Formulating hypotheses and implementing research in allergic disorders in rural Crete, Greece

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Clinic of Social and Family Medicine, School of Medicine, University of Crete, Greece
The outline of the presentation

- Implementing primary care research in a country with low capacity
- Bronchial asthma and allergic rhinitis, two common problems in primary care.
- A focus on symptoms
- The Cretan story
- Important European resources for general practitioners/family physicians
- Key messages
Implementing research in a non-privileged country: the case of Greece

- Develop an EPR system
- Explore opportunities to work together with an academic department
- Start with assessment of population health needs
- Identify common ill conditions and health problems
- Ask about the existence of common diagnostic tools—if not, discuss possibility of translating and adapting into local and cultural setting other well assessed in the literature
- Identify the burden of common illness and measure diagnostic probabilities
- Discuss opportunities to publish your initial non-experimental research

A ten steps stepwise model—C. Lionis 2007
Introducing general practice in urban Greece: focus on morbidity profile

Anargyros Mariolis, M Mezoneris, Christos Livakos

General practice has been recognized as an independent medical specialty in Greece since the 1990s; it requires four years of vocational training. Although there have been many attempts to establish primary healthcare in Greece, the development of primary healthcare in urban areas has been slow due to the reliance on hospital-centric models.

In 2004, a healthcare reform was launched in Greece, which led to the development of FHC in urban areas. In 2008, the first feasibility study for the development of the first urban healthcare system in Greece was submitted to the National General Hospital, Athens, and considered the Municipality of Vouliagmeni, which is included in the urban area of the town.

The aim of this research project was to examine the primary healthcare system in Vouliagmeni, which is an urban area served by a private general practice and a public healthcare system. The study investigated the healthcare services provided by the primary healthcare system in Vouliagmeni.

Table 1. The most common diagnoses.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>20</td>
<td>15</td>
<td>35</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>12</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>8</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Respiratory disease</td>
<td>6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

The data presented were collected over a period of two years. The following diagnoses were recorded: 0 cases (0%); cases were made by doctors and 65% by patients. The most frequent diagnoses were hypertension, diabetes, cardiovascular diseases, and respiratory disorders. The data are presented in Table 1. The diagnoses are classified in 26.4 categories (14.6%), followed by minor diagnoses classified in 164 (15.8%). Although there are minor similarities to previous FHC evaluations, this study focused on urban healthcare systems due to recent changes in Greek healthcare policies.
Research questions

- What is the prevalence of allergic rhinitis, asthma and dermatitis among grape farmers in Crete?
- Are grape farmers at increased risk of developing allergic disorders compared to non-exposed controls?
- Which are the risk factors for allergic disorders in this occupational group?
Managing bronchial asthma in rural Crete

Mrs S.K. 30 years old, non-smoker, presented to his GP office with cough, rhinitis and wheezing. After the recession of the respiratory symptoms, the patient underwent a spirometry examination.

The results of the test were:
- **FEV1**: 2,20 L (77.1%)
- **FEV1/FVC**: 66,32%

The patient repeated the spirometry 20´ minutes later after the bronchodilation. The results of the new test were:
- **FEV1´**: 2,51 L (87.5%)
- **FEV1/FVC**: 75,60%
Methods

Collaboration of the Clinic of Social and Family Medicine in the University Hospital of Heraklion, Crete with:

- the Department of Otolaryngology
- the Department of Dermatology
- the Department of Thoracic Medicine
Methods

- Questionnaire
- Skin prick tests (SPTs)
- Measurement of specific IgE antibodies (EIA tests)
- Spirometry
Population of the study

a. **Grape farmers**
   - 150 randomly selected grape farmers
   - Age: 25-70 years
   - Participation rate: 120/150 (80%)

b. **Controls**
   - 150 subjects working in the tourist industry
   - Age: 25-70 years
   - Response rate: 100/150 (67%)
Questionnaire

A. Medical history
- Personal and demographic information
- Respiratory and skin symptoms in the last 12 months
- Personal and family history of allergic diseases
- Smoking habits, alcohol consumption
- House environment information

B. Occupational history
- Number of working hours per day/ duration of grape cultivation
- Work-related respiratory and skin symptoms
- Use of pesticides
- Use of preventive measures
Skin prick tests (SPTs)

**Allergens (16)**

a. **Pollens** (*Gramineae mix, Cynodon dactylon, Composite mix, Parietaria officinalis, Parietaria Jiudaica, Parietaria plus, Tree mix, Olive European*)

b. **Mites** (*Dermat. Farinae, Dermat. Pteronyssinus, Glycyp. Domesticus, Acarus siro*)

c. **Molds** (*Alternaria tenius, Cladosporium herbarum, Mucor mix*)

d. **Animal epithelium** (*Cat epithelium*)

**Positive result:** $\geq 3$mm
EIA test

• The enzyme immunoassay method (EIA test) was used to quantify IgE antibodies
• Allergens (8)
  • **A. Pollens:** Grass mix, *Parietaria officinalis*, Olive European, Common ragweed
  • **B. Mites:** *Dermatophagoides Farinae*, *Dermatophagoides pteronyssinus*
  • **C. Molds:** *Molds mix*
  • **D. Animal epithelium:** *Cat epithelium*

• **Positive result:** $\geq 0.35$ kU/L
Diagnostic criteria of allergic rhinitis*

1. **According to the questionnaire:** 2 or more nasal symptoms (i.e., rhinorrhea, sneezing, nasal obstruction, and nasal itching) on most days in the last 12 months, apart from a cold.

2. **According to questionnaire and allergy tests:** Allergic rhinitis according to the questionnaire, followed by a positive SPT test result and/or a positive EIA test result

*International Consensus Report on the diagnosis and management of rhinitis. Allergy, 1994*
Diagnostic criteria of asthma

1. According to the questionnaire:
   (ie, attack of asthma during the last 12 months, having been woken up by an attack of shortness of breath during the last 12 months, or current use of asthma medication)

2. According to questionnaire and spirometry tests:
   Current asthma based on questionnaire, followed by a positive bronchodilatation test

A. Univariate analysis
Comparison of continuous variables: t test/Mann-Whitney test
Comparison of categorical variables: Pearson’s chi-square test

B. Multivariate analysis
Multiple logistic and linear regression models controlling for age, sex and smoking
## Demographic characteristics

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers (n=120)</th>
<th>Controls (n=100)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, years</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>45.6 (12.1)</td>
<td>34.9 (7.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Men, n (%)</strong></td>
<td>43 (36)</td>
<td>29 (29)</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Women, n (%)</strong></td>
<td>77 (64)</td>
<td>71 (71)</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Current smokers, n (%)</strong></td>
<td>32 (27)</td>
<td>59 (59)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Ex smokers, n (%)</strong></td>
<td>16 (13)</td>
<td>9 (9)</td>
<td></td>
</tr>
<tr>
<td><strong>Non smokers, n (%)</strong></td>
<td>72 (60)</td>
<td>32 (32)</td>
<td></td>
</tr>
</tbody>
</table>
Working conditions in grape farmers

Years of farming,
Mean (SD) 25.0 (11.7)

Age at grape farming onset,
Mean (SD) 20.6 (7.7)

Working hours/24h,
Mean (SD) 6.9 (2.3)

Use of preventive measures,
n (%) 59 (49)

Use of pesticides,
n (%) 78 (65)
### Prevalence of allergic rhinitis among grape farmers and controls

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers</th>
<th>Controls</th>
<th>Adjusted OR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergic Rhinitis&lt;</td>
<td>55 (46)</td>
<td>27 (27)</td>
<td>2.3</td>
<td>1.3-4.1</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Allergic Rhinitis #</td>
<td>49 (41)</td>
<td>26 (26)</td>
<td>2.0</td>
<td>1.1-3.5</td>
<td>&lt;0.02</td>
</tr>
</tbody>
</table>

*According to the questionnaire; #According to the questionnaire, followed by a positive SPT test result and/or a positive EIA test result

Adjusted OR = Odds ratio for grape farmers over controls after adjustment for age, sex, and smoking.

**Study objective:** To measure the prevalence of allergic rhinitis, atopy, and asthma among grape farmers, and to compare the respiratory and acute status in grape farmers with those of non-exposed control subjects.

**Design:** Cross-sectional study.

**Setting:** Maeliari region in northern Crete, Greece.

**Subjects and methods:** One hundred twenty grape farmers and 100 control subjects living in the Maeliari region were examined. The protocol comprised a questionnaire, skin prick tests for 18 common allergens, measurement of specific IgE antibodies against 8 allergens, and spirometry before and after bronchodilatation.

**Results:** GRAPE farmers were found to have an excess of respiratory symptoms. The comparison with the control group, after adjusting for age, sex, and smoking status, showed that the differences were statistically significant for rhinorrea (OR 2.7, 95% CI 1.5 to 4.8, p < 0.01), rhinitis (OR 1.9, 95% CI 1.4 to 2.6, p < 0.05), and nasal itching (OR 1.9, 95% CI 1.4 to 2.6, p < 0.05), but were nonsignificant for asthma-related symptoms. In the multiple logistic regression model, grape farmers were found to have increased work-related symptoms, such as rhinorrea (OR 2.7, 95% CI 1.5 to 4.8, p < 0.01), rhinitis (OR 1.9, 95% CI 1.4 to 2.6, p < 0.01), cough (OR 3.7, 95% CI 1.2 to 11.4, p < 0.05), and dyspnea (OR 3.8, 95% CI 1.1 to 12.9, p < 0.05). The prevalence of allergic rhinitis was 38.8% in grape farmers and 26% in control subjects (OR 1.5, 95% CI 1.1 to 2.5, p < 0.02). Increased but statistically nonsignificant values of asthma prevalence were found in grape farmers (6.7%) compared with the control group (2.0%). The prevalence of asthma was 64.2% in grape farmers and 35.6% in the control group (OR 2.2, 95% CI 1.2 to 3.5, p < 0.04). Mean FEV₁ was significantly lower in grape farmers than in control subjects (p < 0.05), after adjusting for age, sex, and smoking status. Bronchial obstruction was reversible in 23 grape farmers (19.2%) and in 8 control subjects (8%), p < 0.01.

**Conclusion:** The study mainly demonstrated the high prevalence of allergic rhinitis and work-related respiratory symptoms in grape farmers compared to control subjects. It also suggested that grape farming is possibly associated with increased allergic sensitization to specific pollens, low baseline FEV₁, and increased bronchial hyper-responsiveness. Further studies are needed to determine the potential risk factors for these disorders among the farming population.

Chatzi et al., Chest, 2005
## Prevalence of asthma among grape farmers and controls

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers n (%)</th>
<th>Controls n (%)</th>
<th>Adjusted OR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current asthma</td>
<td>11 (9)</td>
<td>4 (4)</td>
<td>2.7 (0.6-9.7)</td>
<td>NS</td>
</tr>
<tr>
<td>Current asthma#</td>
<td>8 (7)</td>
<td>2 (2)</td>
<td>3.5 (0.7-17.0)</td>
<td>NS</td>
</tr>
<tr>
<td>Asthma diagnosis</td>
<td>8 (7)</td>
<td>6 (6)</td>
<td>1.0 (0.1-35.2)</td>
<td>NS</td>
</tr>
<tr>
<td>Medication for asthma</td>
<td>8 (7)</td>
<td>2 (2)</td>
<td>3.5 (0.7-17.0)</td>
<td>NS</td>
</tr>
</tbody>
</table>

<According to the questionnaire;
#According to the questionnaire, followed by a positive bronchodilator response

Adjusted OR= Odds ratio for grape farmers / controls after adjustment for age, sex, and smoking

Chatzi et al, Chest; 2005
# Prevalence of work-related respiratory symptoms among grape farmers and controls

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Grape farmers</th>
<th>Controls</th>
<th>Adjusted OR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhinorrea</td>
<td>27 (23)</td>
<td>9 (9)</td>
<td>2.9 (1.3-6.6)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Sneezing</td>
<td>27 (23)</td>
<td>9 (9)</td>
<td>2.9 (1.3-6.6)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Dyspea</td>
<td>13 (11)</td>
<td>4 (4)</td>
<td>3.8 (1.1-1.3)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Wheezing</td>
<td>6 (5)</td>
<td>1 (1)</td>
<td>1.0 (0.7-3.3)</td>
<td>NS</td>
</tr>
<tr>
<td>Cough</td>
<td>16 (13)</td>
<td>4 (4)</td>
<td>3.7 (1.2-11.4)</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

Adjusted OR= Odds ratio for grape farmers / controls after adjustment for age, sex, and smoking

Chatzi et al, Chest; 2005
Prevalence of positive allergy tests in grape farmers and controls (I)

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers</th>
<th>Controls</th>
<th>Adjusted OR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥1 + SPT</td>
<td>61 (51)</td>
<td>32 (32)</td>
<td>2.2 (1.3-3.8)</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>+ SPT pollens</td>
<td>54 (45)</td>
<td>26 (26)</td>
<td>2.3 (1.3-4.1)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>+ SPT mites</td>
<td>19 (16)</td>
<td>16 (16)</td>
<td>1.6 (0.3-1.5)</td>
<td>NS</td>
</tr>
<tr>
<td>+ SPT molds</td>
<td>7 (6)</td>
<td>3 (3)</td>
<td>2.2 (0.5-8.7)</td>
<td>NS</td>
</tr>
<tr>
<td>+ SPT cat epithel</td>
<td>3 (2)</td>
<td>1 (1)</td>
<td>2.8 (0.3-27.9)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Adjusted OR= Odds ratio for grape farmers /controls after adjustment for age, sex, and smoking status

Chatzi et al, Chest; 2005
## Prevalence of positive allergic tests in grape farmers and controls (II)

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers</th>
<th>Controls</th>
<th>Adjusted OR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atopy</td>
<td>77 (64)</td>
<td>38 (38)</td>
<td>2.2 (1.2-3.5)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>+ EIA pollens</td>
<td>33 (28)</td>
<td>24 (24)</td>
<td>1.6 (0.8-3.2)</td>
<td>NS</td>
</tr>
<tr>
<td>+ EIA mites</td>
<td>25 (21)</td>
<td>14 (14)</td>
<td>1.4 (0.6-3.1)</td>
<td>NS</td>
</tr>
<tr>
<td>+ EIA molds</td>
<td>8 (7)</td>
<td>4 (4)</td>
<td>1.4 (0.3-5.6)</td>
<td>NS</td>
</tr>
<tr>
<td>+ EIA cat epithel</td>
<td>7 (6)</td>
<td>2 (2)</td>
<td>3.0 (0.6-15.0)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Atopy = ≥ 1 +SPT and/or 1 + EIA test
Adjusted OR= Odds ratio for grape farmers /controls after adjustment for age, sex, and smoking status
Lung function measurements in grape farmers and controls*

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers Mean (SD)</th>
<th>Controls Mean (SD)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVC (% of pred)</td>
<td>106.3 (21.9)</td>
<td>113.6 (14.5)</td>
<td>0.17</td>
</tr>
<tr>
<td>FEV₁ (% of pred)</td>
<td>100.9 (24.2)</td>
<td>112.6 (14.4)</td>
<td>0.03</td>
</tr>
<tr>
<td>FEV₁/FVC (% of pred)</td>
<td>99.5 (10.7)</td>
<td>104.1 (7.8)</td>
<td>0.08</td>
</tr>
<tr>
<td>FEV₁' (% of pred)</td>
<td>107.3 (24.9)</td>
<td>115.6 (14.6)</td>
<td>0.10</td>
</tr>
</tbody>
</table>

FEV₁' = FEV₁ after bronchodilatation  
*p values adjusted for age, sex, and smoking

Chatzi et al, Chest; 2005
Association of allergic rhinitis with pesticide use among grape farmers in Crete, Greece

Leda Chatzi, Athanasios Alegakis, Nikolaos Tsanakas, Nikolaos Siafakas, Manolis Kogevinas, Christos Lionis

Objective: To explore the association of allergic rhinitis with the use of pesticides among grape farmers in Crete.

Methods: A cross-sectional study of 120 grape farmers and 100 controls of the Malevizi region in Northern Crete was conducted. The protocol consisted of a questionnaire, skin prick tests for 16 common allergens, measurement of specific IgE antibodies against 16 allergens, and spirometry before and after bronchodilatation.

Results: Grape farmers who used pesticides had higher prevalence rates of allergic rhinitis symptoms (OR, 3.0; 95% CI, 1.4 to 6.2) compared with grape farmers who reported no current use of pesticides, and control subjects. Logistic regression models controlling for age, sex and smoking status showed that 6 of the 12 predefined groups of major pesticides were significantly related to allergic rhinitis symptoms. The highest risks were observed for parquat and other bipyridyl herbicides (OR, 2.2; 95% CI, 1.0 to 4.8), dithiocarbamate fungicides (OR, 2.5; 95% CI, 1.1 to 5.8) and carbamate insecticides (OR, 3.0; 95% CI, 1.4 to 6.3). A factor analysis of pesticides used identified 3 distinct factors. The most common factor was that of multiple pesticides use that included 9 pesticides and was significantly associated with allergic rhinitis (OR, 1.5; 95% CI, 1.0 to 2.3). ORs were higher when allergic rhinitis was defined using both questionnaire data on symptoms and atopy.

Conclusions: Occupational exposure to multiple agricultural chemicals could be related to allergic rhinitis in grape farmers.

Chatzi et al, Occup Environ Med; 2007
Prevalence of skin symptoms among grape farmers and controls.

<table>
<thead>
<tr>
<th></th>
<th>Grape farmers</th>
<th>Controls</th>
<th>Adjusted OR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itchy rash</td>
<td>45 (38)</td>
<td>15 (15)</td>
<td>2.24 (1.11-4.44)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Itchy rash with vesicles</td>
<td>16 (13)</td>
<td>2 (2)</td>
<td>7.56 (1.77-33.3)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>W-R itchy rash</td>
<td>19 (16)</td>
<td>2 (2)</td>
<td>4.22 (1.1-20.77)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>W-R itchy rash with vesicles</td>
<td>7 (6)</td>
<td>1 (1)</td>
<td>2.8 (0.3-3.3)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Adjusted OR = Odds ratio for grape farmers / controls after adjustment for age and sex.

Background: Grape farmers are exposed to a variety of agents capable of inducing occupational skin disease. We conducted a study to measure the prevalence of skin symptoms and work-related skin symptoms among grape farmers in the Malvizi region of Crete and to provide data on associated risk factors.

Methods: One hundred twenty grape farmers and 100 controls participated in the study. The protocol consisted of a questionnaire, skin prick tests for 16 common allergens, and measurement of specific IgE antibodies against 8 allergens.

Results: Self-reported itchy rash (OR, 2.31; 95% CI, 1.10-4.84, P < 0.05) within the last 12 months, and work-related itchy rash (OR, 4.06; 95% CI, 1.01-16.33, P < 0.05) were significantly higher in grape farmers than in controls, after adjusting for age and sex. Sensitization to pollen (OR, 4.28; 95% CI, 1.41-12.82, P < 0.01) and allergic rhinitis (OR, 3.06; 95% CI, 1.21-8.28, P < 0.05) were found to be significantly associated with self-reported itchy rash in the grape farmers group.

Conclusions: Grape farmers reported skin symptoms more frequently than non-exposed controls, and IgE-mediated sensitization to pollen was found to be significantly associated with the reported symptoms. Further studies are needed to evaluate the impact of specific occupational agents on skin diseases among grape farmers. Am J Indus Med. 40:77–84, 2006 © 2006 Wiley-Liss, Inc.

Key Words: grape farmers; skin symptoms; work-related skin symptoms; pollen; sensitization
Proportion of positive SPT/EIA tests among grape farmers with itchy rash and w-r itchy rash

- **Pollens**: Itchy rash 78.9%, W-R itchy rash 77.8%
- **Mites**: Itchy rash 36.8%, W-R itchy rash 33.3%
- **Molds**: Itchy rash 10.5%, W-R itchy rash 10.5%
- **Cat epithelium**: Itchy rash 11.1%, W-R itchy rash 10.5%
Risk factors for itchy rash among grape farmers

- **Age**: OR: 1.0 (0.9-1.0)
- **Sex**: OR: 2.0 (0.8-5.0)
- **Pollens**: OR: 3.7 (1.3-10.2)
- **Pesticides**: OR: 1.8 (0.6-5.2)
- **Allergic rhinitis**: OR: 3.0 (1.2-7.6)
Limitations of the study

- Cross-sectional study
- Small study population
- Selection bias-Healthy worker effect?
- Lack of skin examination
The Cretan Project-conclusions

Grape farming

↑Allergic rhinitis
↑Itchy rash
↑Atopy

↑Sensitization to pollens
Low FEV$_1$
Use of pesticides
Important web sites: IPCRG and Primary Care

Respiratory Journal

Volume 15 Issue 1 February 2006

International Primary Care Respiratory Group (IPCRG) Guidelines: Management of allergic rhinitis
Page 58-70
David Price, Christine Bond, Jacques Bouchard, Rui Costa, Joseph Keenan, Mark L. Levy, Mari Otr, Dermot Ryan, Samantha Walker and Margaret Watson

View full text of article (PDF document)
Right click on this DOI link and copy link to cite this article

Volume 15 Issue 1
February 2006

1: The IPCRG Guidelines: Developing guidelines for managing chronic respiratory diseases in primary care
C.P. (Ormo) van Schayck, Mark L. Levy, Paul Stephenson and Aziz Sheikh
Pages 1-4
View full text of article (PDF document)
Right click on this DOI link and copy link to cite this article
View abstract and keywords (where applicable)
Step 1: Intermittent asthma; symptoms ≤ once per week

When patients present with infrequent symptoms, prescribe rapid-acting beta-2 agonists. In patients over 60 years of age, anticholinergics can be considered as an alternative. Prescribe a rapid-acting beta-2 agonist for patients with exercise-induced asthma. Occasionally, patients with intermittent asthma develop severe exacerbations; these patients should be treated as if they had persistent asthma.

Step 2: Mild persistent asthma; symptoms > once per week

When patients present with more frequent symptoms, start with inhaled corticosteroids in a low dose: 200–400 mcg of beclomethasone or equivalent [23]*. If inhaled corticosteroids fail to improve asthma after a period of three months, ascertain the reason why. In patients believed to have good compliance, a satisfactory inhalation technique, and no identified trigger factors for their asthma, treatment should be extended to Step 3.

Step 3: Moderate persistent asthma

The Step 2 treatment goal has not been reached despite low dose of inhaled corticosteroids and appropriate compliance. The preferred treatment is regular treatment with a combination of inhaled glucocorticosteroid and a long-acting beta-2 agonist [24,25]*. Alternatives are combinations of inhaled corticosteroids with sustained release theophyllines or with leukotriene receptor antagonists [20]*.
Pharmacologic therapy

Depends on both the classification of severity and the individual patients’ symptoms

- Oral and local H1 antihistamines
- Intranasal glucocorticosteroids
- Systemic and intranasal glucocorticosteroids
- Chromones
- Decongestants
- Anticholinergics
- Antileukotrienes
- Allergen-specific immunotherapy
American Family Physician Practice Guidelines

Allergic Rhinitis

Antihistamines vs. Immunotherapy. Direct comparisons between these two therapies with respect to efficacy are not likely to be done. Immunotherapy is generally considered to be a long-term disease-modifying treatment requiring months to years of treatment, and antihistamines are most often used for immediate symptom relief.

Nasal Corticosteroids vs. Immunotherapy. No randomized controlled trials were identified that directly compared immunotherapy with intranasal corticosteroids in treating seasonal or perennial allergic rhinitis.

Sedating vs. Nonsedating Antihistamines. Study results indicate no consistent benefit of sedating antihistamines over nonsedating antihistamines with respect to symptom alleviation in seasonal and perennial allergic rhinitis, but the side-effect profile is more favorable with nonsedating antihistamines.

American Family Physician Practice Guidelines

Practice Guidelines

AHRQ Releases Review and Nonallergic Rhinitis

Genevieve W. Ressel

An evidence report from the Agency for Healthcare Research and Quality (AHRQ) provides a review of the available literature on the various treatments for allergic and nonallergic rhinitis. The complete report, "Evidence Report/Technology Assessment No. 54--Management of Allergic and Nonallergic Rhinitis," is available at www.ahrq.gov. Printed copies may be obtained free of charge from the AHRQ Publications Clearinghouse (800-358-9295). For this report, the American Academy of Family Physicians served as the science partner, and the American College of Allergy, Asthma, and Immunology and the American Academy of Allergy, Asthma and Immunology provided technical experts.
Key messages

- GPs are the front door physicians in the diagnosis and management of patients with bronchial asthma and allergic rhinitis.
- GPs are in the unique position to make research hypotheses relevant to disease’s occurrence and natural course.
- GPs seems to capable in publishing their research results in well know journals.
- Research in clinical entities, including bronchial asthma and allergic rhinitis, requires effective collaboration with hospital physicians.
Do not forget—Research in primary care needs a paper, a pencil (John Fry) and medical records

Developing an Appropriate EPR System for the Greek Primary Care Setting

Dimitris K. Kounalakis,1,2 Chritis Lionis,1 I Okkes,2 and H Lambergs2

The creation of an electronic patient record (EPR) system with a user-friendly interface based on the current state of care was considered an urgent priority in the present Greek context, where Health Care Reform programs are in progress. This paper reports the procedures of developing an EPR system, and outlines some of its essentials and key issues. We performed a systematic review and analyzed the perceptions and patterns of use of existing EPR systems among Greek general practitioners. On the basis of this analysis, Tomoka was selected using different criteria, for appropriateness, efficiency, and feasibility for general practice as a prototype, for creating a Windows-based EPR system using the International Classification of Primary Care (ICPC-2) and International Classification of Diseases (ICD-9) as standards. The new EPR system meets appropriate outcomes within the current Greek primary care setting. Further studies are required for an evaluation.

KEY WORDS: electronic patient records system; EPR; ECPC; primary care.

BACKGROUND

Effectiveness and quality performance in primary care hold a central position in the recent directions on the quality improvement of several European national health systems. In Greece, a Health Care Reform program seeking quality improvement and coordination of hospital and health services at the regional level (including Crete), through the enhancement of primary care, has recently been approved.

In Crete, there is increasing interest in the implementation of research findings into daily practice and in measuring the performance of primary care physicians serving the rural population, where a network between the medical faculty and university hospital and rural health centers has been developed over the past few years. The network of Social and Family Medicine, University of Crete, 1995–2000.

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