COPD is a very important public health issue at individual and society level alike. Knowing the prevalence of COPD is extremely useful in health services planning, but using an early detection tool is crucial for life duration and quality of life of the patient. We aimed to estimate the prevalence of COPD in Romanians aged 40+ in relation to certain social variables and specific household exposures.

A cross-sectional survey was performed using a stratified sample of 9638 subjects aged 40+. Using a pre-screening questionnaire, 51% of the responders were identified as being at risk for COPD (4930). 2071 subjects, randomly selected, were invited to perform a spirometric evaluation (at least 3 spirometry tests per patient according to ATS/ERS standards). Smoking subjects (current or former) with a FEV1 ratio lower than 0.7 were considered as having COPD. Social variables considered were geographical region, rural/urban, education, occupation, income category. Specific household exposures were way of cooking and source of household heating.

We found a COPD prevalence of 9.7% (±2.38) (15.7% and 3.9% in males and females). Median age of COPD subjects was 56 and 46 years in males and females. No significant correlations were found with geographical region, urban/rural distribution, education, job and income category, both for males and females. No significant correlations were found for source of heating and cooking.

**Conclusions:** Our study showed that around half of the general population aged 40+ meets the criteria for being at risk for COPD (around 5 million people). In the risk group, COPD prevalence reached to 9.7%. Social and household variables seemed not to be associated to COPD.

**P4741**

**High prevalence of COPD symptoms in the Tunisian population contrasting with low awareness of the disease**

Myriam Denguezli, Hager Daoudi, Louisa Gnatiuc, Anamica Jithoo, Sonia Coton, Bernt Kato, Zaki Bouchetrouf, Hadia Azhar, Imed Harrabi, Peter Burney, Zouhair Tabka. Physiology, Sport and Physical Education Institute, Gafsa, Tunisia; Physiology, Faculty of Medicine of Sousse, Tunisia; Respiratory Epidemiology and Public Health, Imperial College London, United Kingdom; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Physiology, Faculty of Medicine Ibn El Jazzar, Sousse, Tunisia; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Physiology, Faculty of Medicine Ibn El Jazzar, Sousse, Tunisia; Respiratory Epidemiology and Public Health, Imperial College London, London, United Kingdom; Physiology, Faculty of Medicine of Sousse, Tunisia.

**Introduction:** In Tunisia, the estimated prevalence of COPD was low compared with America and Europe and the disease is certainly under diagnosed. We have estimated the prevalence of COPD in the city of Sousse, following the BOLD protocol.

**Methods:** We surveyed a representative random sample of 807 adults aged 40 years+ selected from the general population and have collected information on respiratory history and symptoms, risk factors for COPD and health status. Post-bronchodilator spirometry was performed for assessment of COPD. COPD and its stages were defined according to GOLD guidelines. Population weighted prevalence of COPD were computed allowing for survey design.

**Results:** 661 subjects were included in the final analysis. The response rate was 90%. The estimated population prevalence of GOLD Stage 1 and stage 2 or higher COPD were 7.8% and 4.2%, respectively (LLN modified stage 1 and stage 2 or higher COPD prevalence were 5.3% and 3.8%, respectively). COPD was far more common in men, increased with age and exposure to tobacco smoke. Prevalence of stage 3+ COPD was 2.3% in <10 pack years smoked and 16.1% in ≥20 pack years smoked. Only 3.5% of participants reported doctor-diagnosed COPD.

**Conclusions:** In this Tunisian population, the prevalence of COPD is higher than reported before and higher than self-reported doctor-diagnosed COPD. The implications for disease diagnosis and management in clinical practices might have a public health impact. In subjects with COPD, age seems to be a much more powerful predictor of lung function than smoking. LLN _ Lower Limit of Normal; BOLD _ Burden of Lung Disease; GOLD _ Global Initiative for Chronic Obstructive Lung Disease.

**P4740**

**COPD prevalence in Romania and possible influence of social and household characteristics**

Floren Damian Mihaitan, Florentina Furtunescu, Roxana Maria Nemes, Dana Faracaleni, Ioana Mirela Daramus. 1Programs, Center for Health Policies and Services, Bucharest, Romania; 2"Marius Nasta", National Institute of Pulmonology, Romanian Society of Pulmonology, Bucharest, Romania; 3Public Health Department, “Marius Nasta” University of Medicine and Pharmacy, Bucharest, Romania.

COPD prevalence varies widely depending on the geography. Two epidemiological studies in Spain showed a 9-10% COPD prevalence in population.
older than 40 years. However, none of them included the Canary Islands, a very interesting area for its climate characteristics and high smoking prevalence.

Methods: 1353 people from 40 to 70 years old were randomly selected from a sample of 596,478 individuals. Subjects participating in the study completed a long questionnaire which mainly included items about respiratory health and performed spirometry with bronchodilatation test if obstruction was observed.

COPD was diagnosed if FEV1/FVC was lower than 0.7 after a bronchodilator test.

Results: COPD prevalence in the Canary islands was 7.3% (IC 95%, 5.5-9.5%) being higher in male than female (8.7% CI 95%, 5.8-12.7% vs 6.3% CI 95%, 4.7-8.4% p<0.005). COPD prevalence classified by GOLD showed a 1.1% in stage I, 5.0% in stage II, 1.1% in stage III and 0.5% in stage IV. The level of undiagnosed was 63.5% and undertreatment reached 71.6%.

Conclusions: The Canary Islands have a lower COPD prevalence than the rest of Spain as a whole, with a lower severity in spite of having a high smoking prevalence. This finding could be related to the special climatic characteristics of the Canaries.

P4743 Prevalence of COPD by disease severity in men and women in relation to smoking in northern Vietnam

Hoa J, Linh L, Lecklung J, Nguyen Van Doin, Nguyen Van Tuong, Eva Ronmark, Kjell Larsson, Bo Lundback. Allergy, Hanoi Medical University, Hanoi, Viet Nam Allergy and Clinical Immunology, Bachmai Hospital, Hanoi, Viet Nam Unit of Lung and Allergy Research, IMM, Karolinska Institutet, Stockholm, Sweden Department of Internal Medicine/Krefting Research Centre, Gothenburg University, Gothenburg, Sweden The OLIN Studies, Norrbotten County Council, Lulea, Sweden Public Health and Clinical Medicine, University of Umea, Sweden

Background: The prevalence of COPD and its risk factor pattern varies between different areas of the world. The aim of this study was to investigate the prevalence of COPD by disease severity in men and women and risk factors for COPD in northern Vietnam.

Methods: From all 5782 responders to a questionnaire survey, a randomly selected sample of 1500 responders was invited to a clinical follow-up study. The methods included a structured interview using a modified GA2LEN study questionnaire for registration of symptoms and possible determinants of disease. Spirometry was performed before and after bronchodilation. The age distribution of the sample was 23.7%.

Results: Of 684 subjects attending, 565 completed acceptable spirometric measurements. The prevalence of COPD defined by the GOLD criteria was 7.1%; in men 10.9% and in women 3.9% (p<0.002). Of those 3.4% had a mild disease, 2.8% a moderate and 0.9% a severe disease. In ages >50 years, 23.5% of men and 6.8% of women had COPD. Among smokers aged >60 years (all men), 47.8% had COPD. None of the women with COPD had been smokers. Increasing age, smoking and male sex were the dominating risk factors, although male sex lost its dominance.

Conclusions: The prevalence of COPD among adults in northern Vietnam was 7.1% and was considerably higher among men than women. The prevalence in men increased considerably with age. Increasing age and smoking, the latter among men only, were the most important determinants of COPD.

P4744 Prevalence characteristics of COPD in never smokers

Ramadan Bakr, Ibrahim Elmahalawy, Chest Department, Menoufya University, Shebin Elkom, Menoufya, Egypt

Background: COPD can be recorded among non-smokers due to different causes other than smoking.

Methods: This study was performed in the Chest Department, Menoufya University, from April 2009 to August 2011, on 300 COPD patients, 230 men (76.66%) and 70 women (23.34%). The mean age was 60.7 ± 6.53 years. History was taken to reveal risk factors for COPD was assessed by a prewritten questionnaire.

Results: Out of the 300 COPD patients, 120 (40%) were never smokers and 180 (60%) were ever smokers. Women made up 41.7% of the never smokers and 11% of the ever smokers. 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 40% of all COPD cases: 78% of GOLD stage II and 45.5% of GOLD stage III cases. Among never smokers, 58.3% and 41.7% fulfilled the criteria for GOLD stage II and III respectively. Never smokers had more occupational exposure to organic and inorganic dust and irritant gases [41.7% vs 27.7%, P < 0.05], more biomass exposure [41.7% vs 6%, P < 0.001], less education [3% vs 7%, P < 0.001], more exposure to passive smoking [75% vs 22.2%, P < 0.001]. When compared with never smokers with GOLD stage II, never smokers with GOLD stage III were older in age, had a higher female percentage, lower BMI, more occupational exposure, more biomass exposure, less education, more exposure to passive smoking. Independent predictors of COPD in never smokers were old age, female sex, occupational exposure, biomass exposure and low educational level.

Conclusions: This study revealed that never smokers constitute a significant proportion of the Egyptian COPD patients.
**P4747**

Identifying a ‘frequent exacerbator’ phenotype in a cohort of COPD patients (EXACT study)

Alexis Cortet1, Isabelle Tillie-Leblond1, Frédéric Massé2, Bruno Housse1, Nicolas Roche3, Thierry Perez4, Isabelle Bocot5, François Denis6, Aida Myftiu7, Juliette Ostinelli2, Isabelle Pithia-Merli1, Céline Pribat4, Stéphane Schuch1, Anne Lalanne1, Pneumologie, CHRU Calmette, Lille, France; 2Pneumologie, Groupe Médical Saint Rémi, Reims, France; 3Pneumologie, CHU, Créteil, France; 4Pneumologie, Hôtel-Dieu, Paris, France; 5Medical Department, GlaxoSmithKline, Marty-Le Roi, France; 6Medical Department, Boehringer Ingelheim, Paris, France; 7Medical Department, Nyscomed, Paris, France; 8Medical Department, Astrazeneca, Rueil-Malmaison, France; 9Medical Department, Pfizer, Paris, France; 10Scientific Department, Kappa Santé, Paris, France

**Background:** Exacerbations are a major cause of morbidity and mortality in patients with COPD.

**Objectives:** To determine whether it is possible to identify a sub-group of ‘frequent exacerbators’, i.e. COPD patients who experience a high number of exacerbations every year, and to correlate their characteristics with non-frequent exacerbators.

**Methods:** In this French prospective observational study, respiratory physicians (n=132) included 835 COPD patients followed over 4 years. Sociodemographic data, clinical history, symptoms, lung function data and treatments were initially recorded. COPD clinical features, pulmonary function tests, treatments and the onset of exacerbations were recorded by the investigators at follow-up visits. Patients also completed exacerbation diaries. The Km1 method was used to identify frequent and non-frequent exacerbators. This analysis was conducted in 40% of patients with complete exacerbation-related data.

**Results:** 2 groups with homogeneous numbers of exacerbations were identified. The 1st group consisted of 114 (24.6%) patients who were frequent exacerbators (mean, 3.5 exacerbations/patient/year; SD: 1.3). The 2nd group consisted of 350 patients (75.4%) who experienced fewer exacerbations (mean, 0.9 exacerbations/patient/year; SD: 0.7). Frequent exacerbators were found to have a higher dyspnea score, a lower FEV1 (43.8% of predicted vs 50.3% P<0.0001) and reported more impaired daily activities (38% vs 18%, p<0.0001), more frequent chronic cough (p<0.01) and sputum production (p<0.001) more frequently. Their slow FEV1 decline was steeper.

**Conclusion:** Frequent exacerbators appear to belong to a distinct, clinically relevant COPD phenotype.

**P4748**

Distribution of a COPD population based on the GOLD assessment framework

G. Naden1, P.W. Jones1, L. Adamek1, M. Small3, Respiratory Centre of Excellence, GSK, Uxbridge, United Kingdom; 2Clinical Science, St George’s, University of London, London, United Kingdom; 3Adelphi Real World, Adelphi Group, Macclesfield, United Arab Emirates

**Background:** GOLD 2011 proposed a new COPD assessment framework based on: i) Risk of future adverse health events, using FEV1 ≥50% and/or history of ≥2 exacerbations in the previous year to identify patients at high risk; ii) Symptom level using either COPD Assessment Test (CAT™) or modified Medical Research Council Dyspnoea Scale (mMRC). This analysis focuses on the GOLD symptomatic cut-point for high symptoms of CAT >10 or mMRC ≥2.

**Methods:** Data from 1041 EU COPD patients (38.5% from primary care) in the 2011 Adelphi Disease Specific Programme were used providing CAT and mMRC scores, spirometry and the previous year’s exacerbation history.

**Results:** One third (32.9%) of all patients had ≥2 exacerbations in the previous year. 79.5% had an FEV1 ≥50%, almost all (97.7%) were on maintenance treatment. The correlation between CAT and mMRC scores was moderate (r=0.55).

Within each mMRC Grade, there was a wide distribution of CAT scores. The mMRC categorised more patients as having low symptoms (51.2%) than the CAT (10.0%). The mMRC categorised 13.4% of patients as having low symptoms and high risk (FEV1<50% and/or ≥2 exacerbations in the preceding year). The CAT categorised only 0.7% of patients with this paradoxical picture.

**Conclusion:** There was a modest concordance between CAT and mMRC. The mMRC cutpoint score of ≥2 (“I have to stop for breath when walking at my own pace on the level”) for high symptoms appears to classify too many patients as having low symptoms. Use of MRC Grade ≥1 as the cut point should be explored.
Poster Discussion
Wednesday, September 5th 2012

P4754
Association between serum Clara cell secretory protein (CC-16) levels and asthma-related phenotypes among adults from the EGEA study
Marta Rava1, Nicolle Le Moual1, Xavier Dumont1, Stefano Guerra2, Valérie Siroco3, Benedicte Jacquinien1, Alfred Bernard1, Francine Kaufmann1, Rachel Nadif1, Rachael DiSantostefano2. 1Respiratory and Environmental Epidemiology Team CESP, Centre for Research in Epidemiology and Population Health UMR U1018, INSERM, University Paris Sud, Villejuif, France; 2Louvain Centre for Toxicology and Applied Pharmacology (LTAP), Catholic University of Louvain, Brussels, Belgium; 3Centre for Research in Environmental Epidemiology, CREAL, Barcelona, Spain; 4Inserm, U823, Institut Albert Bonniot, Grenoble, France

CC16 is a biological marker with anti-inflammatory and protective effects on the respiratory tract from oxidative stress. Lower levels of CC16 were observed in asthmatics, but this result has not been confirmed in any large epidemiological study. Associations between CC16, asthma and asthma-related phenotypes were studied in 1308 adults (43.7 yrs, 51.4% women) from the French Epidemiological study on Genetics and Environment of Asthma (GESEA). Serum CC16 level was determined by ELISA. Estimates were adjusted for age, sex, smoking, pack-years, BMI and time of collection. Median (1st-3rd quartile) CC16 levels were 12.4 (8.02, 19.1) μg/l (range: 2.1-70.6 μg/l). CC16 levels decreased with female sex, BMI and pack-years and increased with age. No association was observed between CC16 level and current asthma. In asthmatics, CC16 levels decreased with severe persistent asthma compared to intermittent asthma.

P4755
Obstructive airways diseases (OADs) are the most common diseases for a doctor visit in India: A one-day point-prevalence study in 2,041,912 patients from 880 towns and cities in India
Kumkali Aggi1, Monica Barne1, Supna Madas1, JaidEEP Gogtay2, Sudheep Salvi3, 4Research, Chest Research Foundation, Pune, Maharashtra, India; 5Research, CIPLA LTD., Mumbai, Maharashtra, India

An understanding of the most common diseases for which a patient visits a doctor in India will help set up appropriate health care services. We aimed to study the most common doctor-diagnosed disease for which a patient visits a general practitioner (GP), general physician (Gen Ps) and pediatricians (Ps) in India, using a 1-day point prevalence cross-sectional study design.

Method: 13,225 GPs, Gen Ps and Ps from 22 states and 9 union territories across India were randomly selected from 880 cities and towns and invited to participate in a 1-day point-prevalence study. On 1st Feb 2011 those doctors who agreed to participate kept a record of all symptoms and diagnosis for which patients visited their clinic or hospital. 7710 doctors consented and clean data was obtained from 7400 doctors (65% GPs, 17.4%Gen Ps and 17.6% Ps). Data was transferred into Epi-Info software and simple descriptive analysis was performed.

Results: A total of 2,041,912 patients visited 7400 GPs, Gen Ps and Ps in India on 1 day. Amongst these, 16,783 patients visited a doctor for a diagnosis of asthma or COPD accounting for the highest number of visits (8.2%). Systemic hypertension (HT), anaemia, diabetes and chronic kidney disease accounted for 7.8%, 5.5%, 4.8% and 2.3% of the visits respectively. These observations were generally uniform across India, with no disease hot or cold spot regions.

Conclusion: Extrapolation of these findings to a number of other cities and towns may be possible. An understanding of these common diseases will help in setting up appropriate health care services.
P4756
Time trends (1985-2011) in asthma and rhinitis in Italian general population samples
Sonia Cerrai, Sara Maio, Giuseppe Sarno, Sandra Baldacci, Marzia Simoni, Anna Angino, Franca Martini, Patrizia Silvi, Marco Borbotti, Giovanni Viegi.
1Pulmonary Environmental Epidemiology Unit, Institute of Clinical Physiology, National Research Council, Pisa, Italy; 2Institute of Biomedicine and Molecular Immunology, National Research Council, Palermo, Italy

Aim: To estimate trends in the prevalence of asthma, asthma-related symptoms and risk factors such as allergic rhinitis and smoking.

Methods: Three surveys were carried out on general population samples living in Pisa, Italy, in 1985-88 (PI1, n=3267), 1991-93 (PI2, n=2604) and 2009-2011 (PI3, n=1619). Subjects filled in standardized questionnaires on respiratory symptoms, asthma, rhinitis and smoking habits. In PI1 and PI2 the same questionnaire was administered, whilst in PI3 the IMCA2 questionnaire, with different wording of the questions (particularly about rhinitis), was used. To compare the diseases/symptoms prevalence within the samples the same age range (18-97 yrs) was selected. Comparison of variables across studies was performed by Pearson Chi-squared test.

Results: Both the prevalence of asthma diagnosis and current asthma attacks show a trend to increase. Current rhinitis increased from PI1 to PI2 and doubled from PI2 to PI3. Current smoking significantly decreased among the three surveys.

<table>
<thead>
<tr>
<th>STUDY</th>
<th>PI1</th>
<th>p-value (PI1-PI2)</th>
<th>PI2</th>
<th>p-value (PI2-PI3)</th>
<th>PI3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma diagnosis</td>
<td>7.4%</td>
<td>0.439</td>
<td>6.9%</td>
<td>0.086</td>
<td>8.3%</td>
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<td>Current asthma attacks</td>
<td>4.2%</td>
<td>3.5%</td>
<td>7.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Former asthma attacks</td>
<td>4.2%</td>
<td>0.307</td>
<td>4.6%</td>
<td>0.000</td>
<td>6.4%</td>
</tr>
<tr>
<td>Current rhinitis</td>
<td>12.8%</td>
<td>15.1%</td>
<td>33.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Former rhinitis</td>
<td>4.2%</td>
<td>0.000</td>
<td>5.8%</td>
<td>0.000</td>
<td>4.4%</td>
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<tr>
<td>Current smoking</td>
<td>31.2%</td>
<td>24.8%</td>
<td>20.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Former smoking</td>
<td>22.5%</td>
<td>0.000</td>
<td>29.7%</td>
<td>0.000</td>
<td>32.9%</td>
</tr>
</tbody>
</table>

*Subjects, n=3250. † Estimation.

Conclusions: Our results highlight a trend to increased prevalence rates of asthma, and especially rhinitis, among Italian adults. Despite the prevalence of rhinitis is consistent with recent literature (Bjerg, A. et al PLOS ONE, 2011), we underline that a different wording of the question might have determined an overestimation.

P4757
The prescribing patterns for asthma in general practice setting: Adherence to GINA guidelines
Giuseppe Sarno, Sandra Baldacci, Sara Maio, Anna Angino, Franca Martini, Sonia Cerrai, Marzia Simonii, Patrizia Silvi, Marco Borbotti, Anna Paola Pala, Megon Bresciani, Giovanni Viegi.
1Pulmonary Environmental Epidemiology Unit, CNR Institute of Clinical Physiology, Pisa, Italy; 2Technosciences Unit, CNR Institute of Clinical Physiology, Pisa, Italy; 3Biomedicine and Molecular Immunology, National Research Council, Palermo, Italy

Background: General practitioners (GPs) are the first healthcare professionals whom asthma patients refer to for their symptoms.

Aim: To assess drug prescription for asthma by GPs and to evaluate prescriptive adherence to GINA guidelines (GL).

Methods: 107 GPs throughout Italy provided data on 995 asthmatic patients (45% males, mean age 43.3 ± 17.7 yrs).

Results: 48.5% of patients had intermittent (48.5%) or mild persistent asthma (25.3%); 61% had co-morbid allergic rhinitis (AR). More frequently, prescribed medicines were a combination of inhaled corticosteroids (ICS) plus long-acting β2-agonists (LABA) (55%), and short-acting β2-agonists (SABA) as mono-therapy or in combination with ICS (46%). In general, prescriptive appropriateness was higher for patients with only asthma (25%) than for those with asthma+AR (16%). Regardless of concomitant rhinitis, the lowest adherence to GL was found in the mild persistent asthma category (11%), whilst the highest was in the severe persistent group (56%).

Conclusion: In general, we found low adherence of GPs to GINA GL recommendations, with a trend to over-treatment of intermittent asthma; conversely, more appropriate therapeutic regimens were applied for severe asthma.