422. Respiratory epidemiology: prevalence, incidence and remission

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Late-breaking abstract: Allergic sensitization to common airborne allergens among adults in urban and rural northern Vietnam: Results from a population survey

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Background: The profile of allergic sensitization and it's association with allergic diseases varies between different areas of the world.
Objective: To study allergic sensitization and the association with asthma and allergic rhinitis in the northern part of Vietnam.
Methods: A sample of 1500 subjects, aged 21–70 years were randomly selected from all 5782 responders of a questionnaire survey performed in 2007-2008. The subjects underwent a structured interview, a skin prick test with 10 common local indoor and outdoor allergens. Further, lung function and methacholine test were performed. The questionnaire used was the GA^{2}LEN study questionnaire which is mainly based on the ECRHS and the ARIA questionnaire with additional questions from Swedish OLIN questionnaire.
Results: Of 533 subjects attending the skin prick tests, 180 subjects (33.8%) had positive SPTs to at least one allergen. Mite and cockroach were the most common sensitizers in northern Vietnam (26.1%; 13.2%) and they strongly associated with allergic rhinitis. Young age, men sex and occupational exposure to gas, dust and fumes were risk factors for sensitization, particularly to mites and cockroach. Airway hyper-reactivity (AHR) to methacholine at doses $\leq$2 mg/ml was statically significant associated to multi-sensitization.
Conclusions: The prevalence of allergic sensitization was 33.8% and was strongly associated with allergic rhinitis. Young subjects were at higher risk of becoming sensitized to mites, while male sex was a risk factor for sensitization to cockroach. Storage mite, house dust mite and cockroach were the most common sensitizers in both rural and urban northern Vietnam.

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Increase of multi-sensitization to airborne allergens among adults from 1994 to 2009

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Aim: To compare the prevalence of positive skin prick test (SPT) among adults in 1994 and 2009.
Methods: In 1994 and 2009, random samples of participants from two cross-sectional postal questionnaire surveys were invited to clinical examinations including skin prick test (SPT) and structured interviews. Of invited in ages 20-60 years, 500 (68%) participated in 1994 and 463 (69%) in 2009. The SPT were performed with the same method with ten common airborne allergens. A wheal size of $\geq$ 3mm was considered as a positive reaction.
Results: The prevalence of at least one positive SPT was 35% in 1994 and 39% in 2008 (p=0.13). The prevalence of positive SPT to the most common allergens increased significantly; birch (14% to 18%, p=0.03), timothy (12% to 21%, p<0.001), cat (16% to 26%, p<0.001) and dog (13% to 25%, p<0.001). Multiple sensitization was significantly more common in 2009 with 75% of all sensitized subjects in 2008 compared to 60% in 1994 (p=0.002). The pattern of sensitization remained similar with sensitization to mite or mould being uncommon. No significant gender differences were observed in 1994 or in 2009 while the prevalence decreased by increasing age. A similar trend in prevalence was observed when a wheal size $\geq$ 4 mm was used as a positive reaction.
Conclusion: The prevalence of sensitization to at least one allergen was similar in 1994 and 2009. However, the burden of allergic sensitization has increased as the proportion of subjects with multi sensitization increased. The clinical effect of this change needs to be analyzed.

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Prevalence of asthma symptoms among Croatian school children is still increasing

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Bacground: There were disturbing epidemiological data confirming a worldwide increase, including Croatia, in the prevalence of childhood asthma over the last few decades. Recent epidemiological studies shows that this trend seems to be stopped in many countries.
Aim: To estimate the trend of asthma symptoms prevalence among school children in north-west part of Croatia.
Methods: Results of two studies conducted eight years apart, during school years 2001/02 vs. 2009/10, on the same area using the same written and video asthma questionnaires developed by the International Study of Asthma and Allergies in Childhood were compared respectively. The target population comprised two age groups: 6-7years (n=1634 vs. n=1052) and 13-14 years (n=2194 vs. n=1181).
Results: Prevalence of asthma symptoms in the older age group according to written questionnaire (wheezing in last 12 months: 8.4 vs 14.0, p<0.001; wheezing ever: 19.9 vs. 26.1, p<0.001; asthma ever: 5.2 vs. 6.9, p=0.02) showed a rising trend as well as according to video questionnaire (wheezing in last 12 months: 4.6 vs. 6.4, p=0.01; severe wheezing in last 12 months; 2.1 vs. 7.1, p<0.001). There was no significant (NS) change in the prevalence of the same symptoms in the younger age group (wheezing in last 12 months: 9.7 vs. 9.4, p=NS; wheezing ever: 26.2 vs. 26.3, p=NS; asthma ever: 3.9 vs. 5.0, p=NS).
Conclusion: Prevalence of asthma symptoms among older school children in north-west part of Croatia still shows a rising trend. Results obtained in the younger age group of children may suggest that this trend could be stopped in the future.

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Changes in asthma remission or control in the last decade in Italy

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There are few information on longitudinal changes in asthma remission or control in the last decade. For this purpose, in the frame of the Italian Study on Asthma in the Young Adults, a random sample of 354 asthmatics identified between 1998 and 2000 in 6 Italian centres (Pavia, Torino, Verona, Pisa, Sassari and Sassuolo) was followed-up 10 years apart (response rate 61%). At follow-up, asthma was

considered in remission if a subject did not report any asthma-like symptoms or drug use in the last 12 months. Either at baseline or follow-up, asthma was intermittent if a subject reported rare symptoms and did not use anti-inflammatory drugs in the last 3 months, persistent otherwise. Asthma was controlled if a subject on therapy reported rare symptoms in the last 3 months. Fifty-seven respondents (27%) were remittent; they were more likely to be intermittent at baseline (32/57, 56%) than non remittent subjects (53/152, 35%) (p=0.005). Among the 141 non remittent subjects with information on symptoms and drug use at both occasions, intermittent asthma increased from 33% at baseline to 46% at follow-up. Subjects with intermittent asthma at baseline were more likely to have intermittent asthma also at follow-up (29/46,63%) with respect to subjects with persistent asthma at baseline (36/95, 38%) (p=0.005). Controlled asthma increased from 37% at baseline to 42% at follow-up. In conclusion, both asthma severity and control seem to be improved over the last decade in Italy.
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P4134
Prevalence of asthma and allergies in childhood in Guadeloupe
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International data gave a global map in trends of asthma and allergies prevalence around the world. However, data from Caribbean islands are scarce and seems to reveal high asthma prevalence.
We conducted a large cross-sectional study in Guadeloupe in 2008-2009. Thirty schools have been randomly selected. Parents answered first a standardised and validated questionnaire (ISAAC) then lung function test and skin prick tests have been performed in classrooms. Air pollution measures have been done in schools and classrooms. Children were 10 yrs old.
1903 children participated to this study (52% of girls and 48% of boys). Response rate was 95%. 30% of children suffered from allergic rhinitis. 27% had wheezing in the chest during their life and 13.7% had wheezing during the 12 past months. 80% of them had less than three wheezing episodes and 20% had more than four attacks during the past year.
17% of parents reported that their children had already had asthma attacks in the past, with higher prevalence in boys compared with girls. 70% of them had asthma diagnosed by a doctor. 10% had severe asthma taking into account (wheezing frequency, nocturnal symptoms and severe attack). 16% of them have been hospitalised for asthma attacks during the past year. 10% of them had already used a peak flow meter. Prevalence of SPT positivity to any allergen was 12%. Sensitization to *blomia tropicalis* was most frequent (86% of sensitized children), followed by sensitization to cockroach and pollens.
We reported preliminary results of a first epidemiological study using standardised questionnaire in Guadeloupe, in children aged of 10 years old.
These results suggest a high prevalence of asthma and rhinitis allergy in Guadeloupean children.

P4135
Prevalence of asthma symptoms in adult university students and workers in Elobeid – West Sudan
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Introduction: Using the International Study of Asthma and Allergy in Childhood (ISAAC) questionnaire the prevalence of asthma was found to be higher in Khartoum state (capital of Sudan) compared to the rural areas in children. The prevalence of asthma in adults in the capital was found previously to be 9%.
Objectives: To find the prevalence of asthma among Sudanese university students and adults and validate the diagnosis by pulmonary function tests in a rural area in Sudan.
Method: A cross-sectional study performed in Elobeid town about 650 Km western Khartoum, during 2010. A modified ISAAC questionnaire was distributed to university students and adults chosen by stratified random sampling.412 subjects were included. Any subject with a positive response to asthma symptoms was interviewed by another questionnaire covering asthma symptoms, allergy symptoms and environmental factors. In addition, lung function tests had been performed to all those having asthma symptoms.
Results: 412 subjects were included. Prevalence of asthma according to wheeze hearing in the last 12 months was 6.7%. Wheezing is the most prevalent asthma symptom (96.6%), followed by breathlessness (76%). Most of the patients have intermittent symptoms. Validation of ISAAC questionnaire by reversibility test was 57% in asthmatic group.
Conclusion: 1.Prevalence of asthma among Sudanese adult university students and workers living in Elobeid town (West Sudan) is 6.7%. is less than the capital. 2.Extra pulmonary function tests are needed for validation in intermittent asthma.

P4136
Prevalence of asthma in Latin American middle-aged and older adults and its overlap with diagnosis of COPD
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Objective: To evaluate the prevalence of asthma using self-reported and spirometric criteria and to analyze the overlap in asthma and COPD diagnoses.
Methods: Multicenter study (PLATINO) in five Latin America cities: Sao Paulo, Mexico City, Montevideo, Santiago and Caracas. Individuals aged 40 + years performed pre and post-BD spirometry and answered to ISAAC. Significant reversibility was defined as a difference between post and pre-BD FEV1 or FVC; those with a 200 ml and 12% or more differences were classified as having significant reversibility.
Results: Questionnaires and pre and post-BD spirometry were available for 5,183 individuals. Out of 1,242 individuals reporting wheezing in the last 12 months, only 184 (14.8%) also had significant reversibility by spirometry. Out of 532 subjects with significant reversibility, 34.6% also reported wheezing in the last year. As a consequence, asthma by both wheezing and reversibility affected exactly 3.6% of the sample. By analyzing COPD, based on the fixed ratio criterion, and asthma by the most specific criterion (wheezing + reversibility), out of 728 individual with COPD, only 96 (13.2%) also presented asthma. Out of the 184 individuals with asthma, 52% also had COPD. Taking these two variables together, 96 individuals, representing 1.9% of the sample, had both asthma and COPD.
Conclusion: Wheezing in the last 12 months alone does not correlate strongly with reversibility in spirometry. COPD and asthma diagnoses are mostly independent; its overlap affected only 1.9% of the sample. However, out of all asthmatic subjects, over half also presented COPD.

P4137
Screening study for chronic obstructive pulmonary disease among adults in Pleven
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Aim: To carry out a screening study for chronic obstructive pulmonary disease (COPD) among the population in Pleven.
Material: We studied 2047 people, 764 (37.3%) men and 1283 (62.7%) women, aged $\geq$ 40 years. Exposure to different risk factors was found in 1837 (90%) of them. All studied patients filled in a specially designed questionnaire and did spirometry (with bronchodilatation for the ones with forced expiratory value – FEV_1, less than 80% predicted value).
Results: We found COPD (both symptoms and spirometry data) in 14,9% of the studied population. The analysis of the data showed: sex - 21.7% of males and 10.8% of females (p=0.0001); age - 11.9% - 40-55 years and 19.3% above 55 years (p=0.0001); place of living - 13.9% urban and 18.8% country (p=0.01). The presence of risk factors was as follows: smoking (both current and former) - 23.2% (OR=12.2); occupation - 7.3% (OR=3.5); coal heating - 3.6% (OR=1.9); frequent respiratory infections - 15.5% (OR=8.28); family history - 13.2% (OR=6.94); air pollution - 2.3% (OR= 1.1); with multiple risk factors - 28.1% (OR= 14.8). Chronic respiratory symptoms were present in 84.9% of the COPD patients and in 43.6% of the people without airway obstruction (r=0.36, p=0.0001).
Conclusion: The study found COPD in 14.9% of the studied population. There was prevalence in males, age above 55 years and in people living in the country. Among the risk factors most important were smoking, frequent respiratory infections and genetic predisposition.

P4138
Prevalence of chronic bronchitis in the Middle-East and North Africa: Interim results of the BREATHE study
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Background: Few data are available on the epidemiology of COPD outside developed countries.

Objectives: The objective of this epidemiological study was to assess the prevalence and burden of COPD, chronic bronchitis and smoking in eleven countries (Algeria, Morocco, Tunisia, Egypt, Jordan, Lebanon, Saudi Arabia, Syria, UAE, Pakistan and Turkey).
Methods: A general population sample of 10 000 subjects ≥ 40yrs in each country was generated from random phone numbers. A structured interview was proposed to all subjects by telephone. Screening questions, including history of cough and sputum production, was used to identify subjects with chronic bronchitis. Individuals who smoked ≥ 10 pack-yrs and who had either chronic bronchitis or a previous diagnosis of COPD were considered to have possible COPD. In a subset of the study sample, assignment of COPD was confirmed by spirometry. This interim analysis assesses the prevalence of chronic bronchitis.
Results: Of 118 039 subjects contacted, 44 892 were interviewed. 978 subjects reported having symptoms of chronic bronchitis. This corresponds to a prevalence of chronic bronchitis of 2.2% [95% CI: 2.0-2.3%], ranging from 0.6% [95% CI: 0.4-1.0%] in UAE to 2.9% [95% CI: 2.1-3.7%] in Algeria. The prevalence of chronic bronchitis was higher in women (2.4%; 95% CI: 2.2-2.6%) than in men (1.8%; 95% CI: 1.6-2.0%). Prevalence increased with age: 1.6% in subjects aged 40-49 yrs, 2.2% in those aged 50 to 59 yrs and 3.0% in those aged ≥ 60 yrs.
Conclusion: The prevalence of chronic bronchitis in the Middle East and North Africa seems to be lower compared to other regions of the world.

P4139
Chronic obstructive pulmonary disease in smokers with asthma
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Aim: To find out what the prevalence of COPD amongst smokers with asthma is.
Material: The study included 154 asthmatic patients - 46 (29.9%) men and 108 (70.1%) women, aged between 40 and 69 years, all of them current or ex-smokers. The patients did spirometry and filled in a specially designed respiratory questionnaire.
Results: Spirometric criteria for COPD were found in 29.9% of all patients, in 24.1% of female and 43.5% of male patients (p=0.02). The prevalence of COPD was 23.2% amongst patients aged between 40 and 50 and 32.2% in patients above 50 (p=0.1). COPD was found in 6.1% of patients with less than 20 pack-years and in 56.2% in patients with ≥ 20 pack-years (p=0.0001). More current smokers had COPD than ex-smokers - 38.2% vs. 20.5% respectively (p=0.02) The risk for COPD in smokers with asthma was OR = 15.7 (95% CI, 3.8 - 64.5).
Conclusions: One third of the current/former asthmatic patients above the age of 40 met the functional criteria for COPD. The prevalence of COPD was significantly higher in males and in older patients and depends on the pack-years.

P4140
COPD heterogeneity: An epidemiological perspective from the PLATINO study
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PLATINO offers an opportunity to characterise COPD heterogeneity in a population-based multicenter study. 759 COPD and 4,554 non-COPD individuals were included. COPD was characterised for potential phenotypes. *Dyspnea, health status (HS) and physical limitations* similar in non-obstructed and stage-1. mMRC (2+) and physical limitations were reported by 61.2% and 27.1% of stage-2, vs 80.8% and 55.8% of stage-3&4 patients, respectively. Good-excellent HS was reported in 58.6% of stage-2 vs 32.6% of stages-3&4 individuals. *BMI:* higher proportion of COPD were in underweight-normal vs. obese category (27.4 vs 10.9%). A subgroup of severe COPD reported dyspnea mMRC 1, no physical limitation, or were obese. *Acute bronchodilator responsiveness* (ABR): was present in 51.2% of stage-1 vs 6.8% of stages-3&4 ($p<0.05$). *Exacerbations:* increased from 4.2% in stage-1 to 28.9% in stages- 3&4 (present on a subgroup of subjects). *Gender:* females vs men reported more fair-poor HS (40 vs 28%, $p<0.0001$), dyspnea (80.5 vs 41.5%, $p<0.001$), physical limitation (30 vs 19.1%, $p<0.001$), higher BMI (27.2±0.3 vs 26.5±0.2, $p<0.05$), ABR (32.9 vs 23.9%, $p<0.05$) and self-reported exacerbations (10.5 vs 5.8%, $p<0.05$). Current smoking women were more obstructed (stage-2+ 53% vs 35%, $p<0.01$), despite similar cigarette exposure. *Co-morbidities:* females had a higher co-morbidity score (1.35±0.1 vs 1.01±0.1, $p<0.01$). *Chronic bronchitis:* was present in 8.56% of COPD, preponderance in males 65.5% (p=0.01) and current smokers 47.6% (p=0.005).
In conclusion, PLATINO data show a significant COPD heterogeneity even at same severity stages. A better understanding of potential phenotypes should probably come through the follow up "PLATINO Cohort Study".

P4141
COPD prevalence in Yigilca, a town in rural area of Duzce, Turkey: Insight from the Melen study
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Introduction: COPD prevalence varies across countries and different groups within countries. There are only three local epidemiological studies on COPD prevalence among Turkish population. COPD diagnosed by spirometry in two of them.
Aim: To determine COPD prevelance using spirometry and symptom based criteria in Yigilca, a town in rural area of Duzce.
Methods: The Melen Study was a cross-sectional study conducted in May and June, 2010. Study population was inhabitants of 21000 people in Yigilca. Health service of the region was supplied by six family physicians. 400 subjects from each family physician were randomly selected from electronical data base. Interviews were made by researchers face to face. The questionnaire consist of demographic and socioeconomical variables, the history items of dyspnea, cough, sputum and smoking habits.
Spirometry was performed with Vitalograph ALPHA. COPD defined as a history of dyspnea, cough or sputum production, and post-bronchodilator FEV1/FVC<70.
Results: A total of 2298 subjects (1471 female, 827 male with a mean age of 50) were interviewed. Spirometry was performed in 1468 of 2298 participants. COPD prevalence for adults and adults aged ≥40 years old were 4,9% and 6.7%, respectively. Post-bronchodilator FEV1/FVC<70 were detected in 7,4% of 1468 participants. Sixty five percent of the study population (1495 subjects) had never smoked. Crude smoking rate of the population was 17%.
Conclusion: Although results are consistent with the literature, our study revealed a lower prevalence than other two epidemiological studies in Turkey those used spirometry in diagnose. Low levels of smoking prevalence and rural area might be effective in low prevalence.

P4142
Prevalence, relation to smoking and other factors of COPD: Evidence from population survey
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Although COPD is a leading cause of worldwide disability and mortality it remains greatly underestimated in primary health care in Russia.
The aim of this study is to provide estimates of the prevalence of COPD in Russia in relation to patterns of cigarette smoking and environmental conditions.
Methods: Subjects aged 35-64 (N=3771; RR=81%) randomly selected participants from multi-centre population based epidemiological study in three Russian regions with different environmental conditions were included in the analysis. Chi-squared tests and odds ratios (OR) were utilized; multiple logistic regression was employed to analyze association between COPD and smoking patterns and environmental conditions.
Results: COPD was revealed in 12.9% of men and 15.7% of women, whereas only 50.9% of those were ever told to have any respiratory diagnosis ($p<0.001$). COPD is strongly related to smoking intensity. It is 10.5 times more likely to be related to heavy smoking in men (OR=10.5; 95%CI 5.4-19.2) and 5 times women: (OR=5; 95%CI 2.8-8.8), but also with moderate smoking (OR=4.4, 2.9-6.7) and (OR=2.6,1.8-3.8), low (OR=2.6, 1.8-3.8) and even ex-smoking:(OR=3.06, 1.9-4.9) with short quitting history. No significant relation to intention to quit revealed.
Significant relations of COPD to environmental conditions are observed: with strongest relationships to region with severe climate conditions in Russian Far East close to Polar Circle:(OR=2.9, 95%CI 2.2-3.9), and Heavy Industrial region: (OR=2.2, 1.6-3.0).
Conclusion: COPD is common among adults in Russia and is mainly undiagnosed. It is strongly associated to smoking and higher cigarette consumption, but also to living area which requires further investigation.

P4143
Smoking rates in the Middle-East and North Africa: Interim results of the BREATHE study
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Background: Smoking is the main risk factor for the development of COPD.
Objectives: This epidemiological study aimed to assess the prevalence and burden of COPD, chronic bronchitis and smoking in 11 countries in the Middle East and North Africa (Algeria, Morocco, Tunisia, Egypt, Jordan, Lebanon, Saudi Arabia, Syria, UAE, Pakistan and Turkey).
Methods: A general population sample of 10 000 subjects ≥ 40yrs in each country was generated from random phone numbers. A structured interview was proposed to all subjects by telephone. Screening questions was used to identify potential subjects with COPD. Individuals who have a life time of smoking ≥ 10 pack-yrs and who either had a diagnosis of COPD or symptoms of chronic bronchitis were considered to have possible COPD. This interim analysis assesses smoking habits of the study population.
Results: 44892 subjects were interviewed and 14034 subjects were smokers. This reflects a prevalence of smoking of 31.4% [95%CI: 31.0-31.8%], ranging from 14.9% [95%CI: 13.5-16.5%] in Pakistan to 48.8% [95%CI: 47.1-50.4%] in Lebanon. The rate of smoking ≥10 pack-yrs was 22.8% [95%CI: 22.4-23.2%]. Smoking was more frequent in men (50.9%; 95%CI: 50.2-51.6%) than in women (15.6%;95%CI: 15.1-16.0%). No relevant differences in smoking rates were found between age groups: 31.6% in subjects aged 40-49yrs, 32.2% in those aged 50-59yrs and 29.4% in those aged ≥60yrs. The use of water-pipes alone was reported by 605 smokers (4.3%), and 442 (3.1%) used both water-pipes and cigarettes.
Conclusion: Smoking is more frequent in men than in women, but rates vary considerably between different countries in the Middle East and North Africa. This may have an impact on health status.

P4144
Tuberculosis status in Minoufiya Governorate, Egypt
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Introduction: TB is still the most common infectious disease worldwide. In terms of incidence, Egypt is ranked among the mid-level incidence countries.
Aim: To provide baseline information for assessment of the epidemiological trends and the impact of TB control interventions.
Patients & methods: This was a retrospective epidemiological study including pulmonary TB patients who were diagnosed in Minoufiya Governorate, Egypt from January 2003 to December 2008. Epidemiological data, clinical presentation and examination, radiological examination, laboratory investigations, contact investigations were acquired for all patients.
Results: Incidence of pulmonary TB in Minoufiya Governorate in the studied years was 5.1 per 100,000 populations. A higher percentage of pulmonary TB cases was found in males (68.3%), in rural areas (83.7%), and in middle aged persons (25–54 years) 53.8%. The majority of patients were new cases (91.9%) and most patients received CAT I drugs. There was a good response to anti-tuberculous therapy with rapid DSM conversion in most cases. The cure rate at the end of treatment reached about 80%. Treatment outcome was significantly higher with ages (15–54 year), ($p<0.001$). Outcome was also better in males than females ($p<0.05$), in rural than urban areas ($p<0.001$), and in patients treated with CAT-I drugs ($p<0.05$). Direct smear microscopy (DSM) was positive only in two of 546 contacts.
Conclusion: Minoufiya Governorate is one of the moderately affected governorates with pulmonary TB in Egypt, with good control measures done by the health authorities. Middle aged males and rural residents are the most affected groups. Most cases are new with a minority of drug resistant or chronic cases.

P4145
Prevalence of water pipe smoking among population in the City of Mashhad (north east of Iran)
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One major type of smoking in the Middle East countries is using water pipe (WP). The prevalence of this type of smoking in the city of Mashhad and their pulmonary function tests (PFT) was studied. The prevalence of water pipe smoking was studied using standard questionnaire. Pulmonary function tests and respiratory symptoms were compared between water pipe smokers and non-smokers. Totally 673 individuals (372 male and 301 female) were interviewed. The number of water pipe smokers was 57 (8.5%) including 27 male (7.2%) and 30 female (10.0%). All PFT values in WP smokers were significantly lower and respiratory symptoms (RS) were greater than non-smokers ($p<0.05$ to $p<0.001$). There was negative correlations between PFT values and positive correlation between RS with duration amount and total smoking ($p<0.05$ to $p<0.001$). The prevalence of WP smoking in population of Mashhad city was shown for the first time which showed profound effect of WP smoke on PFT values and respiratory symptoms.

P4146
Epidemiology of smear-negative pulmonary tuberculosis in Sardinia (Italy) from 2000 to 2009: Role of ex-adiuvantibus treatment
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Introduction: Pulmonary tuberculosis (TB) management is vexed when sputum microscopy is negative for M.Tuberculosis in patients with positive Mantoux and symptoms/Chest X-Ray suggestives for TB, especially to decide whether to start treatment or wait for the culture results. Several studies have shown that many smear/culture-negative patients will develop a bacteriologically positive disease later.
Aim: To assess the percentage of ex-adiuvantibus treatment that has been given and to find out if it should be recommended.
Methods: We have collected data from medical records of adult patients discharged with TB diagnosis by the Sardinian reference health centers (AOUSL of Sassari, Cagliari, Nuoro) from 2000 to 2009, including acid-fast microscopy by Ziehl-Neelsen and culture examination (Bactec 460–MGIT 960 TB, Lowenstein-Jensen).
Results: We have notified 686 TB cases (incidence 4/100000 population, half the national rate) of which 80% lung TB: 71% smear positives, 29% smear negatives. Among smear negative patients 36% were treated after a positive culture result, 1.8% although it was negative and 42% before culture, turned out positive in 84.8% and negative in 15.2% of patients; in 22% of cases there weren't any data on culture and follow-up.
Conclusion: The percentage of smear negative TB was lower in Sardinia (29%) than at national level (40%). An ex-adiuvantibus therapy would been necessary at least in 70% of cases with a clinical-radiological picture suggestive for TB, but only 34% started treatment before culture result delaying disease recovery. So in these subjects therapy should not be postponed because a negative smear doesn't exclude a TB diagnosis.

P4147
Enhanced surveillance for patients with novel H1N1 (nH1N1) in Tangerang District Indonesia
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Introduction: The epidemiology of novel H1N1 Influenza virus infection in tropical countries is not well described. To characterize the epidemiology of nH1N1 in Indonesia, we implemented enhanced surveillance for hospitalized patients with severe acute respiratory infection (SARI) in 12 Hospitals Tangerang, Indonesia in June 2009.
Methods: We identified all hospitals that manage patients with respiratory illness and trained clinicians to identify SARI patients, collect clinical specimens and complete a standardized case investigation form. Throat and nasal swabs were tested by RT-PCR using primers from the US CDC.
Results: Between June 28 and September 3, 2009, we identified 216 patients with SARI including 19 patients (9%) with nH1N1 infection. Patient with nH1N1 infection were identified in 7 hospitals and ranged in age from 11 months to 54 years (median age 20 years); 59% were male. The age specific rate for hospitalization 5.7 per 100,000 population. The number of patients with nH1N1 infection peaked in mid July which is the low season for seasonal influenza transmission in Tangerang, Indonesia. The median time from symptom onset to hospital admission was 2 days, ranging from 1 to 8 days. Six nH1N1 patients had complicated course of illness including 2 patients who died. Among the 19 nH1N1, 6 had underlying medical conditions. All patients with nH1N1 infection were treated with Oseltamivir.
Conclusion: We observed a rapid rise in the number of SARI patients with nH1N1 infection shortly after introduction of this virus in Indonesia. The age distribution, clinical features, and mortality of hospitalized patients is similar to that observed in other countries.

P4148
Different reference equations may affect COPD staging and treatment
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Introduction: Due to the large variation of the predicted values generated by the

different equations, it is possible that COPD staging would change when different equations are used.

Objectives: To compare the results of some commonly used spirometry reference equations with the one derived from the PLATINO equation in all patients with COPD from the PLATINO Study; to evaluate the possibility of changing the patient predicted value considering the cut off point as 50% of FEV_1 predicted value when the different equations are used

Material and methods: Out of the 5315 individuals evaluated in the PLATINO sample, 759 (52.3% male) of them had COPD according to GOLD criteria. Comparison of staging was performed using the FEV_1 in percentage of predicted in each equation, considering the percentage expected from the PLATINO equation as reference.

Results: We evaluated 759 patients with COPD, observing staging changes in 29.4% in relation to the difference equations, being Knudson et al., Crapo et al. and Pereira et al. 2007 equations that showed the greatest number of changes.

Conclusion: Overall these reference equations tested may be applied indistinctly for predicting the spirometry values, although we should reinforce that some of them, like Knudson et al. and Crapo et al., may decrease disease severity, while Pereira et al. 2007 increases the severity, when considering only the percentage of predicted values. These results call to attention the importance of following up patients with COPD by the absolute value of their FEV_1 and suggest that only one equation should be used during the treatment of the same patient so as to avoid alterations in the treatment.