Implementing research in rural Crete

By

Christos Lionis, MD, PhD
Associate Professor
IFPCRN Executive Board Member
lionis@galinos.med.uoc.gr
Outline

1. Clinic of Social and Family Medicine at the University of Crete, Greece-A short background
2. Developing epidemiologic research and measuring the burden of common illness
3. Developing diagnostic tools in measuring diagnostic accuracy: a focus on disease management
4. Introducing clinical governance in rural primary care and research in health care services: A focus on quality of care improvement
5. Measuring effectiveness in general practice and primary care: a focus on disease management
6. Involving research in undergraduate education in rural setting
7. Exploring population health assets and focusing on rural family issues
8. Suggesting a ten steps stepwise model for developing research in rural general practice and primary care
9. Key messages
10. Little about the WONCA World Rural Conference 2009 in Crete
University of Crete

5 Schools

The School of Health Sciences and the Faculty of Medicine

9 Departments and the Department of Social Medicine

4 Divisions and the Clinic of Social and Family Medicine
2. Developing epidemiological research and measuring the burden of common health problems
The Spili Project

**Spili project, the initial sample (1988)**

- 432 inhabitants aged 15-79
- 333 examined for CV risk factors and morbidity (160 males – 173 females)
- Participation rate: 77.31%
- High smoking rate (44%)
- High alcohol consumption
- High cholesterol levels
- High prevalence of diabetes and hypertension

Source: Lindholm, et al, Eur Heart J, 1992

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**Characteristics of the ‘Metabolic Syndrome X’ in a cardiac low risk population in Crete**

A. D. Koutis, C. D. Leoni, Å. Isacsson, A. Jakobsson, M. Fjerdingstad and L. H. Lindholm

*Dept. of Family Medicine and Social Medicine, Crete University Hospital, Heraklion, Crete; Medical Sciences Centre, University of Linköping, Sweden*

**KEY WORDS:** Diabetes, hypercholesterolaemia, hypertension, insulin, myocardial infarction, obesity

We have studied hypertension, obesity, diabetes and hypercholesterolaemia in those aged 45–79 years in the Crete low risk population of Spili (n = 389; attendance 82%) to see if these conditions interacted in the same way as previously described for high-risk populations. Hypertension, diabetes, obesity, and hypercholesterolaemia were found to be at least as prevalent in Spili as in Sweden. Furthermore, the previously described ‘Metabolic Syndrome X’, with insulin resistance and hypercholesterolaemia as a common denominator also seemed to exist in the Spili population where patients with these conditions had higher insulin and C-peptide levels than normals. Our finding should be viewed against the low prevalence of past myocardial infarction in Cretes, from whom Spili reported by us and positive confirmation of the results of the present study.

Source: Koutis, et al, Eur Heart J, 1992
Dementia and depression: two frequent disorders of the aged in primary health care in Greece
Stella Argyriadou⁎, Haritini Melissaopoulos⁎, Epanthia Krania⁎, Agathi Karagiannidou⁎, Ioannis Vlachonikolis� and Christos Lionis⁎,6


Background. Dementia and depression are very common disorders among elderly people and their presence decreases the well-being of the aged.

Objectives. The purpose of this study was to assess the magnitude of dementia and depression among elderly people living in different settings in the catchment area of the Chania Psychiatric health centre (CHCC) in northern Crete, Greece.

Methods. A total of 538 patients aged 65 years and over, including 48 subjects living in an old people’s home, 75 subjects who were taking part in the activities of the open centre for the elderly and 413 subjects randomly selected from those visiting the HCCH, were interviewed by the primary health care team of the HCCH. Medical and family history data were recorded, while cognitive and mood disorders were assessed by using the Mini Mental State Examination and Geriatric Depression Screening Scale.

Results. At the time of the examination, 37.6% of the men and 41.8% of the women showed various degrees of cognitive impairment, while 29.9% of the women and 19.8% of the men showed mild to moderate depression. Diabetes mellitus and hypertension frequently were found to co-exist with depression and dementia.

Conclusion. The results reconfirm that there is a high prevalence of the studied mental disorders in older patients in the out-patient setting in Greece. A set of recommendations to guide GPs has now been formulated, with specific emphasis on the use of different screening tools and the appropriate treatment of the most frequently co-existing chronic diseases.

Keywords. Dementia, depression, elderly person, general practice, Greece.

Introduction

Dementia and depression are very common disorders in later life, and their prevalence decreases the quality of life of elderly people. GPs fail to recognize these conditions until they are advanced, but they are capable, after training, of developing skills to prevent or delay their progression. Primary health care (PHC) in Greece has evolved rapidly during the last decade, with 180 health centres now functioning in rural areas. These PHC units are responsible for out-patient care including the provision of social care, nursing home services and terminal care, but there is little knowledge about the prevalence of dementia and depression in the Greek PHC setting. Therefore, it was interesting to investigate dementia and depression among the elderly living in different settings in the catchment area of the Chania Psychiatric health centre.

Current prevalence of hepatitis A, B and C in a well-defined area in rural Crete, Greece

C. Lionis,⁎ M. Kouletaki,⁎ E. Bialegas and E. Kouroumalis⁵

1Health Science Centre of Chania, 2National Institute of Social and Family Medicine, 3University of Patras and 4Research Laboratory, and 5Department of Enzymology, University of Crete Hospital and Medical School, Heraklion, Crete, Greece

Received 13 January 2000; Revised 30 June 2000; Accepted 5 September 2000.

Introduction

Viral hepatitis is an old and widespread infectious disease of major importance. Although hepatitis A and B have been extensively studied in Greece and a number of studies have shown a high prevalence [1–8], data on hepatitis C virus (HCV) are still limited. Recent reports have shown that HCV represents the major aetiological agent of parenterally transmitted acute non-A, non-B hepatitis in Greece [4,5]. A decline of the age-prevalence of antibody to hepatitis A (anti-HAV) has also been reported in a number of European countries, including Greece, over the past few decades [6,7] and this is attributed to improved standards of hygiene and housing conditions. Crete is one of the regions of Greece which, over the last few years, has reported an increase in the number of hospital discharges of patients suffering from liver diseases [8–10]. A recent study of mortality rates caused by malignant neoplasms has shown that liver cancer is the fifth most common cancer in Crete, inducing a large difference compared with the national figure (Vlachonikolis et al unpublished data).

SUBJECT. A seroepidemiological study was carried out in a geographically well-defined area in rural Crete in order to determine the prevalence of A, B and C hepatitis markers in the local population. Serum samples were obtained from 257 subjects (94 males, 163 females), aged 15 years and over, who visited the primary health care services of the Spili Health Centre between July 1993 and March 1994, and from 162 subjects (83 males, 81 females) randomly selected from households in three neighbouring villages of the study area. In samples obtained from the Spili Health Centre, antibodies to hepatitis A virus (anti-HAV) were detected in 234/244 (95.9%) subjects, antibodies to hepatitis B virus core antigen (HBsAg) were detected in 63/257 (24.5%) subjects and antibodies to hepatitis C virus (anti-HCV) were detected in 20/257 (10.7%) subjects. The corresponding figures for those randomly selected from the villages were 133/156 (85.7%), 16/164 (9.8%) and 5/164 (3%), respectively. Hepatitis B surface antigen (HBsAg) was positive in three (1.2%) subjects from the first group, while none of those recruited from the villages were positive for HBsAg. Interestingly, hepatitis markers were closely associated with age. No subjects under the age of 15 years showed evidence of prior hepatitis A infection and approximately 20% of those between 15 and 44 years of age were also negative. By contrast, practically all subjects older than 45 years were anti-HAV positive. Similarly, the majority of all those who were anti-HCV positive were older subjects. Seroepidemiology of hepatitis C in this well-defined population seems to be different from other parts of Greece, at least for hepatitis B and C viruses. There is a very low prevalence of HBsAg and a very high incidence of anti-HCV. Low exposure to HAV, as found in other parts of the country, was also found in the younger generation in this rural area of Irithi.  

Keywords. Crete, Greece, hepatitis A, B, C markers, prevalence.
Formulating hypotheses and implementing research in allergic disorders in rural Crete, Greece

Christos Lionis and Leda Chatzi,

Clinic of Social and Family Medicine, School of Medicine, University of Crete, Greece
Prevalence of allergic rhinitis among grape farmers and controls

Grape farmers Controls

<table>
<thead>
<tr>
<th>Allergic Rhinitis</th>
<th>n (%)</th>
<th>Prevalence</th>
<th>Adjusted OR (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergic Rhinitis</td>
<td>55 (46)</td>
<td>27 (27)</td>
<td>2.3 (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 (1.1-3.5)</td>
<td>&lt;0.02</td>
</tr>
</tbody>
</table>

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 / controls after adjustment for age, sex, and smoking.

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

Design: Cross-sectional study.

Setting: Maleviti region in northern Crete, Greece.

Subjects and methods: One hundred twenty grape farmers and 100 control subjects living in the Maleviti region were examined. The protocol comprised a questionnaire, skin prick tests for 16 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 rhinitis (OR 2.7; 95% confidence interval [CI], 1.3-5.1; p < 0.001), sneezing (OR 2.5; 95% CI, 1.2-4.6; p < 0.01), and nasal itching (OR 1.9; 95% CI, 1.0 to 3.8; 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 sneezing (OR 2.6; 95% CI, 1.5 to 4.6; p < 0.01), rhinitis (OR 2.9; 95% CI, 1.3 to 6.6; 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 12.2; p < 0.05). The prevalence of allergic rhinitis was 48.8% in grape farmers and 36% in control subjects (OR 2.1; 95% CI, 1.1 to 4.2; p < 0.05). Increased but statistically nonsignificant values of asthma prevalence were found in grape farmers (6.7%) compared with the control group (2.6%). The prevalence of atopy was 64.2% in grape farmers and 33.6% in the control group (OR 2.2; 95% CI, 1.2 to 3.9; p < 0.01). 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 (10.6%) and in 9 control subjects (9.6%; p < 0.01).

Conclusions: 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 pollen, 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
Association of allergic rhinitis with the use of pesticides

Leda Chatzi, Athanasios Alegakis, Nikolaos Tzanakis, Nikolaos Sifakas, 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 at the Maltese 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 6 allergens, and spirometry before and after bronchodilation.

Results: Grape farmers who used pesticides had higher prevalence rates of allergic rhinitis symptoms (OR: 2.7, 95% CI: 1.1 to 6.2) compared with grape farmers who reported no current use of pesticides, and control subjects. Logistic regression models controlling for age, sex, 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 paraquat and other diphenyl herbicides (OR: 2.7, 95% CI: 1.1 to 6.2), dithiocarbamate fungicides (OR: 2.5, 95% CI: 1.1 to 5.3) and carbamate insecticides (OR: 3.0, 95% CI: 1.4 to 6.5). A factor analysis of pesticides used identified 3 shaded factors. The most common factor was that of multiple pesticide use that included 9 pesticides and was significantly associated with allergic rhinitis (OR: 3.5, 95% CI: 1.3 to 9.4). 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 and work-related skin symptoms among grape farmers and controls.

<table>
<thead>
<tr>
<th>Skin Symptoms</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>2.4 (1.1-4.9)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Itchy rash with vesicles</td>
<td>16 (13%)</td>
<td>2 (2%)</td>
<td>7.5 (1.7-33.6)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>W-R itchy rash</td>
<td>19 (16%)</td>
<td>2 (2%)</td>
<td>4.2 (1.0-16.7)</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

Chatzi et al, Am J Indus Med; 2006
The ELEGEIA study

Table 4 Results of logistic regression analysis. Factors predicting hepatitis C virus (HCV) seropositivity

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>P-value</th>
<th>Exp. (B)</th>
<th>95% CI for Exp. (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of hospitalization*</td>
<td>1.28</td>
<td>0.37</td>
<td>&lt;0.001</td>
<td>3.59</td>
<td>1.75-7.36</td>
</tr>
<tr>
<td>Current or past drinking†</td>
<td>0.59</td>
<td>0.32</td>
<td>0.068</td>
<td>1.80</td>
<td>0.96-3.38</td>
</tr>
<tr>
<td>Natural childbirth‡</td>
<td>1.16</td>
<td>0.47</td>
<td>0.013</td>
<td>3.19</td>
<td>1.27-7.97</td>
</tr>
<tr>
<td>Use of psychotropic substances§</td>
<td>2.06</td>
<td>0.65</td>
<td>0.001</td>
<td>7.85</td>
<td>2.17-28.26</td>
</tr>
<tr>
<td>Use of psychotropic substances¶</td>
<td>1.00</td>
<td>0.42</td>
<td>0.016</td>
<td>2.73</td>
<td>1.20-6.17</td>
</tr>
<tr>
<td>Dental surgical operations**</td>
<td>1.33</td>
<td>0.56</td>
<td>0.018</td>
<td>3.79</td>
<td>1.25-11.50</td>
</tr>
<tr>
<td>Dental surgical operations††</td>
<td>1.66</td>
<td>0.57</td>
<td>0.003</td>
<td>5.26</td>
<td>1.72-16.12</td>
</tr>
<tr>
<td>Geographical region‡‡</td>
<td>1.51</td>
<td>0.43</td>
<td>&lt;0.001</td>
<td>4.53</td>
<td>1.96-10.47</td>
</tr>
</tbody>
</table>

* ≥ 4 days.
† Large number of alcoholic drinks.
‡ Five or more.
§ With intravenous injection.
¶ Without intravenous injection.
** Simple dental procedures.
†† Multiple dental procedures.
‡‡ Crete compared with Macedonia.
§§ Estimate of the odds ratio (OR) of HCV infection.
Assessing health needs in general practice/family medicine

Health needs assessment in general practice: the Cretan approach

Christos Lionis, Erik Troll

A comprehensive practice-based and public health-based approach to needs assessment has been established during the last years in primary healthcare (PHC) in Crete, Greece. This article describes the developments and achievements in health monitoring in PHC in Crete. An attempt is made to discuss the methodology used by the Cretan Health Centres for assessment of needs and outcomes together with results.

A variety of sources
- Demographic research
- Morbidity data
- Mortality data
- Social insurance data
- Local health surveys
- Health care services research

3. Developing diagnostic tools in measuring diagnostic accuracy: A focus on disease management
It was developed and standardised in 1995 by Dr Tom Kennedy and Prof. Roger Jones (Scand J Prim Health Care 1995, 13: 243-247)
Diseases management in rural Crete-the case of gastrointestinal problems

Study of the functional gastrointestinal disorders in rural Crete

Foteini Anastasiou, PhD thesis,
Supervisor: Prof. Christos Lionis
Results dyspepsia- IBS

• 394 patients were identified with upper abdominal symptoms non related to ulcer or GERD
  – 48 (12.2%) patients were registered as dyspeptic by primary care physicians
  – 29 (60.4%) were interviewed

• 146 patients identified as IBS by their physicians
  – 123 eligible for interview
  – 67 participated

the lack of information on diagnostic criteria on common GI disorders call for urgent action. Some measures towards quality improvement have been recently reported\textsuperscript{22}, but improvement must be made in the diagnostic skills of the primary-care physicians who serve the rural areas of Crete.

In conclusion, although the limitations of the study do not permit valid judgements and comparisons to be made, this study carries two key messages. The first is that gastroenteritis is still a frequent health problem that prompts many visits to primary care; and the second is that primary care physicians in rural Crete appear to fail to diagnose adequately FD and IBS, and need further training.
Results Dyspepsia

• 1 fulfilled the Rome II criteria for functional dyspepsia

• Agreement between doctor’s diagnoses and IDGP was 20.7%
  • Kappa Coefficient agreement of 0.018 (CI 95% 0.017- 0.019, p=0.6)

• At the time of interview
  – 11 patients had a history of peptic ulcer
  – 7 had GERD like symptoms and
  – 6 had dyspeptic symptoms
  – 5 had no symptoms and no past history of ulcer

• Most patients were using antacids (21 patients, 72.4 %)
Results IBS

Criteria fulfillment
• 46 (69%) Manning’s
• 32(48%) Rome II
• 16(24%) Rome III
• 27(40%) FGIDs questionnaire

The agreement of the Rome III with
• Manning criteria was poor (Kappa =0.25).
• Rome III criteria was moderate (Kappa= 0.51).

The agreement between the FGIDs questionnaire and the criteria was
• With Manning’s: Kappa = 0.30
• With Rome II : Kappa = 0.31
• With Rome III : Kappa = 0.24

Co-morbidity with other diseases
31 IBS patients (46%) suffered from GERD like symptoms and
9 (13%) had a history of gall- bladder problems.
Translation and validation of the general Nordic standardised questionnaire for the analysis of musculoskeletal symptoms (NMQ) into Greek*

• Reproducibility (test-retest again in 2 weeks) in a group of 50 consecutive primary care patients (Kappa >0.81, p<0.001, for 25 items, kappa 0.64 for 2 items)

Patterns of pain and consulting behaviour in patients with musculoskeletal disorder in rural Crete, Greece

- 82.6% (n=455) had at least one MSD
- Low back (56.9%), neck (34.1%), shoulder (29.9%) knee (27.9%)
- Only 1/3 of those with symptoms had consulted GPs for the same reasons

Introduction
Musculoskeletal disorders (MSDs) comprise a major health problem for the general population, affecting their quality of life, demanding increased health care and organization. According to reports from Canada and the Netherlands, the prevalence of musculoskeletal problems range from 25% to 74.5%, respectively. However, the etiological evaluation rate by health care professionals of musculoskeletal problems is about 70%. MSDs often cause pain and significant disability, especially in the elderly population, signifying a heavy community burden. Furthermore, working conditions correlate well with MSDs. In family practice settings, MSDs often coincide with multiple medical conditions, addressing special care needs.

In Greece, although MSDs have been considered as common reasons for patients’ visits to GPs in rural areas, issues of pain and consulting behaviour are still unexplored. This paper reports on the prevalence of musculoskeletal problems within the primary care setting with emphasis on co-morbidities and consulting behaviour and trends to discuss implications for GPs in a southern European country.

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ΓΕΙΑΜΕΤΡΟ
Ένα διαφορετικό βιβλίο υγείας

ΠΛΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ
ΣΧΟΛΗ ΕΠΙΣΤΗΜΩΝ ΥΓΕΙΑΣ - ΤΜΗΜΑ ΙΑΤΡΙΚΗΣ
ΚΟΠΩΝΙΚΗ ΚΑΙ ΟΙΚΟΓΕΝΕΙΑΚΗ ΙΑΤΡΙΚΗ

ΠΡΟΓΡΑΜΜΑ ΠΡΟΤΟΜΙΑΣ ΠΕΡΙΟΔΙΚΗΣ ΚΑΙ ΔΙΑΓΩΝΙΣΜΟΥ
ΠΡΑΚΤΙΚΟΥ 1990

KRETAS UNIVERSITET
Medicinsk forskning
Institutionen för social
Och familjehälsa

HALSOMETER
En annorlunda bok om hälsan

Programmet för första gradens medicinsk
Halsovård och näringslära
The IEQ is an 81-item questionnaire measuring the consequences of mental disorders for relatives of patients.
• Measuring diagnostic probabilities in general practice-I

\[-(LR^+) = \frac{\text{Sensitivity}}{1 - \text{Specificity}}\]

\[-(LR^-) = \frac{1 - \text{Sensitivity}}{\text{Specificity}}\]

• The problem of denominator
Can elbow-extension test be used as an alternative to radiographs in primary care?

Lamprakis A, Vlasis K, Siampou E, Grammatikopoulos I, Lionis C.

Second Orthopaedic Department, General Panarcardic Hospital of Tripolis, Tripolis, Arcadia, Greece.

Objective: To evaluate the ability of elbow extension, with the patient in a supine position, as a diagnostic test of an insignificant injury, with the purpose of avoiding unnecessary radiographs. Methods: Seventy patients suffering from an acute elbow injury were examined at the accident and emergency department. Inability to fully actively extend the elbow in a supine position was defined as a positive diagnostic test. Radiographs were interpreted by a consultant radiologist, blinded to all clinical examination results. Sensitivity, specificity, positive and negative predictive values, and positive and negative likelihood ratios along with their 95% confidence intervals were calculated for the elbow-extension test. Results: Forty out of 70 patients had a positive test. Elbow fracture or dislocation was identified radiographically in 22 patients with positive test (sensitivity 92%). Two out of 30 (with negative test) had a hairline radial head fracture, which was found on radiographs (specificity 61%). Conclusion: Elbow extension as a diagnostic test in a primary care setting can predict severe elbow injuries and can be safely used in practices with no radiology facilities.
4. Introducing clinical governance in rural primary care and research in health care services:

A focus on quality of care improvement
Primary health care nursing staff in Crete: an emerging profile

A. Markaki1 RN, MSN, MA, CS, N. Antonakis2 MD, PhD, A. Philalithis3 AHC, MBBS, PhD, MRCP(UK) & C. Lionis4 MD, PhD

1 Clinical Specialist in Community Health Nursing, Regional Health and Welfare System (PH&W) of Crete, PhD Candidate, University of Crete; 2 General Practitioner, Anoja Health Center; 3 Associate Professor of Social Medicine, University of Crete; 4 Associate Professor of Social and Family Medicine, University of Crete, Crete, Greece


Aim: To capture the profile and professional needs of nursing staff working in Health Centers throughout the island of Crete and explore variations in nursing practice by educational preparation.

Methods: A newly developed, psychometrically tested questionnaire, was administered to all nursing staff in 15 rural Health Centers.

Findings: Vacancy rates are high, indicating a serious staffing deficit. The type of degree earned (2-year vs. 3 or 4-year program) does not differentiate nursing practice, with only two exceptions (obtaining a patient history and consulting patients). The majority of respondents assess their existing knowledge and skills as inadequate while indicating a strong desire for continuing education. Job satisfaction is high in terms of interactions with clients and community recognition, while it is rated low in terms of daily interactions with colleagues and support from work environment.

Conclusion: Cretean nursing staff in PHC operate within a restricted and task-oriented framework. Their educational preparation allows little effect on role variations and professional needs. The Regional Health and Welfare System of Crete should address daily supervision and support issues, on-the-job training, continuing education needs, while taking immediate action to avoid potential turnover of existing staff and aggressively recruit young, qualified nursing staff who will choose a career in PHC nursing.

Keywords: Crete, Human resource management, Needs assessment, Nursing, Primary healthcare, Skill mix
A focus on performance

Primary health care nursing staff in Crete: an emerging profile

A. Markaki\textsuperscript{1} RN, MSN, MA, CS, N. Antonakis\textsuperscript{2} MD, PhD, A. Philalithis\textsuperscript{3} AKC, MBBS, PhD, MRCP(UK) & C. Lionis\textsuperscript{4} MD, PhD

1 Clinical Specialist in Community Health Nursing, Regional Health and Welfare System (RHWS) of Crete, PhD Candidate, University of Crete, 2 General Practitioner, Anogia Health Center, 3 Associate Professor of Social Medicine, University of Crete, 4 Associate Professor of Social and Family Medicine, University of Crete, Crete, Greece


• Cretan nursing staff operate within a restricted and task-oriented framework
• Their educational preparation has little effect in practice role variations and professional needs
Translating the theory into interventions to improve quality

- To create scientific partnerships and develop a practice-based network through research collaboration in order to exchange experiences and make comparisons on public health care issues, such as prescribing and use of medicines;

- To explore beliefs and attitudes, subjective norms and behavioural control, perception in predicting intention to prescribe medicines;

- To explore determinants of patients’ health behaviour regarding prescription of medicines and their rational use;

- To develop and implement policy and practice recommendations that will enhance and improve health care systems;

- To promote research, especially on the development of national monitoring systems and sustainable nationwide interventions, and on the promotion of rational medicine use at all levels in the health sector. The recommendations of EMEA, on how to administer and use certain medicines for compassionate use, play a significant role in forming the basis of our proposal (EMEA, 2006).
The Theory of Planned Behaviour
5. Measuring effectiveness in rural general practice and developing medical audit research
The Need for Quality Management in Primary Health Care in Cyprus: Results From a Medical Audit for Patients With Type 2 Diabetes Mellitus

Theodora Zachariadou, MD; Loukia Makri, MSc; Henri E. J. H. Stoffers, MD, PhD; Anastasios Philaliitis, PhD, AKC, MBBS, MRCP, MSc; Christos Lionis, MD, PhD

Objectives: To assess the quality of clinical management regarding metabolic and blood pressure control in a cohort of patients with type 2 diabetes in the primary health care setting of Cyprus. Subjects and Methods: Medical care, received by 296 patients with type 2 diabetes from 4 primary care health centers in Cyprus, was assessed for 1 year. Data were collected retrospectively using chart reviews and a telephone survey. Most mean values of HbA1c, fasting blood glucose, blood pressures, and lipid values were used to assess attainment to internationally accepted treatment targets. Results: Mean age was 70 years, 73% of patients being older than 65. Average diabetes duration was 13 years. Almost 90% of patients had visited a general practitioner during 1 year, on average 2.3 times. Hypertension and hyperlipidemia were present in 67% and 32% of patients, respectively. Overall, diabetes care provided by the 4 primary care health centers appeared to be suboptimal with regard to frequency of metabolic and blood pressure measurements as well as targets reached. Only 10.5% of all patients had at least 1 HbA1c value recorded, and 77.4% of them had HbA1c levels of 8% or more. Of the patients who had a low-density lipoprotein cholesterol measurement during the examined year (29.4%), only 20.7% had a value less than 100 mg/dL. Only 34.5% of patients used lipid-lowering agents, and only 15.9% were receiving aspirin. CONCLUSION: Our findings suggest that the management of
Are Primary Care Physicians Able to Assess Dementia? An Estimation of Their Capacity After a Short-Term Training Program in Rural Crete

To the Editor: We read with interest the report of Kopczynski and Cooper, which appeared in the spring 2000 issue of the Journal. Although several methodological concerns were raised, the authors noted that this study delineates some important differences between the Alzheimer’s disease (AD) patient seen by primary care physicians and those seen by specialists. In Greece, a European country with the recent development of community-oriented primary care, there is a need for additional awareness about the extent of the problem of AD and other neurodegenerative disorders. Therefore, the effectiveness of primary health care (PHC) physicians in both early diagnosis and management of AD has to be assessed, not least in a multicultural context.

One academic specialist (a neurologist) visited how MMSE scores to identify individuals with NCD who met diagnostic criteria for dementia. He also performed the MMSE score again. He examined 83 of the 137 patients. He also identified 25 of the 137 patients and assessed their cognitive impairment in 85 of them, possible dementia (MMSE 18–25) in 55, and probable dementia (MMSE <18) in 30. This means that 1) the PCP physicians were not able to diagnose dementia in 18 subjects (14 vs. 220); 2) the PCP physicians and the neurologist agreed on the presence of cognitive impairment; mild or severe (MMSE <20), in 65 of the 83 subjects (78 vs. 95). When there was a difference of “possible” and “probable” dementia were considered, the primary care physicians and the neurologist agreed in 75% (Cohen’s kappa = ⊥).

In conclusion, we found a moderate agreement between the primary care physicians and the specialist’s assessment of subjects with cognitive impairment. The results of this study are primarily encouraging, but they are not yet satisfactory. The effectiveness of the short-term intervention training program for primary care physician residents to be evaluated, and other variables need to be considered, such as experience and quality administration of the MMSE by an independent specialist.

Christos Geras, M.D.
Department of Social Medicine, School of Medicine, University of Crete, Heraklion, Crete, Greece
Minos Tsingaropoulos, M.D.
Elias Iatrou
Maria Kyani, M.D.
Nikos Antoniou, M.D.
Andreas Prapoglou, M.D.

References
1. Kopczynski A, Cooper I. Are health education meetings effective in recruiting women in cervical screening programmes? An innovative and inexpensive intervention from the island of Crete

V. Vrikliki, A. Romanidou, P. Theodorakis, C. Lionis
1. Spinal Health Centre, Regional Health and Welfare System of Crete, Greece
2. Department of Social Medicine, School of Medicine, University of Crete, Greece
3. Clinic of Social and Family Medicine, School of Medicine, University of Crete, Greece
Introducing experimental epidemiology in general practice and primary care Αναζήτηση της αποτελεσματικότητας

Samoutis, et al (submitted)
6. Involving research in undergraduate education in rural setting
EVALUATING FIELDWORK TRAINING OF MEDICAL STUDENTS IN RURAL: ACHIEVEMENTS AND DEVELOPMENTS FROM CRETE, GREECE

V. Sapouna, Th. Roumeliotaki, A. Philalithis, G. Arseni, C. Lionis
A four-week course in primary care

Strong clinical orientation

It combines training in both, general practice and public health

Pure rural setting

Involvement of rural physicians and community leaders

The community-oriented clinical clerkship in rural Crete/ [http://www.med.uoc.gr or http://pfy-epeaek.med.uoc.gr](http://pfy-epeaek.med.uoc.gr)
The clinical clerkship-2

A virtual medical lab that reated and supported by G. Savvakis, and N. Papanikolaou

- Students allocated to one of the 13 primary care centres in rural Crete
- A detailed guide
- An access to the students’ website
- Guidelines and educational documents available on line
- Interactive sessions on a virtual medical lab
A clinical clerkship - Some summary points

- It seems that the one month clinical clerkship together with the available educational material satisfied the great majority of the medical students, although a high proportion found its duration non adequate.

- The acquirement of clinical skills may predict good satisfaction of medical students.

- These preliminary results should be confirmed by a thorough analysis of the available data.
A medical students training in COPC: experiences gained from rural Crete


Department of Social Medicine, School of Medicine, University of Crete, and Health Center of Agia Varvara, Crete, Greece
Teaching COPC and developing research in undergraduate education

- 8 reports were reviewed and classified into 3 major categories:
  (i) Management of chronic illness (n=2)
  (ii) Prevalence of chronic disease (n=4)
  (iii) Descriptive epidemiology of health habits (n=2)

- These reports were based on non-experimental research and the length of their observation was 2-4 weeks.

- The main instruments utilized were:
  (1) AUDIT questionnaire
  (2) Mini Nutritional Assessment
  (3) Rome II for IBS criteria
  (4) St. Vincent’s’ criteria for DM
  (5) ATP III classification
  (6) Geriatric Depression Scale
7. Exploring population health assets and focusing the interest to family
Η μετάφραση-στάθμιση της κλήμακας «αίσθηση συνεκτικότητας» (sense of coherence) στην Ελλάδα και η χρήση της στην πρωτοβάθμια φροντίδα υγείας

ΕΚΠΟΣΗ Η Θεωρία της «αίσθησης συνεκτικότητας» (sense of coherence, SOC), του Aaron Antonovsky, προσπαθεί να εξηγήσει γιατί μερικά άτομα διακερδίζονται με επιτυχία το stress και παραμένουν υγεί, ενώ άλλα καταρρέουν. Σύμφωνα με τον Αντονοβσκ, η ικανότητα του άτομου να δείξει το κόμη ως δομημένο και προσθέτει (comprehensible), το προβλήματα ως αντιμετωπισμό (manageable) και τις απαιτήσεις της ζωής ως ενδιαφέρουσες προκαθήσεις (meaningful). Το άρθρο αυτό διαπραγματεύεται τη διδακτική μετάφρασης και στάθμισης της κλήμακας στην ελληνική γλώσσα. ΥΛΙΚΟ-ΜΕΘΟΔΟΣ Η κλήμακα αριθμείται από 29 ερωτήματα, καθένα από τα οποία βαθμολογείται από το 1 ως το 7. Όσο υψηλότερη είναι η συνολική βαθμολογία, τόσο πιο ικανή θεωρείται η SOC του εξεταζόμενου. Για τη μεταφορά της κλήμακας στην ελληνική γλώσσα ακολουθούθηκε η προειδοποιημένη μεθοδολογία της Trust Scientific Advisory Committee. Τη διεξαγωγή μετάφρασης (forward-backward) ακολούθησαν προσεκτική επιστολή και η κατανοητής συμπλήρωση της κλήμακας από 6 εθελοντές. Το τελικό στάδιο της όλης διδακτικής αποτέλεσε η στάθμιση της μεταφοράς.
The Spili Project-Phase II

Risk factors for ischaemic heart disease in an elderly population: a twelve year follow-up study

Ioannis K Karalis, Athanasios K Alegakis, Antonios G Kafatos, D Lionis

Published: 18 December 2007

Abstract (provisional)

Background
Crete has been of great epidemiological interest ever since the public health defined area of rural Crete was studied, with only scarce signs of coro

Results
We re-examined 200 subjects (90.7% of those still living in the study area) and the incidence of CHD was 0.9% in men and 0.1% in women. The incidence

FRS Score (Phase II) vs. FRS Score (Phase I)

Interpreting the Greek ‘paradox’: The cultural determinants of health-III

Framingham Risk Score and cardiovascular morbidity and mortality. Only the data for those re-examined or those deceased during the 12-year follow-up period are presented here, for whom there is available information through the death certificates and medical records.

<table>
<thead>
<tr>
<th>Framingham Risk</th>
<th>Number of subjects (1988)</th>
<th>Average estimate of FRS for the group (mean, 95% Confidence Interval)</th>
<th>CVD morbidity and mortality observed (events, % calculated risk)</th>
<th>Mantel-Haenszel statistics</th>
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<tr>
<td>Score group</td>
<td>(n, % distribution)</td>
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<td>&lt;15%</td>
<td>171 (69.0%)</td>
<td>5.9% (5.3-6.6)</td>
<td>6 (3.6%)</td>
<td>( \chi^2=14.163 )</td>
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<td>15-25%</td>
<td>55 (22.2%)</td>
<td>19.5% (18.5-20.5)</td>
<td>8 (16.3%)</td>
<td>( \text{df}=1 )</td>
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<td>&gt;25%</td>
<td>22 (8.9%)</td>
<td>33.59% (30.9-36.3)</td>
<td>4 (22.2%)</td>
<td>( p&lt;0.001 )</td>
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<td>Total</td>
<td>248 (100%)</td>
<td>10.9% (9.7-12.1)</td>
<td>18 (7.3%)</td>
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</tbody>
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John Karalis and Christos Lionis, unpublished
Phychologic functioning and physical health

Positive psychologic factors, including positive emotions, optimism, and social support may diminish physiological hyperresponsiveness and reduce adverse clinical event rates.
Sense of control and spirituality in rural Crete

- Πληθυσμός 2 κοινοτήτων της Επαρχίας Βιάννου
- The Royal Free Interview for Religious and Spiritual Beliefs (18 items)
  
  (King, et al. Psychol Med 1995)
  
  (Sapountzi-Krepia D)
- The SOC Questionnaire (29 items)
  
  (Καράλης, και συν. Αρχεία Ελληνικής Ιατρικής 2004)

Δ. Παπαζήση 2007. Μεταπτυχιακή Εργασία, Πρόγραμμα Μεταπτυχιακών Σπουδών-Δημόσια Υγεία και Διοίκηση Υπηρεσιών Υγείας
8. Suggesting a ten steps stepwise model for developing research in general practice
A stepwise model in developing effective research in a country with low research capacity-

1. Develop an EPR system
2. Explore opportunities to work together with an academic department
3. Start with assessment of population health needs
4. Identify common ill conditions and health problems
5. 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
6. Identify the burden of common illness and measure diagnostic probabilities
7. Discuss opportunities to publish your initial non experimental research
A stepwise model in developing effective research in a country with low research capacity-II

8. Look at possibilities to work together with other teams and researchers in a neighboring country

9. Expand your networking to other larger research bodies and consider a solid partnership with European and international organisation

10. See to what extent your collaborative work should be the starting point in looking for funding from those international bodies, including EU
1. Develop an EPR system

Developing an Appropriate EPR System for the Greek Primary Care Setting

Dimitris K. Kounalakis,1,4 Christos Lionis,1,4 Ingo Otkes,3 and Henk Lamberts3

The creation of an electronic patient record (EPR) system with a user-friendly interface based on the concept of the episode of care was considered an urgent priority in the present Greek context, where a Health Care Reform program is 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, Transnet was selected as the preferred platform for the new EPR system. Its implementation was deemed feasible and effective for general practice as a prototype, for creating a Windows-based EPR system using the International Classification of Primary Care (ICPC-2) and the International Classification of Diseases (ICD-10) as classifications. The new EPR system was suitable for use within the current Greek primary care setting. Further studies are required for its evaluation.

KEY WORDS: electronic patient record system; EPR; ICPC-2; primary care.

BACKGROUND

Effectiveness and quality performance in primary care hold a central position in the recent discussion on the quality improvement of several European national health systems. In Greece, a Health Care Reform program seeking quality improvement and coordination of outpatient and hospital 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.1 The
2. Explore opportunities to work together with an academic department and develop practice-based research networks

University of Crete

5 Schools

The School of Health Sciences and the Faculty of Medicine

9 Departments and the Department of Social Medicine

4 Divisions and the Clinic of Mental and Family Medicine

Teaching Cancer Management to Primary Care Health Staff: The First Experiences Gained From Crete

Lionis, et al Journal of Cancer Education 2005
3. Start with assessment of population health needs

Health needs assessment in general practice: the Cretan approach

Christos Lionis, Erik Troll

A comprehensive practice-based and public health-based approach to needs assessment has been established during the last years in primary healthcare (PHC) in Crete, Greece. This article describes the developments and achievements in health monitoring in PHC in Crete. An attempt is made to discuss the methodology used by the Cretan Health Centres for assessment of needs and outcomes together with results.

A variety of sources - Demographic research - Morbidity data - Mortality data - Social insurance data - Local health surveys - Health care services research

General information sources including continuous morbidity or mortality data recording, and data derived from community-oriented programmes were used in this assessment and the process is presented here. This Greek approach seems to be effective in helping GPs and PHC staff to set priorities and plan primary healthcare services, while a broader discussion over the role of the Greek and Mediterranean context remains.

Keywords: needs assessment, general practice, rural areas, health care services research

Introduction

Much attention has recently been paid to the contribution of general practitioners (GPs) and PHC teams in needs assessment. The WHO Regional Office for Europe organised a working group on needs assessment in local areas and the creation of a network was discussed in a recent workshop of this organisation in Heraklion, Crete.

The primary healthcare network in Crete

One of the most important targets of this department was to promote PHC in Crete through the development of a network between the medical facility, university hospital and rural health centres in collaboration with local authorities and representatives of the population. The experiences gained from the Spili Health Centre (SHC) led to the development of the PHC network, and a written consensus between this department and two rural PHC centres was signed. The assessment of the health status of the population in the catchment area of the health centres of this network in Crete and the identification of its problems comprises the first step in the formal planning of primary healthcare services.

Methods used in assessing population health needs

Although settings and resources vary between health centres and they seem to have a potential impact on the development of the work, a common methodological approach in assessing the

4. Identify common ill conditions and health problems

Introducing general practice in urban Greece: focus on morbidity profile

Anagnostos Mariolis, M. Mezouris, Christos Lionis

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 (PHC) in Greece, primary care centers are only available in semi-urban and rural areas leaving ample scope for the development of PHC in urban areas.

In 2001, a healthcare reform was launched in Greece, which set the development of PHC in urban areas as an urgent priority. In August 2002, the first feasibility study for the development of the first urban health center in Greece was submitted to Applesite General Hospital, Athens, and concerned the Municipality of Vypsea, which is included in the catchment area of this hospital.

The aim of this research letter is to comment on the preliminary results of this first attempt in Greece to introduce structured PHC and general practice within the urban setting, and particularly to report the morbidity profile recorded during the initial period in this first Urban health centre. The Urban Health Centre of Vypeas (UHC) was inaugurated on 16th February 2004, and its staff comprised one qualified general practitioner and five nurses in general practice. Two community nurses joined the UHC later.

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The data presented cover a period of two and a half months. In total, 1041 consultations were recorded. Of them 413 (39.7%) were made by males and 628 (60.3%) by females. Referral rate to other healthcare services, including hospital physicians or other specialists, amounted to 1.35% (14 cases). The most frequent diagnoses as made by the GP’s are presented in table 1. Hypertension was the diagnosis in 263 patients (25.3%), followed by ischemic heart disease in 164 (15.8%). Although there are some similarities to previous PHC utilization studies conducted in rural settings in Greece,7 including the higher utilization rates among females than males and hypertension as the most frequent diagnosis,
5. Ask about the existence of common diagnostic tools

It was developed and standardised in 1995 by Dr Tom Kennedy and Prof. Roger Jones (Scand J Prim Health Care 1995, 13: 243-247)
6. Identify the burden of common illness and measure diagnostic probabilities

Risk factors for ischaemic heart disease in a Greek population

A cross-sectional study of men and women living in the village of Spili in Crete

L. B. Lindholm*, A. D. Kuzelis, C. D. Liolios, L. G. Velegolenko, A. I. Dinoskou and M. Prikoulopoulos

*Health Sciences Centre, Lund University, 221 00 Lund, Sweden, and Department of Family and Social Medicine, Cretan University, Iraklion, Crete.

KEY WORDS: Blood pressure, cardiovascular disease, diabetes, cholesterol, hypertension, smoking.

We have established a research project in primary health care in Crete with the aim of surveying the cardiovascular risk profile of a sample of the population. The study population comprised all men and women aged 15-79 years in the village of Spili (N=417), the overall prevalence rate was 7% (95% CI 5.4-9.4) and the prevalence rate of those aged 45 years and above was 15.4%.

In this cross-sectional study we found a high (88%) prevalence of smoking in men aged 45-74 years as well as a high intake of salt (67% above 6 g/day of salt per day). Furthermore, there was a high cholesterol level (scores in the second quintile) and a high prevalence of hypertension and diabetes.

We have identified the burden of common illness in rural Crete in order to determine the prevalence of A, B and C hepatitis in the local population. Serum samples were obtained from 257 subjects (94 males, 163 females), aged 15 years and over, who visited the primary health care services of the Spili Health Centre between July 1993 and March 1994, and from 146 subjects (63 males, 83 females) randomly selected from households in three neighboring villages of the study area. Samples obtained from the Spili Health Centre, antibodies to hepatitis A virus (anti-HAV), antibodies to hepatitis B virus core antigen (HBcAg) antibody, and antibodies to hepatitis C virus (anti-HCV) were detected in 29/257 (11.2%) subjects and antibodies to hepatitis B virus core antigen (HBsAg) were detected in 63/257 (24.5%) subjects and antibodies to hepatitis C virus (anti-HCV) were detected in 29/257 (10.9%) subjects. The corresponding figures for those randomly selected from the villages were 113/154 (73.2%), 16/164 (9.7%) and 8/164 (5.0%) respectively. Hepatitis B surface antigen (HBsAg) was positive in three (1.2%) subjects.

Introduction

The population of Crete is of great interest from a public health point of view, since it is characterized by a high prevalence of ischaemic heart disease has been shown to be low in the serum of persons aged 45-74 years (2) and the increase in myocardial infarction (MI) and sudden death in middle-aged men (3, 4, 5). The corresponding figure from the Greek island of Crete, where Crete is, was only about 10% lower in men aged 45-74 years than in Finnish men in this study.

The World Health Organization has recently published a comparison of age-standardized mortality rates from 1990 to 1993 in men and women aged 20-69 years based on reports from 25 countries (6). Greece comes out well from the bottom of this list with an overall rate of 178 per 100,000 (median) in comparison with 847 per 100,000 in the European Community. Life expectancy was also considerably (3 years) lower in Greek than in Finnish men aged 45 years.

We have established a research project in primary health care in Spili in Crete, with the aim of surveying the cardiovascular risk profile of a defined 'low risk' population.

Subjects and methods

The study measures (a) all men and women aged 15-79 years in the village of Spili (N=416), (b) 50% of those aged 15-79 years in the village of Finikas (N=523) and (c) 50% of those aged 15-79 years in the community of Kasteli (N=322). The total number of subjects included in the study was 660.

The remaining 11 subjects were invited to our examination.

Source: Lindholm, et al, Eur Heart J, 1992
7. Discuss opportunities to publish your initial non experimental research
8. Look at possibilities to work together with other teams and researchers in a neighboring country

**Greek-Turkish collaboration in General Practice/Family Medicine: An example of country-to-country collaboration**


1. Greek Association of General Practitioners (ELEGIA)
2. Turkish Association of Family Physicians (TAHUD)

**Context**
In September 2000 delegates from Italy, Israel, Greece, Malta, Portugal, Spain and Turkey met to promote the development of a general practice/family medicine (GP/FM) group within the Mediterranean region, and discussed opportunities for further collaboration in the field of education and research.

This idea was supported by a number of historical, cultural and epidemiological factors. In the framework of this group, and the discussions made in a number of WONCA European conferences and EGPRN meetings, it became obvious that the organization of the first Greek–Turkish meeting was seen as an important priority for both national associations of GP/FM.

Sharing common experiences and settings, this meeting was regarded as a real need in identifying a field of potential cooperation, namely in the fields of education and training, research and clinical practice. A common organizing committee has prepared a meeting in Salonic, Northern Greece, between 28th and 29th February 2004. This meeting served the main purpose of bringing together academics and associations in order to share experiences, define common problems and discuss important issues within the GP/FM setting.

*Lionis, et al, Eur J Gen Pract, 2005*
9. Expand your networking to other larger research bodies and consider a solid partnership with European and international organisations.

International Federation of Primary Care Research Networks (IFPCRN)

Under The Task Force on Research of World Organization of Family Doctors (WONCA)

www.ifpcrn.org

European General Practice Research Networks (EGPRN)

www.egprn.org

RESEARCH INTO MEDICAL EDUCATION

RESEARCH METHODS COURSE

PRE-CONFERENCE WORKSHOPS

CONFERENCE WITH
THEME PAPERS
FREE-STANDING PAPERS
POSTERS
ONE SLIDE-FIVE MINUTES PRESENTATIONS

Second announcement of the next EGPRN-meeting in collaboration with EURACT

Place: The Panum Institute
Blegdamsvej 3
2200 Copenhagen N (Nørrebro). Denmark

www.egprn.org
10. See to what extent your collaborative work should be the starting point in looking for funding from those international bodies, including EU

**PROPOSAL ACRONYM:**
OTC SOCIOMED

**TYPE OF FUNDING SCHEME:**
COLLABORATIVE PROJECT (SMALL OR MEDIUM-SCALE FOCUSED RESEARCH PROJECT)

**WORK PROGRAMME TOPICS ADDRESSED:**
FP7-HEALTH-2007-B-3 1-5 BETTER USE OF MEDICINES

**NAME OF THE COORDINATING PERSON:**
PROFESSOR CHRISTOS LIONIS

**LIST OF PARTICIPANTS:**

<table>
<thead>
<tr>
<th>Participant no.</th>
<th>Participant organisation name</th>
<th>Participant org. short name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Coordinator)</td>
<td>University of Crete. Clinic of Social and Family Medicine, Greece</td>
<td>UOC</td>
</tr>
<tr>
<td>2</td>
<td>School of Health Sciences, University of Linkoping, Sweden</td>
<td>LIU</td>
</tr>
<tr>
<td>3</td>
<td>Institute of Social and Cultural Sciences, Leiden University, The Netherlands</td>
<td>UL</td>
</tr>
<tr>
<td>4</td>
<td>Association of General Practice in Cyprus</td>
<td>GPCy</td>
</tr>
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<td>5</td>
<td>French Society of General Medicine</td>
<td>SFMG</td>
</tr>
<tr>
<td>6</td>
<td>Maltese College of Family Doctors</td>
<td>MCFD</td>
</tr>
<tr>
<td>7</td>
<td>Turkish Association of Family Physicians</td>
<td>TAHUD</td>
</tr>
<tr>
<td>8</td>
<td>Social &amp; Clinical Pharmacy Department, Faculty of Pharmacy (Hradec Kralove), Charles University</td>
<td>FAF CU</td>
</tr>
<tr>
<td>9</td>
<td>Greek National School of Public Health</td>
<td>NSPH</td>
</tr>
<tr>
<td>10</td>
<td>Greek Association of General Practitioners (EL.E.GE.I.A.)</td>
<td>ELEGIA</td>
</tr>
<tr>
<td>11</td>
<td>Department of Family Medicine, National Autonomous University of Mexico</td>
<td>NAUM</td>
</tr>
<tr>
<td>12</td>
<td>International Federation of Primary Care Research Network</td>
<td>IPPCRN</td>
</tr>
<tr>
<td>13</td>
<td>World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family</td>
<td>WONCA Europe</td>
</tr>
</tbody>
</table>
9. Key messages

**Research in rural primary care setting**

- Needs paper and pencil, as John Fry underlined, to begin with.
- Calculating diagnostic probabilities is a challenging issue.
- Translation and validation of clinical tools and questionnaires into local setting gives an extra dimension.
- Networking is always important and crucial.
- Investing in health and socio-cultural determinants and assets reveals its importance in local and international level.
Ευχαριστίες

• Σε όλα τα μέλη του Τομέα Κοινωνικής Ιατρικής (μέλη ΔΕΠ, ΕΥΔΥΠ, ΕΤΕΠ και διοικητικό προσωπικό)

• Σε όλους τους συνεργάτες, ερευνητές και μεταπτυχιακούς φοιτητές της Κλινικής Κοινωνικής και Οικογενειακής Ιατρικής

• Σε όλους τους συναδέλφους ιατρούς γενικής ιατρικής του Δικτύου μας στην Κρήτη
9th WONCA Rural Health World Conference 2009
June 12–14, 2009
Island of Crete, Greece

June 12–14   Scientific Program
June 15–16   Post Conference events
9th WONCA Rural Health World Conference 2009

**MAIN THEME:**
→ **HEALTH INEQUALITIES**

**SUB-THEMES:**
→ **TECHNOLOGY SUITABLE FOR RURAL SETTINGS**
→ **ISLAND MEDICINE**
→ **HEALTH SERVICES FOR IMMIGRANTS**
### 9th WONCA Rural Health World Conference 2009

**REGISTRATION**

<table>
<thead>
<tr>
<th>Category</th>
<th>Early registration</th>
<th>Late/on-site registration</th>
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<tbody>
<tr>
<td>WONCA member</td>
<td>€360,00</td>
<td>€490,00</td>
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<tr>
<td>Other delegate (MD/DO/PhD)</td>
<td>€490,00</td>
<td>€600,00</td>
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<tr>
<td>Allied Health Worker</td>
<td>€290,00</td>
<td>€365,00</td>
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<tr>
<td>Accompanying person</td>
<td>€155,00</td>
<td></td>
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9\textsuperscript{th} WONCA Rural Health World Conference 2009

**IMPORTANT DATES**

- Early pre-registration deadline: April 27, 2009
- Late pre-registration deadline: June 2, 2009
- On site registrations: June 12–14, 2009
9th WONCA Rural Health World Conference 2009

ABSTRACT SUBMISSION GUIDELINES

- Abstract submission deadline: January 20, 2009
- Authors’ notification: March 6, 2009

ABSTRACT CATEGORIES

- Research Papers
  - Papers on completed research
  - Papers on research in progress
- Poster presentations
- Workshops presentations
9th WONCA Rural Health World Conference 2009

COMMITTEES

Resource Persons:

- **Ian Couper**, WONCA World Rural Health Working Party, Chairman
- **John Wynn Jones**, EURIPA President
- **Tom Norris**, 7th WONCA Rural Health Conference 2006, Chairman
- **James Rourke**, WONCA World Rural Health Working Party, former Chairman
- **Roger Strasser**, WONCA World Rural Health Working Party, former Chairman
- **Chris van Weel**, WONCA World, President
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                Manolis Symvoulakis
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         Nikos Antonakis
         Maria Antonopoulou
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Nikos Kakoliris
Ioannis Komninos
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Kornilia Makri
Ada Markaki
Argyris Mariolis
Eirini Oikonomidou
Aris Paganas
George Spatharakis
Ioanna Stefanaki
Nikos Tsakountakis
Ioanna Tsiligianni
Konstantinos Vardavas
Dimitris Vourvachakis
# 9th WONCA Rural Health World Conference 2009

## Preliminary Program

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
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</thead>
<tbody>
<tr>
<td>07:30 - 09:00</td>
<td>Conference check in</td>
<td>Conference check in</td>
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<tr>
<td>09:00 - 10:15</td>
<td>Opening plenary session</td>
<td>Plenary session A 3 persons Keynote speaker</td>
</tr>
<tr>
<td>10:15 - 12:00</td>
<td>Primary Session A 3 persons Workshop</td>
<td>Workshop</td>
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<tr>
<td>12:00 - 12:30</td>
<td>Coffee break</td>
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<tr>
<td>12:30 - 14:00</td>
<td>Workshop</td>
<td>Workshop</td>
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<tr>
<td>14:00 - 15:45</td>
<td>Lunch (provided)</td>
<td>Lunch (provided)</td>
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<tr>
<td>15:45 - 17:30</td>
<td>Workshop</td>
<td>Workshop</td>
</tr>
<tr>
<td>17:30 - 19:00</td>
<td>Paper presentations / Posters</td>
<td>Paper presentations / Posters</td>
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<tr>
<td></td>
<td>Conference opening reception Welcome cocktail</td>
<td>Closing ceremony and reception</td>
</tr>
</tbody>
</table>
9th WONCA Rural Health World Conference 2009

ACCOMODATION

CRETA MARIS 5 * (Conference Center)

SILVA MARIS 4*

3* hotels will also be available
9th WONCA Rural Health World Conference 2009
POST CONFERENCE EVENTS

1. June 13, 18.30 / Arolithos Village (half day tour)
   • Charming picturesque village near Heraklion
   • Traditional architecture & decoration of old houses of Crete
   • Genuine craftsmen and Cretan artisans
   • Folklore evening
   • Tastes of Crete, local wine and raki

2. June 15 / half day visit
   Viannos or Anogeia Health Center
9th WONCA **Rural Health World Conference 2009**
**POST CONFERENCE EVENTS**

3. **June 15–16 /Samaria Gorge, Fragokastelo, Pahestos, Matala (2–day tour)**

**Day 1:** Rethymnon

- Beautiful harbour, pedestrian old city

**Crossing of Samaria Gorge**

- 18 km hiking (5–6 hours), lunar landscape, numerous water springs, ends at Libyan Sea

**Day 2:** Fragokastelo – Spili – Phaestos – Matala

- Impressive landscapes with grapes and olive trees, visit to the Minoan palace of Phaestos, lunch and swimming at the bay of Matala
9th WONCA Rural Health World Conference 2009
POST CONFERENCE EVENTS

4. June 15 – 16 /Fodele, Rethymnon, Chania, Gramvousa

Day 1:  Fodele
Birthplace of El Greco

Rethymnon
Beautiful harbour, pedestrian old city

Chania
Venetian port, leather market

Day 2:  Cruise to Gramvousa and Balos lagoon
Venetian castle of 1579
Breathtaking beaches
Swimming at Gramvousa and Balos lagoon
9th WONCA Rural Health World Conference 2009 WEBSITE

- Constant updating
- ON-line services:
  1. join our mailing list
  2. registration
  3. abstract submission
  4. accommodation bookings
- Monthly statistics
9th WONCA Rural Health World Conference 2009
ON–LINE SERVICES

• 24–hour service
• User friendly
• Safe transactions
9th WONCA Rural Health World Conference 2009
COMMUNICATION PLAN

- Selection of target groups (special emphasis on Latin America)
- Direct mail
- Poster campaign
- E-newsletters
- Cooperation with associations worldwide
- Barter agreements with journals
- Web promotion (links)
- Promotion during other events
- Post congress evaluation
Tack so mycket