and method: Epidemiologic crossectional study on 539 workers Constanta harbor, aged between17-65 years (mean 42,95) male 88,7%, without prior respiratory diseases; data were collected by CRSQ, self reported exposure, smoking habit, history of exposure, spirometry.
Results: 87,4% exposed at least to one noxe; predominated exposure to dust 75,5%; exposure time more than 20 years in 59,2%; exposure high and very high in 42,8%; smokers 56,2%, exsmokers 13,7%; symptoms occurred in 55%: chronic cough in 45% (OR=2,3), phlegm in 40,6% (OR=1,03), dyspneea 22,8% OR=1,5 (gr ≥2 only 32,6%) - all predominated in exposed and smokers; wheezing 12,8% - predominated in nonsmokers; spirometric parameters were lower in symptomatic significant for exposed; cough, dyspneea grade ≥2 and wheezing were associated with low averages of FEV1, FEF50 ($p<0,001$); FEV1 means were lower in high exposed; 78,3% had normal spirometry; 17,4% obstructive dysfunction (OD), 2,8% restrictive dysfunction (RD); OD was correlated with high exposure and >20 years exposure; ventilatory dysfunctions higher in symptomatics (OR=5,7 for high exposed); cough and dyspneea were strong associated (corr=0,46; $p<0,0001$) with distal OD (OR=3,9);
Conclusions: The prevalence of CRS was high, related to exposure and smoking; chronic cough and dyspneea ≥2 were more predictive for ventilatory dysfunctions; obstructive dysfunctions are predominant in occupational environment, in relation with level and time of exposure.

P985

Influence of gender and age on correlation between body mass index and lung function in COPD

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Introduction: Body mass index (BMI) and lung function physiologically decline with age,but in COPD that is an inevitable consequence of disease,too.Other changes that come with ageing are menopause and andropause,affecting BMI and lung function,as well.Average age for woman entering the menopause is 51 and andropause is suggested to start in men between 40 and 60 years (mean 50 years).
Aim: To examine influence of gender and age on correlation between BMI and lung function among COPD patients.
Material and methods: In 341 COPD patients (269 men and 72 women) older than 40 years,smokers and non/ex smokers,BMI,FEV1 and FEV1/FVC were measured and their correlation calculated generally and separately,for younger and older than 51 years,in both sexes.
Results: In men,generally,BMI strongly positively correlated with both FEV1 and FEV1/FVC ($p<0.0001$),the same in smokers,but less in non/ex-smokers ($p< 0.02$),with stronger significance in older than 51 years ($p< 0.0001$) than in younger ($p < 0.01$).In women older then 51 years BMI strongly positively correlated only with FEV1 ($p<0.0001$), especially in smokers, but in those under 51 years BMI didn't show any significant correlation with both FEV1 and FEV1/FVC.
Conclusions: Gender and age are unchangeable risk factors for every chronic disease and COPD as well.These data,showing that BMI strongly positively correlates with both lung function parameters in men and only with FEV1 in women,especially in smokers and older than 51 years,with absence of any correlation in women younger than 51,may indicate that pathophysiologic changes in COPD are different,but sex and age dependent.

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Cardiovascular comorbidity and mortality in patients with chronic obstructive pulmonary disease

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Aim: To determine the prevalence of cardiovascular diseases (CVDs) and cardiovascular mortality in patients with chronic obstructive pulmonary disease (COPD).
Material: COPD patients (n=3571) were checked if they had CVDs (CAD – coronary artery disease, HF - heart failure, AH - arterial hypertension, CCP – chronic cor pulmonale, CVD - cerebrovascular disease) and mortality. Of these, 2642 (74%) were male and 929 (26%) women, aged 65.4 (SD ± 9.7), and FEV1 = 49.8 (SD ± 18.9)% pred.The risk for CVDs (OR - Add Ratio) was compared with that of 150 controls.
Results: Among COPD patients 84.5% had CVDs: 59% (GOLD I), 74% (GOLD II), 86% (GOLD III) and 99% (GOLD IV) (r=0.35, p=0.0001); OR=1.96. Correlation was found between age and prevalence of CVDs: 48.7% (40-49yrs), 71.6% (50-59yrs), 85% (60-69yrs) and 96.9% (> 70yrs) (r=0.38, p=0.0001).
Patients with COPD had a higher prevalence of CVDs and cardiovascular risk: CAD (66%; OR = 1.8), HF (74%; OR = 1.9), AH (45%; OR = 1.2), CCP (46%; OR = 3.8) and CVD (33.3%; OR = 1.6). In 33% of COPD deaths cardiovascular causes of death were found: 36.7% myocardial infarction, 33.3% pulmonary embolism, 12% HF and 18% of CVD.
Conclusion: The study found an increased risk and mortality from cardiovascular diseases, especially in adult patients with severe COPD.

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Prevalence of comorbidities in subjects with airflow obstruction in Japan

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Background: COPD is one of the leading causes of mortality in Japan. Little is known about the prevalence of comorbid conditions in subjects with COPD in Japan.
Objective: The aim of this study was to examine the prevalence of comorbidities between subjects with and without airflow obstruction (AO).
Methods: This study included 19,340 subjects (11,549 men, 7,791 women), aged 16-96 years, who underwent spirometric lung function tests at a medical check-up held between April 2009 and March 2010 at the Japanese Red Cross Kumamoto Health Care Center, Kumamoto, Japan. Data on medical history and life style information were collected by means of interview questionnaires. All subjects were evaluated by a physician. AO was defined according to Global Institute for Chronic Obstructive Lung Disease (GOLD) criteria ($FEV_1/FVC<0.7$).
Results: In logistic regression models adjusted for age, smoking and BMI, prevalence of subjects with diabetes (odds ratio (OR), 1.28; 95% confidence intervals (95%CI), 1.08-1.51), asthma (OR, 4.09; 95%CI, 3.15-5.31) and lung cancer (OR, 3.84; 95%CI, 1.89-7.80) were significantly higher in subjects with AO compared to subjects without AO in male. In female, prevalence of subjects with hypertension (OR, 1.43; 95%CI, 1.15-1.79), diabetes (OR, 1.40; 95%CI, 1.05-1.86), asthma (OR, 3.22; 95%CI, 2.22-4.67) and lung cancer (OR, 4.52; 95%CI, 1.62-12.62) were significantly higher in subjects with AO compared to subjects without AO.
Conclusions: This study documented that numerous comorbidities are frequently associated with AO. Therefore, efforts toward earlier detection of AO and the identification of comorbidities may become an integral part of the core prevention of COPD.

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Metabolic and cardiovascular comorbidity in COPD patients classified using the GOLD 2011 assessment framework

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The GOLD guidelines 2011 proposed a new COPD assessment framework which considers current symptoms and future exacerbation risk of adverse events: (A: less symptoms, low risk; B: more symptoms, low risk; C: less symptoms, high risk; D: more symptoms, high risk). This analysis examined comorbidity rates in patients classified using this method.

GOLD Group	% of total population	Diabetes %	Hypertension %	Hyperlipidaemia %	Coronary artery disease %
A	9.3	4.1	38.1	13.4	3.1
B	48.5	15.8	55.4	29.5	5.5
C	0.7	0	14.3	14.3	0
D	41.5	28.5	65.3	37.3	9.0
Chi-squared		42.0	31.8	23.4	7.3
P value		<0.0001	<0.0001	<0.0001	0.06

Data from 1041 EU COPD patients (39% from primary care) in the 2011 Adelphi Disease Specific Programme were used in which medical diagnosis of comorbidity was recorded. The GOLD groups were defined using the CAT $\geq$10 cut-point between patients with less and more symptoms.
One third (32.9%) of patients (mean age 64.9 years) had $\geq$2 exacerbations in the previous year; 79.5% had FEV_1 $\geq$50%. The table shows the percentage of patients with metabolic and cardiovascular comorbidities in each GOLD Group. Across the groups there was a significant difference in incidence of comorbidity, except for diagnosed coronary artery disease. With the exception of Group C, where there were too few patients for interpretation, there was a clear trend for higher comorbidity in patients with more symptoms and a higher risk of adverse events.
The new GOLD classification identifies groups of patients with differing incidence of metabolic and cardiovascular comorbidity. This comorbidity rises with worsening GOLD Group, which has implications for clinical practice and an understanding of the pathobiology of the disease.

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Association of COPD stages and comorbidities in Italian general practices: The COMODHES study

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Background: Chronic obstructive pulmonary disease (COPD) represents an important and increasing burden worldwide. COPD often coexists with other diseases that may have an impact on prognosis.
Aims: To evaluate the association between different COPD severity levels and comorbidity in Italian patients of general practitioners (GP).
Methods: Prospective observational study in different Italian areas. 176 GP enrolled 2288 patients with COPD diagnosis. Questionnaires were used to collect data on COPD management, health status and risk factors.
Univariate analyses were used to assess the relationship between COPD severity levels (mild, moderate, severe, very severe) and demographic characteristics (age, sex), smoking habits, comorbidities. Multinomial regression analysis was used to assess the relationship between COPD severity levels and comorbidity adjusting for demographic characteristics and smoking habits.
Results: Univariate analyses showed a significantly higher frequency of high severity levels in males, older age, ex-smokers, subjects with cardiovascular diseases, osteoporosis/skeletal muscle dysfunction, anaemia, depression and weight loss. The Multinomial regression analysis confirmed the associations between moderate severity COPD and cardiovascular disease (OR 1.30); severe COPD and cardiovascular disease (OR 1.35), osteoporosis/skeletal muscle dysfunction (OR 1.43), anaemia (OR 2.06) and weight lost (OR 2.77); very severe COPD and weight loss (OR 6.34) and depression (OR 2.50).
Conclusions: This study indicates that COPD stages are significantly associated with different kinds of comorbidities which need to be taken into account in disease management.

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COPD and comorbidity in somatic practice

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The aim of our study was to determine the clinical features of comorbidity in patients with COPD and other somatic pathology. Based on the evidence of post-mortem autopsies, we planned to explore the frequency of occurrence and the structure of comorbidity. We analyzed the 3469 deaths cases of patients admitted to hospital due to decompensation of somatic pathology. Comorbidity was found in 2751 (79,3%) cases (1035 men (37,6%) and 1716 women (62,4%)). The average age of patients with comorbidity was 72,6 years old (by men - 69,4 and by women - 76,1). We found that the greatest number of nosological units (5,9 diseases per person) occurs in elderly patients (80-89 years). Combination of the two diseases occur in 17,5% of patients with comorbidity, three diseases - in 34,9%, four diseases - in 26,9%, the five diseases - in 14,7% and more than 5 disease - in 6% of patients with somatic pathology. For example, chronic obstructive pulmonary disease in 57,5% of cases combined with arterial hypertension, in 74,6% of cases - with coronary heart disease, in 97,3% of cases - with chronic cerebrovascular disease, in 63,5% of cases - with the pathology urogenital system, in 22,1% of cases - with diabetes mellitus type 2. Comorbidity in patients with COPD in 18% of the cases makes it difficult identify malignant tumor, in 13,5% - intracerebral hemorrhage, in 13% - acute myocardial infarction, in 8,3% - chronic cerebrovascular disease, in 7,6% - ischemic heart disease, in 6,8% - stroke, in 5,2% - aortic dissection and in 4,8% of cases - mesenteric thrombosis. Comorbidity alters the clinical picture and course of underlying disease (ex. COPD), the nature and severity of its complications and degrades the quality of life of patients.

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Disease severity and complexity in patients with acute exacerbation of chronic obstructive pulmonary disease in Lazio, Italy

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Population based estimates of disease severity and comorbidities in patients with acute exacerbations of Chronic Obstructive Pulmonary Disease (COPD) give insight into the burden of this degenerating condition on patients and health care systems.
Hospitalized COPD patients were characterized in terms of COPD severity and complexity.
A cohort of 21,144 residents in Lazio, discharged after acute COPD exacerbation in 2006-9 was enrolled from the Hospital Information System. Disease severity was defined as presence of admissions during 12 months prior to index admission with diagnosis of COPD, respiratory failure (RF), invasive respiratory procedures, transfer to intensive care, COPD emergency visits, or oxygen therapy (O2), linked

from drug claims register. Comorbidities were retrieved from index admission and admissions during 24 months before.
More than half of patients were men (53.9%), mean age was 74.6 years for men and 76.8 years for women. RF and O2 were the two factors detected more often (46.9% and 21.9%, respectively), with higher values in men (RF: 48.5%, O2: 24.5%). Most important comorbidities were hypertension (24.8%), diabetes (20.4%), ischemic heart disease (13.0%), heart failure (12.6%), arrhythmias (12.3%), pulmonary infections (10.3%), and cerebrovascular disease (9.5%), with higher prevalence in men for all but diabetes and hypertension.
Patients admitted for acute exacerbations are typically old and more often men. Almost half of patients are affected by respiratory failure, more than a fifth is treated with oxygen. Many patients suffer from cardiovascular disease or diabetes.
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Characteristics of COPD exacerbations in Greece

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Background and Aims: Acute Exacerbations of COPD (AECOPD) are associated with significant morbidity and mortality. We aimed to provide data on the characteristics of AECOPD in a large group of COPD patients in Greece.
Methods: Patients diagnosed with an AECOPD referred to 27 Greek hospitals and 114 chest specialists were included. Demographic data, previous treatment, lung function testing and co-morbidity were recorded.
Results: Six thousand and fourteen patients were included in the study, 4360 (72.5%) males, age median (interquartile): 68 (60-75) yrs. Up to 47.8% of patients were current smokers. Median BMI was 27.5kg/m^2 (24.9-30.6). Two or more co morbidities were found in 55.8%. The vast majority of the patients (86.4%) were receiving regular treatment for COPD before the exacerbation. The majority of patients (61%) were classified as moderate-to-severe COPD. Almost $\frac{1}{4}$ (23.4%) of patients had hypoxemic respiratory failure and 10.3% of them developed hypercapnia during stable state. A remarkable percentage of patients (28.3%) experienced more than 3 exacerbations. Patients aged >76 yrs had increased number of AECOPD *vs* patients aged<60 yrs (p=0.03). Disease duration >5 yrs, COPD stages of 3 or 4, comorbidity and non compliance with treatment were associated with increased annual frequency of AECOPD. Increased disease duration (>11 yrs), COPD stage 4 and non compliant patients demonstrated increased OR for ICU admission (OR (95%CI): 1.8 (1.1-2.81), p=0.018, 2.8 (1.4-5.5), p=0.002, 1.4 (1.0-2.0), p=0.043, respectively).
Conclusions: Our study showed that patients presenting AECOPD have a wide range of severity, while the exacerbation rate is associated with age, disease severity stage, comorbidity and compliance with regular treatment.

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Mortality risks of COPD for nonsmokers and smokers from a prospective cohort study of 390,269 subjects in Taiwan – Assessing involvement beyond the lungs

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Background: COPD is known to increase mortality in respiratory diseases, but is less known for its extra-pulmonary and lung cancer effect, particularly among nonsmokers
Objectives: To assess the risks of COPD subjects among smokers and nonsmokers and to quantify its mortality effect beyond the lungs.
Method: The cohort consisted of 390,269 adults, between 1994 and 2008, went through a fee-for-service, standard panel of health screening program. COPD was defined by Gold criteria. Mortality and cancer incidence were identified in an average of 8.5 years of follow-up. Cox proportionate model was used to calculate the hazard ratios (HR)
Results: More men (4.6%) than women (3.8%) and more smokers (5.3%) than nonsmokers (3.7%) had COPD, with a mean age of 50. The excess all-cause mortality for smokers (HR: 2.51) was three times larger than nonsmokers (HR: 1.53), when compared to those without COPD. Not only smokers (4.5-fold) but also nonsmokers (1.4-fold) had lung cancer mortality significantly increased, implying the independent effect from COPD. Other than lung cancer and respiratory diseases, COPD had increased risks for CVD (HR: 1.76), including ischemic heart disease (HR: 1.63) and stroke (HR: 1.80), and kidney diseases (HR: 2.32). The extra-pulmonary causes constituted 77% for non-smokers and 58% for smokers.
Conclusion: Three quarters of the excess deaths among nonsmoking COPD subjects died from causes beyond the lungs. They had increases in stroke, heart, renal and infectious diseases, in addition to lung cancer. These extra-pulmonary risks, under-appreciated by clinicians and unaware of by the patients, are major challenges to overcome.

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Insufficient education about COPD is main factor for low diagnosis rate

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Background and aim: To evaluate if prolonging duration of education and testing COPD campaign will increase presentation for testing (spirometry) and number of new diagnosed COPD cases, in population exposed to risk COPD factors.
Methods: One-week campaign was conducted in 2009-2010 and 2 weeks in 2011 on World Day of COPD. Target population had open access to office based spirometry tests.Through personalized letters from President of Romanian Society of Pneumology that inform about 12 reasons to take a spirometry test and the consequences of COPD,population was encouraged to access informative COPD web-site.The primary outcome measure was number of newly-diagnosed cases of COPD as a result of campaign.
Results: In 2009 (1 week campaign), 3494 persons presented for testing,847 were newly diagnosed with COPD (24% diagnosis rate). In 2010 (1 week campaign), 4298 persons were tested,1259 were diagnosed (29% diagnosis rate).In 2011, 2 weeks campaign resulted in 10523 persons tested, 3593 new diagnosed COPD patients (34% diagnosis rate). Growth 2011/2010 for persons presenting to test was 148%, vs 23% growth 2010/2009; for new diagnosed COPD patients, growth 2011/2010 was 186%, vs 48.64%, growth 2010/2009.

World Day of COPD Campaign results 2009-2011

	2009 (1 week)	2010 (1 week)	2011 (2 weeks)
Number of person tested	3494	4298	10523
Number od new diagnosed patients with COPD	847	1259	3598
Diagnosis rate	24	29	34

Conclusion: Prolonging duration for awareness disease campaign on case-finding for COPD increased testing presentation and interest for learning on COPD. Intensifying efforts for education, not limiting only to celebrating event as World COPD Day, can increase diagnosis rate.