Abstracts

European General Practice Research Network (EGPRN)

Abstracts from the EGPRN meeting in Heraklion, Crete, Greece 23–26 October 2014 Theme: ‘Economic crisis and research in primary care’

KEYNOTE LECTURES

The body economic. How strategies to address the economic crisis by several countries have influenced health, especially public health and primary care

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The global financial crisis has had a seismic impact upon the wealth of nations. However, we have little sense of how it affects one of the most fundamental issues of all: our physical and mental health.

This keynote lecture, based on the speaker’s own groundbreaking research, looks at the daily lives of people affected by the financial crisis, from the Great Depression of the 1930s, to post-communist Russia, to the US foreclosure crisis of the late 2000s. Why did Sweden experience a fall in suicides during its banking crisis? What triggered a mosquito-borne epidemic in California in 2007? What caused 10 million Russian men to ‘disappear’ in the 1990s? Why is Greece experiencing rocketing HIV rates? In addition, how did the health of Americans improve during the catastrophic crisis of the 1930s? The conclusions drawn are both surprising and compelling: remarkably, when faced with similar crises, the health of some societies—like Iceland—improves, while that of others, such as Greece, deteriorates. Even amid the worst economic disasters, negative public health effects are not inevitable: it is how communities respond to challenges of debt and market turmoil that counts.

This keynote lecture puts forward a radical proposition. Austerity, it argues, is seriously bad for your health. We can prevent financial crises from becoming epidemics, but to do so, we must acknowledge what the hard data tells us: that, throughout history, there is a causal link between the strength of a community’s health and its social protection systems. Now and for generations to come our commitment to the building of fairer, equal societies will determine the health of our body economic.

The challenges raised—in the era of economic crisis—for research in primary care

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The global economic and financial crisis, which began six years ago in 1998, poses a major threat to health and affects mainly Europe and several other countries. The challenges for European health care systems of high health care costs and poor health outcomes in individuals of low socio-economic status have been well documented.

Evidence-based medicine is the conscientious, explicit and judicious use of current best research evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best clinical evidence available from systematic research. Examples of evidence-based products include clinical guidelines and quality indicators for measuring performance. However, austerity measures may often pose additional difficulties in the implementation of evidence-based medicine. This gap is particularly apparent in primary care, which has its distinctive research and implementation culture. Moreover, it is expected to be more visible in countries like Greece, which lacks integrated primary care.

To bridge the evidence to practice gap in primary care, we need to consider the causes, usually described as barriers to, and facilitators of implementation. Additional challenges may also arise during economic recession. Thus, we need to evaluate the effectiveness of strategies in optimizing implementation of interventions. Implementation strategies are aimed at optimizing the uptake and/or implementation of research evidence, by overcoming barriers identified by those charged with implementation (e.g. practice nurses, general practitioners), to ensure honesty (deliver the intervention as intended). Implementation strategies are also aimed at optimizing patients’ adherence to effective interventions. Besides effectiveness of the interventions, medical decision making in primary care needs to consider cost as well as patients’ priorities and preferences under the new condition of the economic recession. Research that will apply cost-effectiveness and cost-utility analytic models may help move in that direction.

Challenges during economic crisis may include the appearance of new diseases (infections) or the evolution of new diseases’ combinations (multimorbidity). They may also include complexities in underlying mechanisms and invisible disease determinants as well as more need for multiple clinical skills and interprofessional collaboration. All these require a skilful practitioner and researcher, and potentially new approaches in family practice research.
To address all the previous issues, which may impede the implementation of evidence-based medicine in primary care, we can enhance research in the following ways:

- increase the external validity of good quality trials
- identify the barriers to implementing effective interventions
- evaluate patient-centred and compassionate health care outcomes
- address (socio-economic) disparities.

Well-conducted research in primary care may inform decisions on health policy and contribute to a better recognition of the effectiveness of general practice. More delivery and payment models will need to focus specifically on subsets of the vulnerable population that are at highest risk for poor outcomes and high costs. Models that will be shown to be effective and efficient should be widely disseminated and implemented. In addition, evidence-based community prevention and wellness programmes should be expanded to reach individuals who have been highly affected by austerity measures by mostly focusing on behaviour modification models and interprofessional collaboration. Finally, patient-centred outcomes need to inform the development of future clinical practice guidelines, best practices, and quality measures that will take into consideration socio-economic disparities, which may re-direct the medical curricula to a more social accountability.

Given the rapid pace of change in health care needs during economic crisis and the current drive of the health care systems to implement more effective and cost-effective interventions, high quality research in primary care is imperative to provide viable answers for health issues in European societies.

PRIZE WINNING POSTER

The economic crisis and its impact on the health of a rural population in Crete: Three year follow-up

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Background: In periods of economic crisis, when all negative parameters exacerbate, an increase in morbidity and mortality rates is observed. The lack of economic security, drop in income, failure to perform financial obligations, unemployment and addiction to toxic substances, such as tobacco and alcohol; pose a serious threat to the mental and physical health of a population.

Research Question: To identify the repercussion of the deepening financial crisis on the health of a rural population in Crete.

Method: A total of 4012 patients; 1394 men and 2618 women from the rural area of Agia Barbara, Heraklion, Crete, were studied aged > 25 years old with regular visits (average eight per year) in the specific health centre from March 2010 to March 2011. Demographic and socio-economic data were recorded and a detailed history was taken. Blood pressure was recorded in all patients and the deterioration, or re-emergence of certain diseases associated with the economic crisis was recorded, in both the chronically ill and formerly healthy individuals. Finally, after three years (March 2013) a follow-up on the same indicators was conducted in order to identify the health levels of the same population.

Results: There was a significant increase in diseases according to the results of the first study and follow-up, such as IBS 36% (2010) – 62% (2013), ulcers 18% (2010) – 26% (2013), hypertension 19% (2010) – 41% (2013), depression 29% (2010) – 57% (2013), AMI 6% (2010) – 11% (2013), asthmatic crises 9% (2010) – 17% (2013). Furthermore, during the study, increased rates of alcohol consumption became apparent (2010 – 12%, 2013 – 19%), especially in younger people.

Conclusion: The correlation of socioeconomic factors and the health of a population have been documented by the International Scientific Community and in accordance with the WHO, which shows evidence that hardship, deprivation, poverty, social exclusion and discrimination is costing lives. Therefore, health indicators are worsening when economic recession becomes deeper since stress, which is the main result of this crisis, leads to serious mental and physical disorders. Therefore, it is necessary to empower the workforce in primary health care to take action against the social determinants of health, in order to promote and enhance it.

THEME PRESENTATIONS

Why and how do you collect the social position in general practice?

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Background: In Europe and especially in France, social inequalities in health do exist and are not systematically investigated in general practice.

Research Question: What are the most efficient indicators that can be collected to measure the social position of a patient in day-to-day practice by GPs?

Method: Modified Delphi procedure of 14 professionals (GPs, academic GPs, directors of health networks, researchers in public health) frequently in contact with the subject of health inequalities. The first sequence of the procedure consisted of the selection of 33 efficient indicators after a literature review. The second sequence was the consensus phase, lasting one year with two electronic Delphi rounds and 15 meetings.

Results: Seven ‘essential’ indicators were considered as efficient, simple to collect in GP routine: Age, gender, address, occupation, employment status, social insurance and the understanding written language of the country. Nine other indicators were considered as necessary to collect in some consultations: country of birth, family situation and number of
children, living alone, study level, socio-professional category, and type of residence, receiving social minimum benefits and perceived financial status.

**Conclusion:** Those 16 indicators are considered useful in every day practice. The others are useful at an epidemiological level for research and sharing data. This procedure led to national guidelines that were edited in January 2014 by the French College of General Practitioners. In France, there are more than 15 non-interoperable systems of data collection and these guidelines insist on the importance of the development of medical software capable of collecting such data.

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**Financial crisis and prescription refills in a rural area in Crete, Greece**

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**Background:** The economic crisis in Greece has been described as an omen of a Greek tragedy with significant consequences in terms of mortality, suicide rates, depression and poor medication adherence and compliance. Although it is well known that medication adherence and compliance is poorer during periods of austerity, data from rural practices are limited.

**Research Question:** Why do patients visiting a rural practice refill the same prescription more than twice per month?

**Method:** Over a six months period in a rural area in Crete, 94 patients asked for a refill of the same prescription in the same month. Once issued with the prescription, patients have five to seven days to purchase the medication from the pharmacy. Sometimes patients go beyond these days and therefore they have to refill the prescription, as the prescription is not valid anymore. For these patients an open question of 'what was the reason that you did not take your medications from the pharmacy in time’ was addressed.

**Results:** The mean age was 65 years. Almost all participants (92 out of 94) had an annual family income of less than €10 000 and 86 patients suffered from more than three chronic conditions. Seventy-two patients answered that they often miss the prescription because of financial problems (resulting in a cost-related medication non-adherence). Twelve patients reported that they had forgotten to go to the pharmacy. Ten patients stated that they could not find the medications in the pharmacy and while they searched for alternative pharmacies, the prescription was not valid anymore.

**Conclusion:** The findings reveal that many chronically ill patients living in rural areas often have to refill their prescriptions due to financial reasons resulting in poor medication adherence. The austerity in Greece may have significant health consequences for adults with a chronic illness.

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**Trends in mental and behavioural disorders through primary care electronic health records during the economic crisis in Catalonia, 2007–2013**

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**Background:** The last recession in 2007 that affected the European Union, caused an impact on the mental health of the population. This study examines the trends in the prevalence of major mental and behavioural disorders in patients attending primary care in Catalonia from 2007 to 2013.

**Research Question:** Are there any changes in the prevalence of mental disorders during the economic crisis?

**Method:** The top 12 most prevalent mental and behavioural disorders (ICD-10) by sex in 2007 were obtained from the EHR database. All ages were included. Time-trends were analysed with annual percentage change (APC) using join point regression.

**Results:** Mean number of patients during the period of the study was 5 417 345; 50.6% were women. The most prevalent disorders in 2007 were tobacco (women: 8.9% and men: 13.4%), other anxiety disorders (women: 8.4% and men: 3.5%), and depressive episode disorders in women (3.1%), and alcohol in men (2.4%). Percentage changes (2007–2013) were tobacco (women: 12.7% and men: 6.2%), other anxiety disorders (women: 83.8% and men: 112.6%), and depressive episode (women: 107.8% and men: 127.2%). Non-organic sleep disorders and reactions to severe stress in both sexes and sexual dysfunction in men grew by over 200%. Non-organic sleep disorders and reactions to severe stress in both sexes and sexual dysfunction in men grew by over 200%.

**Conclusion:** The most prevalent mental and behavioural disorders have shown a prevalence increase during the period of crisis. The highest annual percentage changes in all study periods was found for sexual dysfunction in men, reactions to severe stress, nonorganic sleep disorders, depressive episode and anxiety disorders for both sexes.

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**Health and homelessness in Ireland from economic boom to bust**

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Background: In the context of the Irish recession, we assessed the health status, service utilization and risk behaviour of homeless people in Ireland. Findings are compared with similar studies conducted in 1997 and 2005.


Method: A cross-sectional survey utilizing the same design as the previous studies was conducted in September 2013. The data sets from the three surveys (1997, 2005 & 2013) were compared using SPSS version 20.

Results: A total of 601 (60%) of the target population participated in the 2013 study. There was high morbidity with increasing proportions reporting mental or physical diagnoses over the three studies reaching 89% in 2013. Over half (58%) reported at least one mental health condition. One in two (50%) people reporting a mental health condition also reported having attempted suicide in the past (P < 0.05). Report of a mental health condition was significantly associated with illicit drug use, higher use of primary and secondary health services and being in care as a child (P < 0.05).

A steady rise in illicit drug, with illicit benzodiazepine use now higher than heroin use (41% versus 29%), was noted. Health care access had improved with access to free entitlement increasing from 50% to 75% (P < 0.05). Access to primary care outreach services had increased with over 50% utilizing these services in the previous six months; however, utilization of emergency secondary services has also increased since 1997.

Conclusion: The homeless remain a population with very poor mental and physical health. Primary care access has improved over time because of the development of outreach services. Access to psychiatry has not improved, given the burden serious mental health illness remains a concern.

Inequity in the treatment of diabetes mellitus with anti-diabetic agents

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Background: There is an explosion of new anti-diabetic medications. The new medications have fewer side effects and easier dose regimens although long-term superiority is questionable. In Israel there is national medical insurance, most medical services are free of charge or with a small co-payment. The co-payment for medications is a percentage of its price, but this could be a barrier in the case of these new expensive medications.

Research Question: Is co-payment a cause of inequity in the case of new anti-diabetes agents in a country with national health insurance?

Methods: The study took place in the central district of Clalit Health Services. Anti-diabetes medications co-payment was classified as expensive ($$$), or cheap ($). Patients were classified to low, middle and high socioeconomic status (SES) according to their home address classification in the central bureau of statistics geo-socioeconomic classification. The association between medication costs and purchasing of at least one prescription in 2013 had been evaluated.

Results: The study included 46 061 patients (32.7% low, 50.9% middle, 16.3% high SES); age 65.9 + 13.7 years, 50.7% males. The most frequently purchased medications were metformin ($, 67.1%), sulfonylureas ($, 28.6%), insulin ($, 19.7%) and DPP4 inhibitors (DPP4i, $$, 17.7%). Stratification of the utilization rate of medications according to the SES of the patient (low, medium and high SES) was metformin ($, 66.4%, 66.9% and 69.0%, insulin ($, 20.8%, 19.3% and 17.4%, sulfonylureas ($, 30.4%, 28.5% and 25.0% and DPP4i ($$) 12.1%, 19.7% and 22.9%. All differences were statistically significant (P < 0.001). The differences remain significant in a regression model corrected for age and gender.

Conclusion: Higher co-payment for DPP4i is a barrier for its adoption among patients from low SES; it goes with higher utilization of generic and cheaper medications in these patients. In a health system with universal national insurance, co-payment should not be a barrier to the implementation of new and brand medications.

The impact of financial strain and income on depressive and anxiety disorders

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Background: Depressive and anxiety disorders cause a large burden of illness, both from a social and economic perspective. Previous research has already shown socio-economic inequality in the prevalence and incidence of depressive disorders. It is not yet clear whether perceived financial strain is associated with depressive and/or anxiety disorders, in addition to objective indicators such as income.

Research Question: What is the impact of financial strain and income on (a) presence and (b) four-year onset of depressive and/or anxiety disorders?

Methods: Data are from the Netherlands Study of Depression and Anxiety (NEDSA), an ongoing multisite naturalistic cohort-study (n = 2981). Presence of depressive and/or anxiety disorders at baseline and new onset of depressive and/or anxiety disorders during four-year follow-up were chosen as primary outcomes. The impact of financial strain and income on the presence of depressive and/or anxiety disorders was assessed among all participants; new onset was examined among 1525 participants without a current depressive or anxiety disorder at baseline. Depressive and anxiety disorders were determined by the composite-international-diagnostic-interview. Financial strain and income were assessed in an interview. The impact of financial strain and income on the presence and new onset of depressive and/or anxiety disorders were (quantitatively) analysed by logistic regression analyses.
Exploring a new indicator to measure well-being: A focus on ‘eudaimonia’ and its association with the economic crisis (poster)

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Background: The term ‘eudaimonia’ etymologically, consists of the words ‘eu’ (‘good’) and ‘daimon’ (‘spirit’) and defines a dynamic state of well-being, being happy, healthy, prosperous and independent. This Greek project approaches the term ‘eudaimonia’ by combining Aristotle’s and modern philosophers’ concepts, while it focuses on both subjective and objective measures that capture all eudaimonia’s outcomes (happy, healthy, prosperous and independent).

Research Question: To what extent would this indicator present appropriately the current economic crisis in Greece and its impact on health outcomes?

Method: A definition of ‘eudaimonia’, its dimensions (social/spiritual, environmental and economical, SEE) and components has been attempted by the University of Crete (UOC) by conducting an extensive literature review and having an expert consensus panel with individuals from different scientific fields (mathematics, physics, geography and medicine).

Results: The initial findings reveal that the SEE dimensions were interrelated while their components presented an impact on: (a) each dimension, (b) other dimensions and (c) the outcome (eudaimonia). Additionally, the literature review on the impact of the economic crisis in health revealed an impact on frailty and increase of several health rates (suicides, road accidents, infant mortality and early age morbidity, mental disorders). Several health outcomes were revealed as ‘remnants’ of this crisis in Greece, such as food poisoning and disorders, breathing disorders and health disorders due to wrong medication or non-medication. These all indicated an inverse relation of ‘eudaimonia’ and economic crisis that would be qualitatively illustrated through a 3-D figure.

Conclusion: ‘Eudaimonia’ could be both an indicator in measuring wellbeing in the austerity period and an individual target to promote health.

Cost-effectiveness analysis of asymptomatic peripheral artery disease screening in primary care

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Background: The screening of peripheral artery disease (PAD) by measuring the ankle brachial index (ABI) is recommended in French guidelines, followed by the management of other cardiovascular risk factors and tri-therapy medication (statin, aspirin and angiotensin-converting enzyme inhibitor). However, this screening has never been evaluated in terms of efficiency in primary care and is not done in practice.

Research Question: What is the estimated efficiency of a systematic screening strategy of PAD in primary care?

Methods: Interventional prospective study in primary care. Voluntary physicians from the Tours Centre area were recruited and asked to include at least five patients over 50 years of age (men) or 60 years of age (women) with at least two cardiovascular risk factors. Physicians were asked to measure their ABI by a furnished Doppler device, to manage their results the way they wanted and to assess the feasibility of PAD screening in primary care. The primary outcome was the incremental cost-effectiveness ratio (ICER) of the screening strategy of the PAD and its management by the number of avoided cardiovascular events at 10 years. Cost-efficacy analyses were performed with an actualization rate at 10 years of 4%.

Results: Twenty-nine physicians agreed to participate and 24 of them recruited 216 patients between the 1 October 2013 and 30 April 2014. Patients were 64 (± 11) years old with an ABI at 1.08 (± 0.13). Physicians measured the ABI during a dedicated consultation for 164 patients (76%). After this screening, 179 patients (87%) did not receive any additional medication. The risk of a cardiovascular event at 10 years for the 216 included patients was estimated at 30.36% before the screening and 28.83% after the screening. The ICER was estimated at €43 419.

Conclusion: More data is needed on efficacy, then efficiency of asymptomatic PAD screening and caring.

Experiencing difficulties in colorectal cancer care: Patients, physicians and other health care professionals’ perspectives on cooperation

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Background: Colorectal cancer care is a life-long and complex challenge, involving numerous physicians and other health care professionals (HCP). High quality of cancer care is crucial from a medical and economic point of view as well as from the patients’ perspective. For this reason, cancer care is required to be well coordinated to ensure the quality of care that is required. Relevant knowledge regarding cooperation in cancer care, especially interprofessional and cross-sectoral, remains scarce. Therefore, it is necessary to explore experiences of all those involved to minimize this gap and provide the best possible care.

Research Questions: What difficulties do patients, physicians and HCPs in colorectal cancer care experience regarding cooperation? What consequences are caused by ineffective cooperation?

Method: Ten focus groups were conducted exploring views of patients with colorectal cancer (n = 12), patients mandatorily (n = 2) as well as physicians (n = 17) and potentially involved HCPs (n = 16) from several different healthcare settings. Participants were asked to share their current experiences regarding colorectal cancer care. All data were audio and videotaped, transcribed and thematically analysed using qualitative content analysis.

Results: Patients, physicians and HCPs experienced difficulties mostly in two aspects of cooperation in cancer care: (a) communication between involved and (b) sharing of information, which was generated during the process of care. A lack of communication between all persons involved and a shortage of sharing information resulted in an ineffective coordination of care. Furthermore, inappropriate healthcare and problems regarding transition between different healthcare settings and providers were further consequences caused by the above-described difficulties in cooperation.

Conclusion: Colorectal cancer care requires an effective cooperation of all involved physicians and HCPs to ensure the best possible care. For this reason, it is necessary to find ways to facilitate communication and information flow between all those involved with a special focus on GPs.

The five-year effect of an interactive general-practitioner education programme on antibiotic therapy for respiratory tract infections: A randomized trial

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Background: Respiratory tract infections (RTIs) constitute a common need for antibiotics (ATBs) in primary care. Over-use of ATBs is associated with increased antibiotic resistance. Antibiotic consumption and bacterial resistance rates in France remain among the highest in Europe. Only a few studies have assessed the five-year effect of educational interventions on ATBs prescribing and these show conflicting results.

Research Question: To assess the five-year effect of an interactive educational programme for general practitioners (GPs) on antibiotic therapy for respiratory tract infections; the programme was expected to decrease antibiotic use.

Method: Randomized controlled trial conducted in 168 GPs of the 203 randomized, between 2004 and 2009 in Paris suburbs. Control GPs (n = 98) provided usual care. GPs assigned to the intervention group attended a two-day didactic educational seminar focusing on evidence-based guidelines for RTIs (n = 70). The primary outcome was the between-group change in the proportion of prescriptions containing ATBs in 2008 and 2009. The secondary outcomes included between-group differences in the proportion of prescriptions containing a symptomatic drug for RTI, cost of prescribed antibiotics, and the cost of prescribed symptomatic drugs. An intention-to-treat sensitivity analysis was performed using multiple imputations.

Results: After five years, absolute changes in the primary outcome measures were −1.1% (−2.2 to 0) and +1.4% (0.3 to 2.6) in the intervention and control groups, respectively, yielding a crude between-group difference of −2.6% (−4.2 to −0.9), P = 0.002. Multilevel analysis showed a larger decrease in the intervention group, with an adjusted between-group difference of −2.2% (−2.7 to −1.7), P < 0.001 (OR of 0.84; 0.81 to 0.87). Although symptomatic drugs were more often prescribed in the intervention group, the cost difference was not significant. Multiple imputations did not significantly change the results for the primary outcome.

Conclusion: An interactive GP education programme on antibiotic therapy for RTIs significantly decreased antibiotic use after five years, without increasing the cost of prescribed symptomatic drugs.

Assessment of the underestimation of the burden of childhood diarrhoeal diseases in Israel

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Background: There is considerable under-reporting of diarrhoeal disease in the community. Absenteeism from work is a common result and is associated with high societal economic costs.

Research Question: We determined the extent by which mandatory reporting on isolates of Shigella and Salmonella underestimates the burden of diarrhoeal diseases among children aged 0–17 years in Israel and examined paediatricians’ knowledge, attitudes and practices related to patient visits with diarrhoeal diseases.

Method: A nationwide population-based telephone survey searching for the presence of diarrhoeal diseases, Maccabi Healthcare Services databases and a postal survey among its paediatricians were the sources of data.

Results: Approximately 7% of the 14 921 subjects reported a diarrhoeal episode during the two weeks prior to the interview.
The frequency of visiting a physician with and without fever was 86% and 16% respectively. Around 20% of patients performed a stool culture and the isolation rates were 7.1% for Shigella and 2.1% for Salmonella. Paediatricians (n=214) ranked a very young age of the patient and the complaint ‘bloody diarrhoea’ as the most important determinants.

**Conclusion:** One reported isolate of Shigella or Salmonella represented 152 diarrhoeal episodes of all aetiologies. This estimate is important for further assessments of the true burden of diarrhoeal diseases.

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**Use of home remedies: A cross-sectional survey of patients in Germany**

Lisa Maria Parisius, Beate Stock-Schröer, Sarah Berger, Katja Hermann, Stefanie Joos

**Background:** Reliable information regarding patient knowledge of home remedies and the types of health problems patients use them for is scarce. Nevertheless, anecdotal evidence indicates that patients use home remedies for managing minor health problems and that this can be sufficient for symptom management.

**Research Question:** How well-known are home remedies in Germany and how frequently are they used by patients?

**Method:** The developed and revised questionnaire was comprised of questions about general knowledge and experienced efficiency of home remedies, the use of home remedies for common health problems and socio-demographic data. Patients were recruited via randomly selected addresses of general practitioners (GPs) in three regions of Germany (Heidelberg, Erfurt and Hanover and surrounding areas). The questionnaire was handed out in the waiting area of GP practices. The data was analysed descriptively.

**Results:** A total of 480 of 592 patients from 37 GP practices were included, according to a response rate of 81%. Based on the survey results, home remedies were widely known and used by about 80% of our respondents (on average 22 different home remedies were used per person). The most frequently used home remedies were steam-inhalation, hot lemon drink, honey, chamomile tea and chicken soup. 80% of respondents tried home remedies before pharmaceutical options. Information about home remedies was most commonly gained from family members, rather than from written guides, media or GPs.

**Conclusion:** These results provide an initial overview on the use of home remedies from the patient’s perspective. In this study, patients reported on the high use of home remedies, therefore, it is highly likely that GPs in Germany may need to advise patients on their use of home remedies during consultations. To this end, given the scarcity of reliable information on home remedies, further research is needed.

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**Advantages of using the rapid test in antibiotic prescription in paediatric streptococcal tonsillopharyngitis in primary healthcare**

Rui Oliveira, Ana Margarida Menezes, Cátia Silva, Emanuel Airosa, Bruno Pinto, Filipa Flor-de-Lima

**Background:** Acute tonsillitis is a very frequent illness in children, and the majority are viral in origin. The A β-haemolytic Streptococcus pyogenes group is the most frequent bacterial causative agent.

**Research Question:** Compare the rate of antibiotic prescription using the American Academy of Family Physicians (AAFP) algorithm and clinical suspicion and calculate the sensitivity and specificity of both approaches.

**Method:** Cluster randomized multicentre crossover clinical trial (intervention—AAFP algorithm; control — clinical suspicion) to be run in five Family Heath Units in Portugal, lasting approximately four months (January to April 2014). Children aged three to 17 years with suspected pharyngitis, attending one of the family health units, were included in the study. Culture was considered the gold standard screening test to detect streptococcal pharyngitis.

**Results:** 237 children were enrolled, 52.3% were female, with an average age of eight years; 128 of these were allocated to the clinical suspicion strategy and 109 to the AAFP algorithm strategy. The prevalence of streptococcal tonsillitis was 14.35%, while the rate of antibiotic prescription was similar in both strategies. The antibiotic most commonly used was amoxicillin. The clinical suspicion was the most specific (57.80% versus 54.84%), while AAFP algorithm was the most sensible diagnostic method (86.67% versus 78.95%), the latter presenting the largest area under the curve (AUC = 0.71 versus 0.68).

**Conclusion:** Bacterial pharyngitis cases are the ones that really need antibiotics so the use of an accurate diagnostic test is necessary. The AAFP algorithm does seem to bring advantages over clinical suspicion in the diagnosis of streptococcal tonsillitis. Further studies are necessary to understand the diagnostic accuracy of the rapid test.

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**Tiredness/fatigue as a symptom in general practice results from a systematic review**

Rebekka Stadje, Jörg Haasenritter, Erika Baum, Norbert Donner-Banzhoff

**Background:** Tiredness/fatigue is a common but very unspecific symptom presented in general practice (GP) and experienced at least sometimes in about 30% of the population. Underlying causes range from self-limiting problems to dangerous diseases.

**Research Question:** How often is this symptom reason for encounter in GP (prevalence), what are the underlying causes (ethology), and what is the prognosis of these patients?
Step-up versus step-down therapy of GERD in the Hungarian primary care (poster)

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Background: Most patients with gastro-oesophageal reflux disease (GERD) are diagnosed and treated by family physicians. Step-down therapy of GERD is considered both medically- and cost-effective. Different treatment strategies are in use in Hungary.

Research Question: The aim of this study was to survey current strategies for GERD treatment at the primary care level.

Method: Cross-sectional anonymous questionnaire survey involving 493 family medicine doctors (age: 53 ± 13 years, mean ± SD).

Results: Only 27% of participants recommended PPIs to GERD patients regardless of severity of symptoms. As first line therapy of mild GERD PPIs, H2 receptor antagonists (H2RAs), antacids, and combination of these were chosen in 37%, 47%, 13%, and 3%, respectively. Step-up, step-down, and combination of these strategies were used in 50%, 47%, and 3%, respectively. Doctors preferring step-up therapy where PPIs were older (51 ± 13 vs. 55 ± 13 years, P = 0.008), and had somewhat less patients with GERD (176 ± 216 versus 184 ± 141, P = 0.038) than those favouring step-down treatment. They would also recommend PPIs less likely (26/215) than step-down supporters (101/125, P < 0.001). Doctors would refer 41% of their GERD patients to endoscopy. The estimated ratios of indications for medical treatment of GERD were as follows: self-treatment with OTC drugs: 22%, prescription by family doctor: 46%, by internist/gastroenterologist: 32%, respectively.

Conclusion: Therapeutic approaches of GERD show a big variation among Hungarian family doctors. In contrast to current guidelines the step-down therapy with PPIs is not preferred older GPs.

Experience of insulin initiation in type 2 diabetic patients: A qualitative study (poster)

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Background: Therapy can be delayed in type 2 diabetic patients when it comes to initiating insulin. And yet, the therapeutic strategy for insulin is well known. General practitioners are sometimes anxious regarding the patient’s reaction to the suggestion of initiating insulin.

Research Question: How do type 2 diabetic patients experience insulin instauration?

Method: A qualitative study about patient’s views and experiences on insulin initiation was carried out on type 2 diabetic patients (n = 19). We worked on tape-recorded semi-structured interviews. A thematic analysis was performed, using the software NVivo 10. We used purposive sampling to include patients from general practices and outpatients from hospital. Data saturation was achieved during the analysis process that was conducted by two researchers.

Results: In total, 771 nodes were coded. The patient did not necessarily consider the introduction of insulin as a disaster. Insulin was pointed out as a better alternative to oral antidiabetic drugs, in particular when the treatment was easy to handle, the pain was minimal, and the injection system was well known by the patient. Patients referred to a lack of information on insulin. Hope for the future was remarkable. Insulin was perceived as a ‘healthier’ option compared to other diabetic drugs. However, it was perceived that insulin was sometimes seen as disease awareness about diabetes, a break with the previous life, even like a disability. Patients tended to share much information about their relationship with those with whom they were closest; for instance, arguing about eating habits and about treatment, insulin and other drugs.

Conclusion: Insulin can be perceived in a positive way. It was not necessarily a disaster for the patients. This study provided leads to exploit in medical education for diabetic patients, but also to information for general practitioners about false fears, which they may have about their patient’s knowledge and attitude regarding diabetes and the associated drugs.
An analysis of the knowledge and behaviours regarding breast and cervical cancer among non-health related female personnel at Marmara University Educational Research Hospital: An educational intervention project (poster)

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Background: Breast cancer is the most frequently seen cancer amongst women in Turkey, as well as worldwide. Cervical cancer is also the tenth most frequent form of cancer in women. The international and national guidelines state that the early detection methods of these cancers are effective, however; the effectiveness depends on the educational programme used in the target population.

Research Question: Is group education of non-health related female staff of our hospital, using interactive methods, effective on their knowledge and behaviour about these two cancers?

Method: This is an education-intervention study. Non-health related female staff of the hospital was invited to take part in the educational programme. An interactive educational programme was delivered using the help of educational cards and mannequins.

Before commencing the educational programme, we asked the participants to fill out a questionnaire to analyse their knowledge and behaviour about breast and cervical cancer. We also enrolled women who did not participate in the educational programme as the control group. A month later, we contacted all the women from both groups and asked them to complete a questionnaire to analyse their knowledge and behaviour. Chi-square and Mann–Whitney U-tests were used by SPSS v.20 program.

Results: There was no difference shown between the two groups in terms of performing a self-breast examination or smear screening before the education. When we examined the post-education data, 92.9% (n = 39) of the intervention group had performed a breast examination versus only 47.5% (n = 19) of the control group (P < 0.001), 42.2% (n = 19) of the intervention group had a smear screening performed versus only 2.3% (n = 1) of the control group (P < 0.001).

Conclusion: The interactive education programme in this study showed a positive result in terms of knowledge and behaviour of the participants on breast and cervical cancer.